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ON THE PROGRESS OF SCIENCE,  
BY THOMAS THOMSON, M.D., F.R.S.L. & E., &c., &c.

AND  
ON THE PROGRESS OF THE FINE ARTS,  
BY ALLAN CUNNINGHAM, Esq.

VOLUME IV.

**BLACKIE & SON, QUEEN STREET, GLASGOW;  
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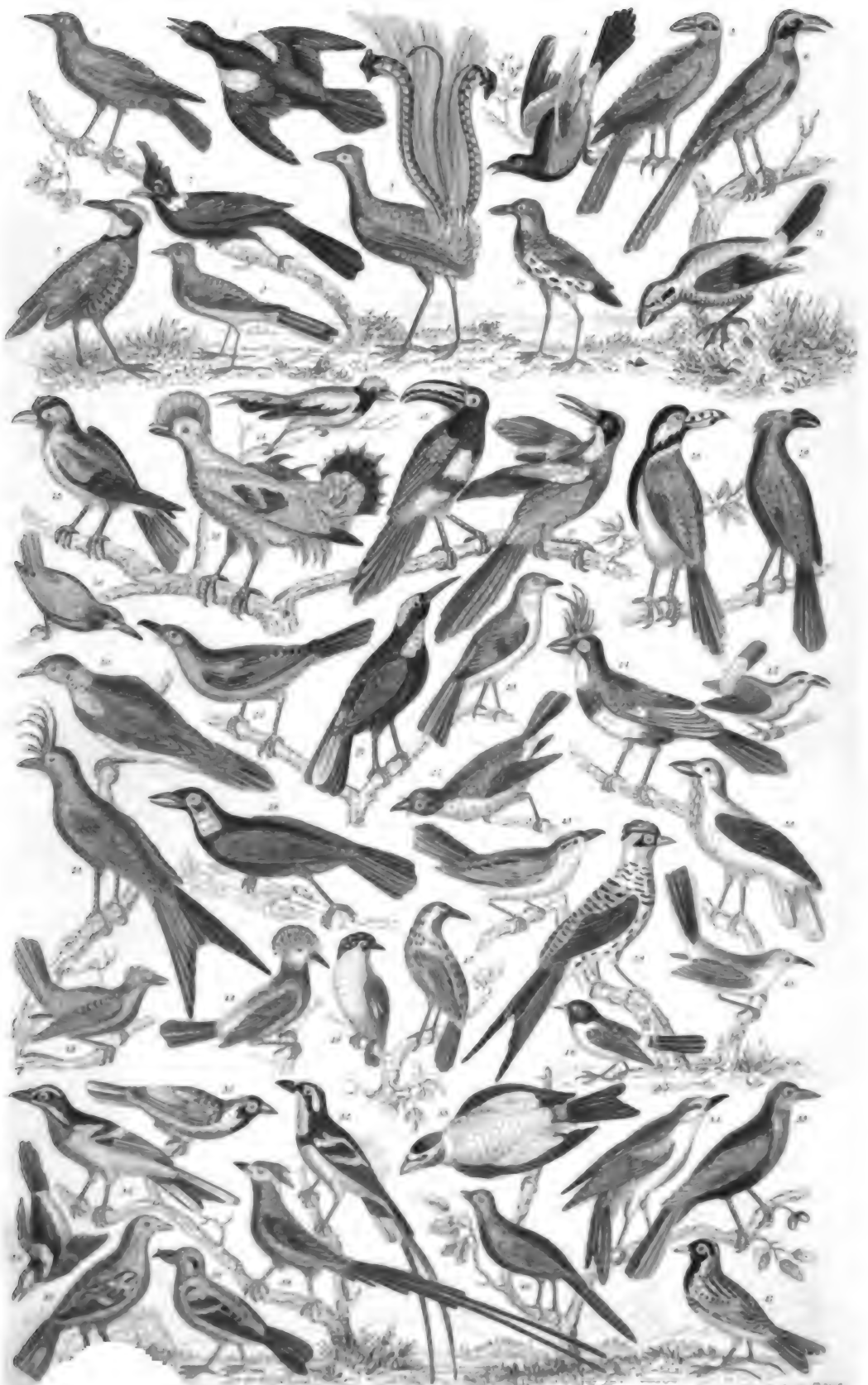
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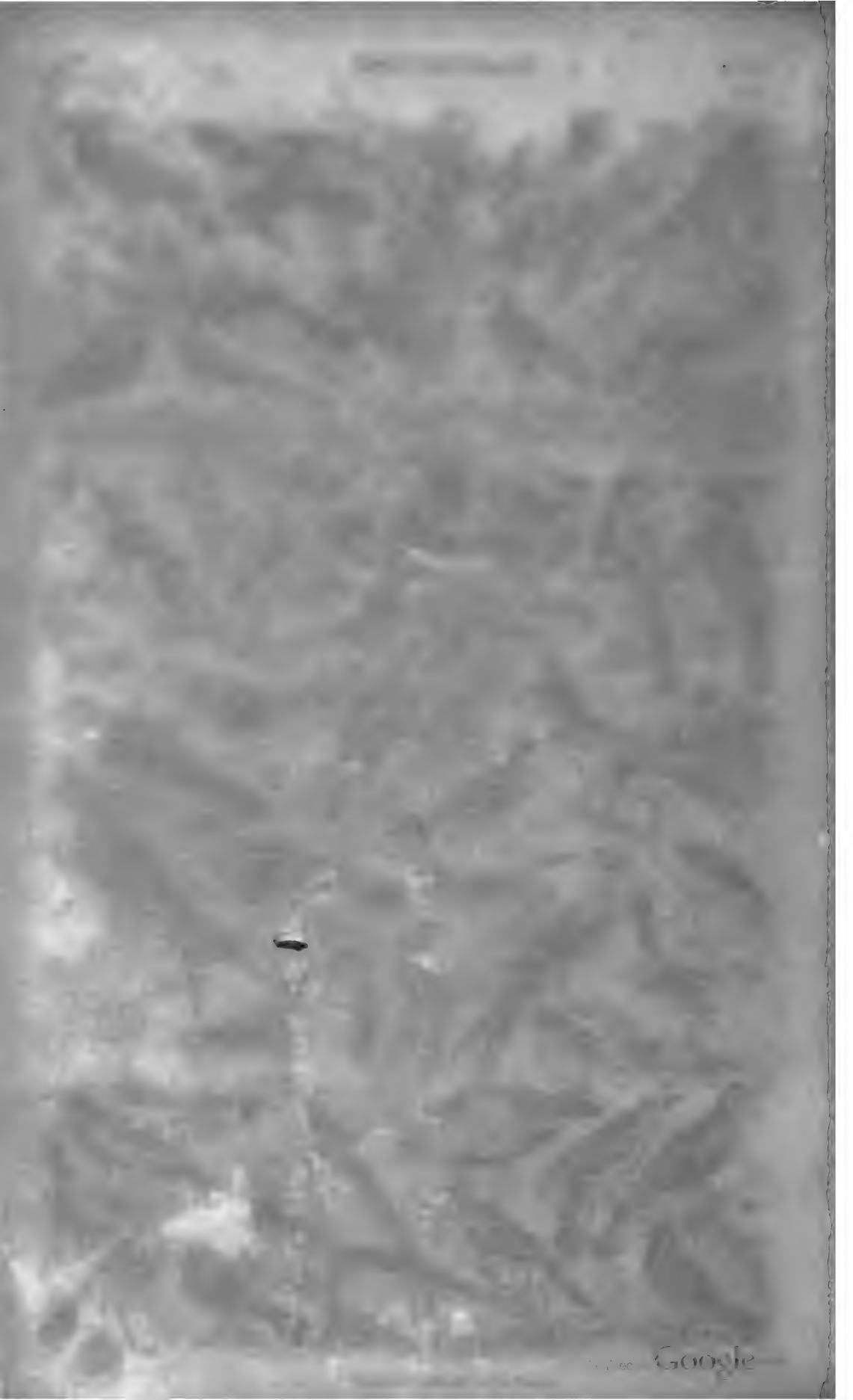
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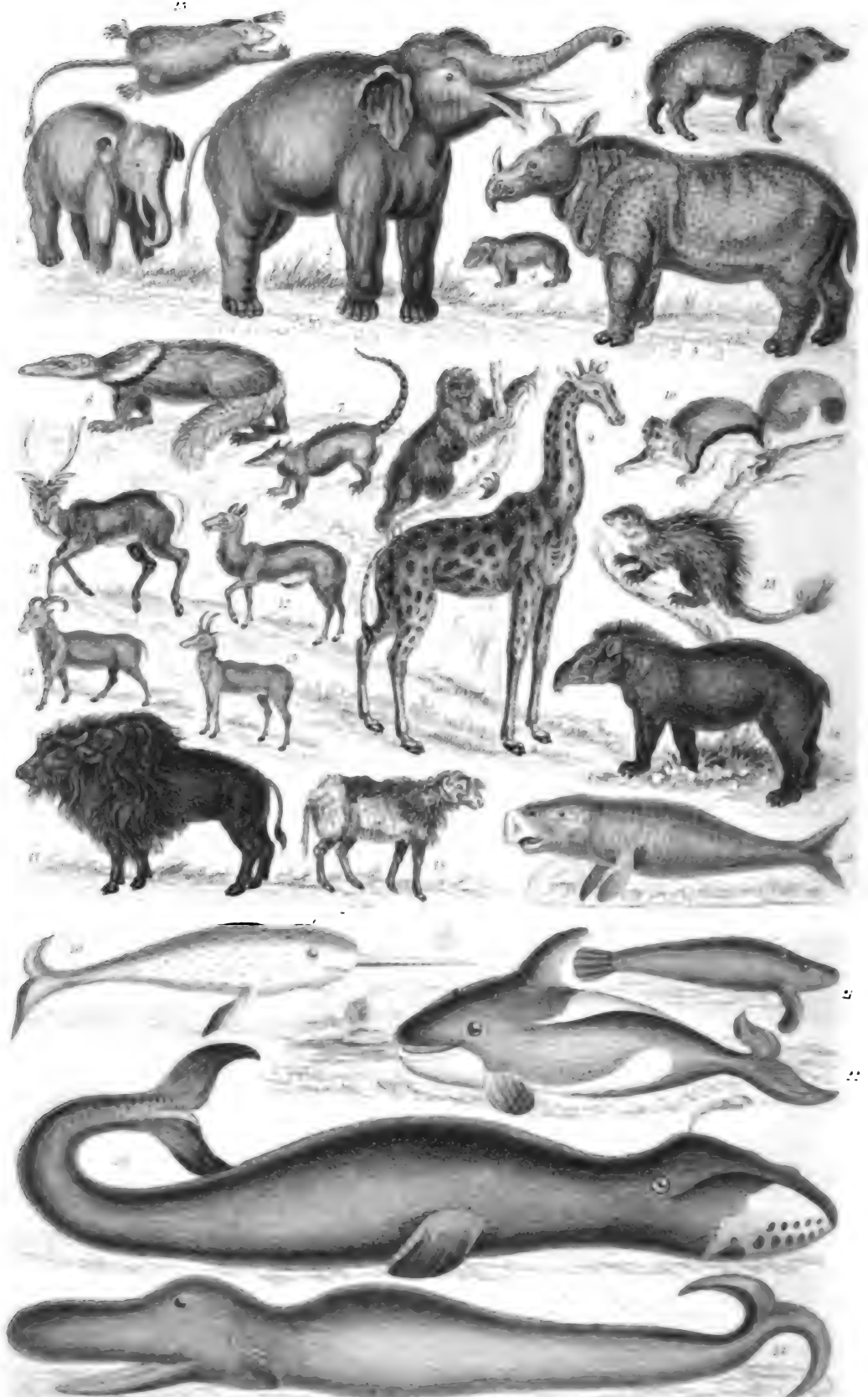










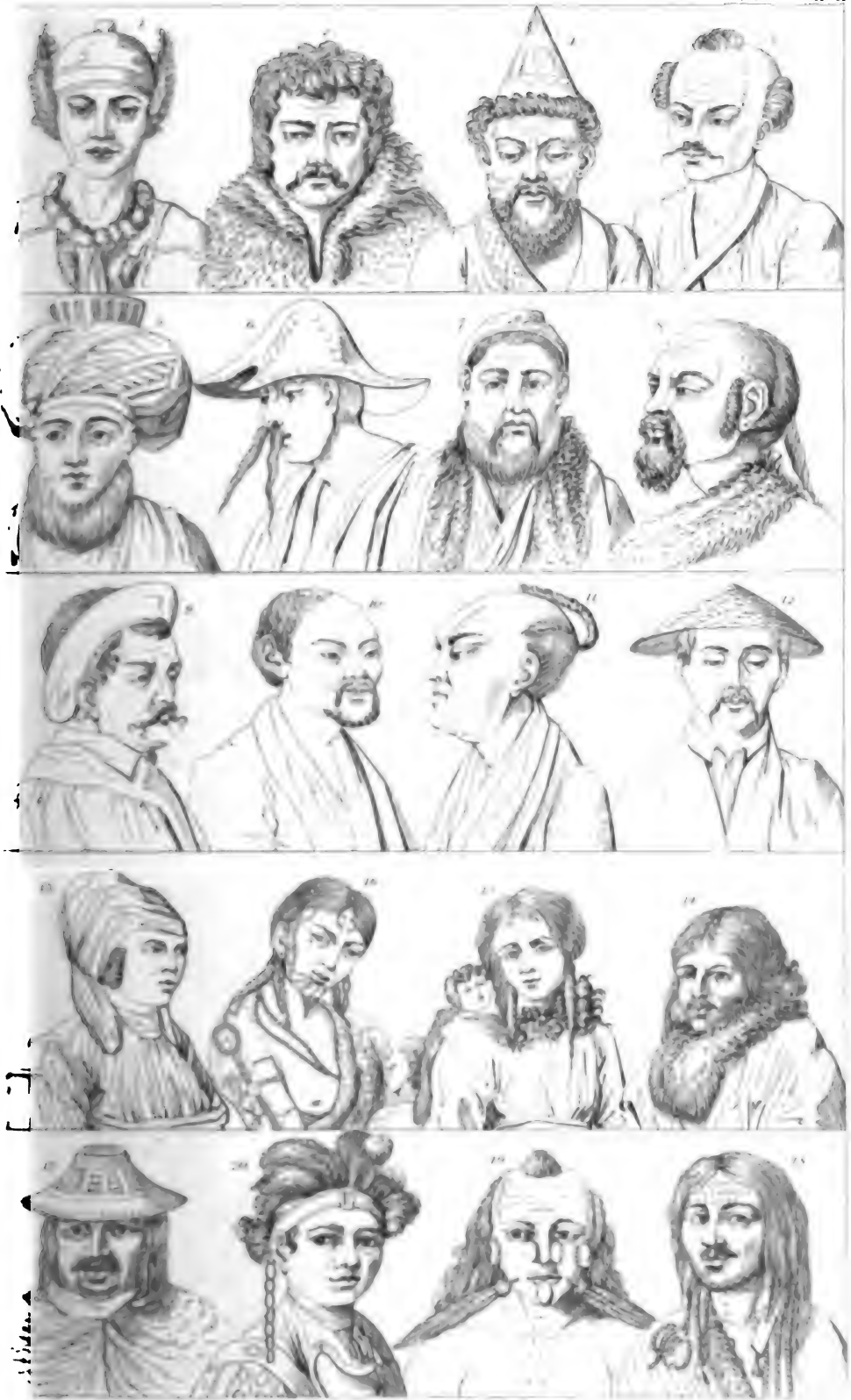


























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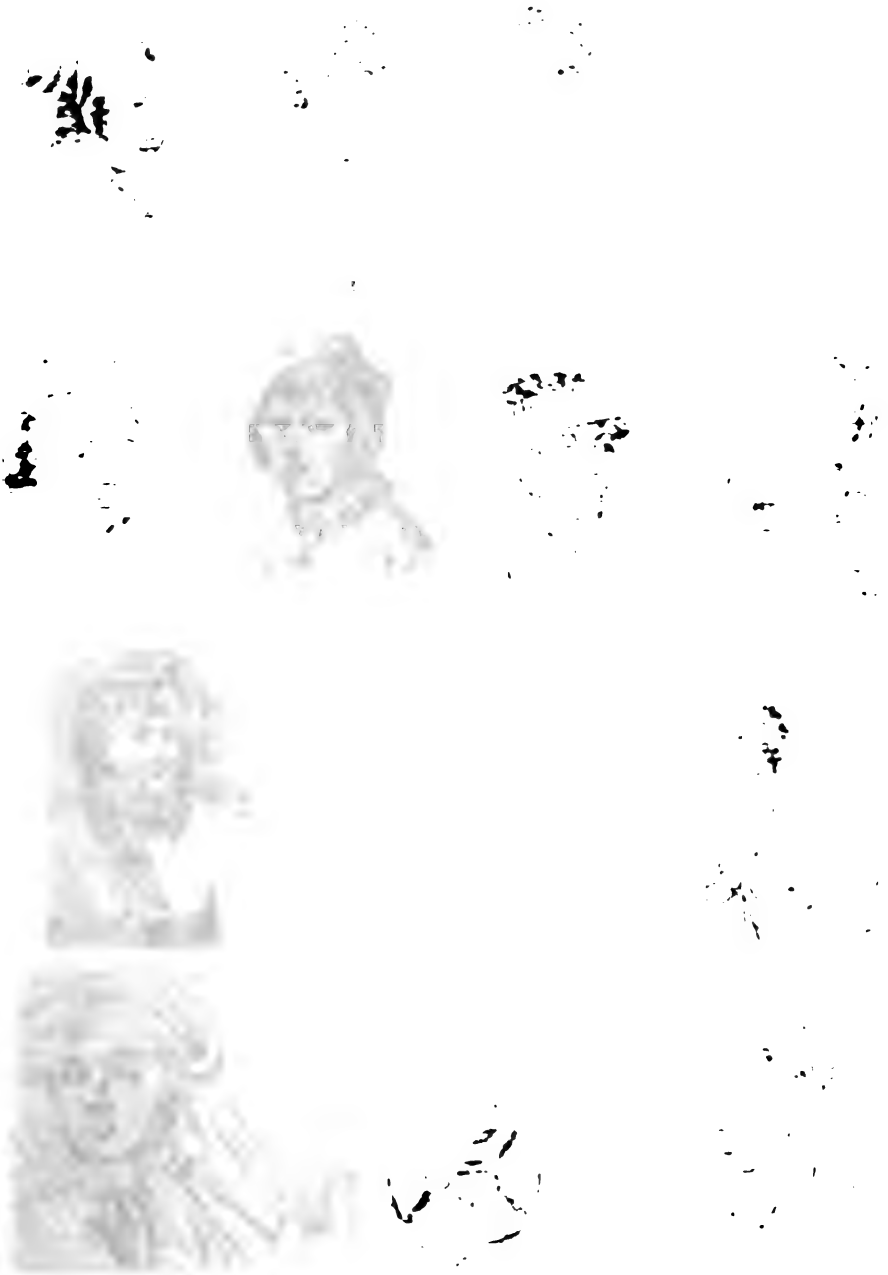














# MAN

PLATE LIX.





ON  
THE RISE AND PROGRESS  
OF  
THE FINE ARTS.

BY ALLAN CUNNINGHAM, Esq.,  
AUTHOR OF "THE LIVES OF BRITISH PAINTERS, SCULPTORS, AND ARCHITECTS,"  
"LIFE OF ROBERT BURNS," &c.



ON

# THE RISE AND PROGRESS

OF

## THE FINE ARTS.

### PART I.

#### HEATHEN.

PAINTING and sculpture seem the natural offspring of the human mind : they are coeval with music and song. They are to be found—rude indeed, and uncouth—amongst the most savage of the human tribes : wherever civilization has penetrated, the rudiments of the fine arts have been found long established ; some Laban of the desert had his household gods carved in wood, and enriched with colours and with precious stones. Representations of historical events, or personifications of abstract ideas of good and evil, are common to all communities, civilized or savage ; nor is it less remarkable than true, that the fine arts of almost all ancient nations have been closely united with devotion. Religion gave a moral expression and a heavenward look to all that sprang from human genius : the first hymns were in honour of the immortals ; the earliest specimens of art represented the gods whom men worshipped. When civilization and knowledge brought reflection and philosophy, men began to disregard the sculptured stone and the painted symbol, and look higher, and think more deeply. The idols, before whom the early nations of the earth were taught to bow, were only abandoned because knowledge purified our sight and mind, and bade us bow to the invisible Power, of which the best had only dreamed rather than believed.

Yet there is no doubt that the fine arts—or, in other words, the gods of wood and stone—aided in raising man out of his barbarous condition. Art was the language in which, after the confusion of tongues, men spoke and comprehended one another. The first rude figure was succeeded by one more skilfully made : elegance began to dawn amid deformity, and men grew polished

with their productions. Nor was this all. Art walked abroad, like one of the early missionaries, and speaking to the barbarous tribes of Asia and Europe through painted groupes and sculptured figures, historical and religious, spread abroad a sense of something lofty and spiritual. Increasing taste required art to become more graceful and beautiful : science was applied ; true proportion was discovered ; and the marbles of the men of Attica assumed the shape and aspect of gods. It was so in Egypt, in India, in Greece, and in Italy : religion breathed sublimity into song, and an air of heaven over sculpture and painting. A divine nature triumphed over that of earth in the Apollo, modest beauty kept down voluptuousness in the Venus, and that terrible majesty was diffused over the Jupiter which makes us think of thunder as we look on him.

It was so with the heathen, nor was it much otherwise with the Christian. A religion which, addressing the mind and soul, excluded the more visible and sensual, refrained not from accepting the aid of the fine arts, which, in the train of the false deities, aided in civilizing much of the earth. Our Saviour came to save the world—to raise men from their knees, humbling themselves to their own handywork, and bid them look to heaven, and think of immortality. The Dianas, Junos, Apollos, Minervas, and Jupiters, hitherto adored, were now to be as nothing, or as beautiful productions only in marble and brass ; and Faith, and Hope, and Charity were to take their places, and establish themselves without temples or altars. The oracles were struck dumb : incense no longer ascended to the gods of Olympus, and the intellectual eye, touched by a new light, was directed towards that great and invisible One of whose existence the heathen had but glimmerings.

Much, however, of the world which is in light

now, lay then in darkness : the blue-eyed savages of Germany, and the painted barbarians of Britain, knew neither the language nor the arts of civilized life. To them the words of the new religion were an unknown tongue ; and the fine arts, which had seasonably helped the heathen, did the same good office for Christian preachers, and interpreted an intellectual and spiritual doctrine to the comprehension of our barbarous ancestors. Those hordes knew neither Latin nor Greek, but the fine arts speak all languages ; and a sculptured cross, the virgin and child, the annunciation, the raising of the dead, the ascension, and other sculptures and pictures, made out the meaning till a knowledge of the language enabled the preachers to add eloquence to art. Nor was this laid aside when man became civilized, and knowledge was widely diffused. Christian divines had still to combat with heathen hankerings : the nations of the earth clung obstinately to their false gods : they thought of the pleasures of a sensual religion ; of the midnight processions and moonlight mysteries ; of their numberless deities : nor can it be said truly that ancient superstition was subdued till the prudent church of Rome placed saints, male and female, in the niches of the heathen Apollos and Dianas, and compensated for the mystical carnivals by thanksgivings and carnivals.

The fine arts in the service of the church of Rome resumed much of their original glory. Sculptors and painters, animated by a religion which bestowed honours on earth and opened the doors of heaven, wrought in the spirit of a new inspiration, and their works are still considered little less than miracles. They blushed at the nude simplicity of the heathen times, and desiring to work in the spirit of religion, infused more holiness into their compositions ; while, in compliance with the decent necessities of a cold climate, they were profuse in robes and draperies. At this period, learning was confined to few ; a knowledge of the Scripture was chiefly limited to the priesthood : and the rest of mankind were in almost total darkness. By the husbandman, the mechanic, and the shepherd, the labours of the sculptor and painter were received with gratitude, and regarded with awe and wonder. Of religion they knew no more than the priest taught and the artist darkly intimated ; and it is recorded of them that they all but regarded the splendid creations of art with a reverence allied to superstition. They were not to remain in darkness long. Printing came like a sunburst, with knowledge in her train, opening the Scriptures to all nations. Men read and interpreted for themselves : and considering art as a

thing lovely in itself, but rejecting it as an untrue or ambiguous interpreter of God's word, they cast it like a demon out of religion, commanding it henceforth to meddle only with material things.

In these introductory remarks, two leading epochs of the fine arts are indicated, viz. 1. Their condition among savage or imperfectly civilized nations, when they represented the gods whom men worshipped, or the heroes whom they produced ; and their character among the polite and polished Heathen, when science and poetry elevated them into the regions of beauty and sublimity.—2. The appearance of the fine arts in Christian Europe, when a new religion impressing them with a new spirit, employed them in the interpretation of the word of God : with their character, since knowledge, dismissing them from religion, confined them, especially in Britain, to matters historical, poetical, and domestic.

The fine arts have never in any new discovered country been found in a high state of cultivation : indeed, with no nation have they ever risen into beauty or majesty till science came to the aid of invention and skill of hand. Yet in each country, whether barbarous or semi-barbarous, the rudiments of future excellence have been discovered. Egypt had its dawn in art, as well as England : before the temples of Carnac or the cathedral of Canterbury arose, there were ruder structures, which formed the germs of those, as seed does of the future oak ; and we have evidence that in both lands a coarse sort of sculpture prevailed, commemorative of the deeds of warriors, or the appearances of the gods. The rocks of Britain, of India, and of Egypt, still bear the rough impressions which unenlightened chisels traced in attempting to delineate the human form, while the temples of the three lands contain many elaborate works to which science has contributed proportion, and talent beauty. In all these early efforts we have energy of muscle, but no dignity of character ; strong action, but no propriety—and they resemble each other in a matter equally important to our inquiry : colour was brought to help out the imperfect labours of the chisel, and to communicate to low relief something of the look of painting.

In writing the history of art for those remote days we are telling its story in more modern times. When the new world was discovered, temples, and statues, and paintings, and other indications of civilisation were found. Spanish writers claim for those works merit of a high order : but the adventurers who overran Mexico and Peru seemed willing to look on all things with wonder, and it was alike their object to

exaggerate the looks of the land, and the labours of the people. The statues and pictures, on which Spanish writers lavish so many words of admiration, were, in truth, but uninspired masses and brilliant daubings; remarkable chiefly for the variety of their colours, and for the bushels of pearls scattered about them in bracelets, and anklets, and bands. Robertson was one of the first to observe that such descriptions contained more of romance than of truth, and an examination of some of those Mexican marvels more than confirmed his suspicions.

Yet it cannot be denied that the fine arts among those gentle savages had risen higher in science and poetry than with any other barbarous people. Their ornamental works, imitated from herbs, and shells, and flowers, were indeed beautiful, and traced with a neat hand and an accurate eye. Without being scientifically correct they have all that the eye desires, and that has always been found sufficient. Nor should their singular pictures, wrought with various coloured feathers, a more ingenious sort of tapestry, be forgotten. In wood carving they likewise excelled; nay, some of the tattooings of the South-Sea Islanders and North-American savages exhibit much skill and even taste. The inhabitants of New Holland seem to come as close to the brute, as lord Monboddo could have desired; they neither build huts, carve war clubs, nor fashion gods; yet they now and then paint themselves with care, and when an unexpected feast offers itself, they break into voluntary song.

The sun of scientific art rose first on Egypt, or on India. History leans to the former, tradition to the latter; but both have the highest claims to antiquity of all the nations of the earth. Looking on the works of both, no one can with certainty say that the excavated tombs and palaces of Upper Egypt are more ancient than those of Elephanta or Elora, in Hindostan. The character of the fine arts in each land seems to be the same, though unquestionably the African artists wrought with more scientific skill, though not with higher imagination, than the artists of Asia. In both countries their object appears to have been the same; and in both, architecture, sculpture, and painting, were united. In this they closely resemble, and in this alone, our Gothic cathedrals, where architecture and sculpture blend and unite in one grand harmony, and,—

"Each gives to each a double charm,  
Like pearls upon an Ethiop's arm."

The ancient temples, of which we speak, with all the sculptures they contain, seem to have been

conceived at once: there the sister arts cannot be separated, without the destruction of both. They were in their character religious or monumental. Their object was to awe and astonish, and that they succeeded we have the attestations of the wisest and most intelligent of mankind.

The earliest of the Egyptian and Indian temples intimate that they were formed before the principles of architecture were fully understood. The art of uniting millions of small stones into one elegant and harmonious structure, seems to have been in those days unknown; and it was perhaps quite as easy to imagine a pyramid or a temple, as to discover cements and metals for uniting the stones, and the means of elevating them a hundred feet in the air. To cut a temple or a tomb out of a solid hill or mountain was one way to avoid the difficulty of uniting many things in one: it was a bold idea, and to moderns acquainted with the facilities of masonry, seems equally laborious and difficult. But they had no scaffolds to raise, no cements to invent, and no powers to create capable of raising columns sixty feet high, without joint, into the air; or, more ponderous still, those crowning blocks, which lie horizontally over the columns, and form whole ceilings of halls, as are still to be seen in the architecture of the Egyptians. The architects of those magnificent excavations probably smiled when a reformer in art first proposed to saw a rock into a multitude of small pieces; shape these into cornices, capitals, and architraves; and then, with mortar, metal, and pulleys, proceed to unite them into one lofty and splendid edifice.

All that the excavating architects required was a correct model, and sharp cutting chisels. The beauty of their work was chiefly internal. A hill with its trees budding, streams running, and flocks grazing, was a palace within, on which were lavished all the taste and invention of man. The palaces imagined by the poets for the fairies and their queen, scarcely surpass the realities on the banks of the Nile, or the hills of Hindostan. The most spacious of nature's caverns, with all their crystallizations, cannot be compared with the stupendous and regular excavations of the hand of man. There are temples extending some hundreds of feet into the solid rock of the mountain, formed with centre and side aisles, supported by wreathed columns or colossal figures of fifty and sixty feet high, carved with great skill, and still exhibiting traces of dazzling colours and gildings, which, in torch light, must have looked truly brilliant. Nor is this the sole wonder; sculptures representing the gods of the land, the kings of the country, or the

actions of warriors, were carved in all the recesses or spaces in the wall. Nay, the columns themselves were sometimes covered with low reliefs. The figures of the divinities reached often to sixty feet in height, their eyes were enamelled, their robes painted or gilt, their limbs ornamented with armlets and anklets, and a certain severity of expression was meant to denote the dignity of gods.

But hills were not always at hand, nor rocks commodiously enough situated for the purposes of architecture, and the convenience of princes; and man had to exercise his invention in order to bring the palace and temple, with all their statues, to the side of the sea, or the bank of some navigable river, where commerce had begun to spread her sails. It was then that architecture made her second grand movement; she ceased to bore her way into the obstinate mountain, but turning the rock into a quarry, found materials which enabled her to add external beauty to internal accommodation; and rear those temples which still triumph over the folly of conquerors and the influence of time. This invention had other merits; in cutting a temple out of a hill the artist had to take the materials as nature chose to send them; they were often coarse, always unequal, and occasionally ill fitted for delicate carvings or polished workmanship; painting and gilding were applied as remedies, but these were not always effectual. The new invention included choice of materials; to the freestone of one hill was added the veined and variegated marble of another, and with both was united the dazzling and enduring porphyry; a substance difficult to carve. How the vast masses which compose those buildings were raised to their places is still a matter of surprise and speculation; but how the solid porphyry was cut and polished is more surprising still; it is too hard for ordinary steel, yet it seems to have been wrought with ease by the masons of Egypt.

These temples were the admiration of the Greeks, as well as of the Romans. Nor were they few in number: Britain has but one St Paul's; but the banks of the Nile had hundreds of such structures. The character of the excavated works was visible in these new erections; the columns seem capable of sustaining a hill, the figures fit to support a mountain; nothing is light or graceful, all is heavy, broad, and massive; the architects seemed still to feel that they were working in the bowels of the rock, and had to leave pillars and supports equal to hold up mount Pelion. Their solidity and strength was much increased by the absence of the arch; in all masonry a rent or a settle is sure to

take place where an arch is, if the foundation be infirm, for a perpetual push is kept up against the abutments: in Egyptian architecture, all is horizontal; there were neither slopes nor circles, nothing but downright weight. The temples of Hindostan are almost the same in every thing; both seem to have originated in one mind. "To me it appears," says Erskine, writing of Elephanta, "that while the whole conception and plan of the temple is extremely grand and magnificent, and while the outline and disposition of the separate figures indicate great talent and ingenuity; the execution and finish of the figures in general—though some of them prove the sculptor to have had great merit—fall below the original idea. The figures have something of rudeness and want of finish, the proportions are sometimes lost, the attitudes forced, and every thing indicates the infancy of the arts—though a vigorous infancy."

These words apply to much of the early sculpture of Egypt, as well as to that of Hindostan; there is something grotesque about both; yet it seems never to have occurred to those who criticised the latter, that a different scale of proportion in the manufacture of deities is a sacred rule of the land. This accounts for the exaggerated shapes and inharmonious proportions visible in the statues of Siva, Boodh and others. "The Egyptian statues," observes Flaxman, "stand equally poised on both legs, having one foot advanced, the arms either hanging straight down on each side, or if one is raised, it is at a right angle across the body. Some of the statues sit on seats, some on the ground, and some are kneeling, but the position of the hands seldom varies from the above description; their attitudes are of course simple, rectilinear, and without lateral movement; their faces are rather flat, the brows, eyelids, and mouths, formed of simple curves, slightly, but sharply, marked, and with but little expression; the general proportions are sometimes more than seven heads high; the form of the body and limbs rather round and effeminate, with only the most evident projections and hollows. Their tunics, or rather draperies, are in many instances without folds. Winkleman has remarked that the Egyptians executed quadrupeds better than human beings."

The artists of Africa were more learned, if not more poetic, than their brethren of India. They included astronomy, as well as religion and history, in their works. Whatever they made had a meaning, clear to them, though dark to us, yet not more so than much of our own sculpture will prove to foreign nations in a future age, when they sit in judgment upon

sandals and half boots, buttoned coats and Roman togas. What the two colossal elephants had to perform which still stand nigh the entrance of the temple of Elora, no one has conjectured; nor has the meaning of the stupendous Sphinx, still a wonder in a land of wonders, been clearly accounted for. The former are cut out of detached portions of rock, and seem to have been intended as guardians to the sacred temple; the latter has recently been bared as low as the belly, and instead of being composed of quarried blocks, it is now found to be produced from a huge earth-fast stone, or cut out of the salient angle of an immense rock. The head and body are of one piece, and connected with the soil; the legs and paws are of the like material, and though some have doubted whether the seams or veins which cross them are not joints, they are much more likely of a piece with the body. The breasts, shoulders, neck, and face are those of a human being of the Nubian character; the expression is placid. "No people, either ancient or modern," says Champollion, "ever conceived the art of architecture in so sublime and grand a scale as the ancient Egyptians. Their conceptions were those of men a hundred feet high; and the imagination which in Europe rises far above our porticos, sinks abashed at the foot of the hundred and forty columns of the hypostyle of Carnac." He might have added, that the largest statues of modern times are but like figures carved from a cherry stone, compared to the gigantic gods and heroes of the land of Egypt.

Both Greeks and Romans seem to have examined the works of art, on the banks of the Nile, with an eye curious, if not tasteful. Some of their measurements have proved erroneous; nor has the opinion pronounced on the excellence of the sculpture been supported by specimens such as have descended to us from the artists of Greece. The splendid varieties of the marble and the porphyry, together with the bright polishing and brilliant colours, united to dazzle men's eyes and influence their judgment; they found temples more massive, and statues more lofty, than they looked for, and they pronounced accordingly. The same may be said with regard to later accounts: the French and the British have united to explore and explain the perishing wonders of the banks of the Nile; but it may be remarked, that no artists of approved taste and genius were in the train of those explorers, and that we have reason to believe that the gigantic dimensions, the lustre of the materials, and the careful polish of the workmanship, were to the visitors grace, expression, and sublimity. In-

deed, in the eyes of many, whatever is large is great; a statue twelve feet high has twice the grandeur of one of six, while one of twenty-four has but half the sublimity of one of forty-eight. Two of the noblest statues, however, of these our later days, are but eighteen inches high—the Michael Angelo and the Raphael of Flaxman.

Yet the architecture of Egypt may claim the name of sublime, if the title be not too noble for works produced by mechanical skill. Temples, which seem to be as stable as the mountains, are still standing to justify men's admiration; while colonnades of solid stone, sixty feet high, obelisks higher still, without joint, and walls composed of enormous blocks, everywhere abound; fractured or overthrown by some convulsion of nature, rather than by the hand of time. The sculpture of the land is not at all equal to the architecture. Statues, indeed, of fifty and sixty feet high abound, and walls and pillars are carved over with figures, singly or in groups; but the former are not very graceful, either in proportion or in expression, and the latter are chiefly rude etchings or sinkings, in which durability has been the main object. A figure, sixty feet high, cut out of solid porphyry, standing new as it did three thousand years ago, amid the arid deserts of Upper Egypt; or the god Salsal, of twice the height, hewn out of rock, discovered by Burnes among the snowy mountains of Koosh, are sublime from their antiquity more than from their dimensions, or the character impressed upon them. These works may be called magnificent, but they cannot, with any propriety, be called beautiful, in the natural sense of the word. The Nubian features can never be reconciled to our notions of the graceful in form; nor have they been redeemed from the grotesque by sentiment and feeling: the lumpy lips, the wide cheek bones, the "forehead villanous low," with perpendicular draperies descending like icicles or petrifications, could never, though painted with the brightest colours, or gilt from head to heel, rank for a moment with the poetic creations of the dullest days of Greece.

By the curious inquirer the contrast between the master and the scholar, between Egypt and Greece, may be traced, even in the works which have descended to our own day, and are now in this country. This was visible in the earliest times; and the same paternity was boldly claimed then, as well as now, for the statues of Thebes and Athens. But this applies rather to the mode of handling than to the ruling beauty of the sculpture character and sentiment. The early statuary of Greece had rigid limbs, inflexi-

ble muscles, hard shut lips, and stony eyes, like the statues of Egypt, but here the resemblance ceases. In the rudest sculptures of the former the dawn of poetic beauty is visible; in the most savage forms there resides a certain majesty of manner, in which the works of the latter have no share. Had critics and historians asserted that Greece imitated Egypt in employing art to tell the story of her history and her religion, they would have been nearer the truth perhaps. Let us examine more closely into this matter.

When Denon beheld at the head of his savans the ruins of ancient Thebes he exclaimed, "This celebrated city, the size of which Homer has characterized by the single expression of the hundred-gated, a boasting and partial phrase, which has been repeated with much confidence for many centuries; this illustrious city, described in a few pages dictated to Herodotus by Egyptian priests, that have since been copied by every historian,—celebrated by the number of its kings, whose wisdom had raised them to the rank of gods,—by laws which have been revered without being promulgated,—by science involved in pompous and enigmatical inscriptions, the first monuments of ancient learning that are still spared by the hand of time;—this abandoned sanctuary surrounded with barbarism, and again restored to the desert, from which it had been drawn forth; enveloped in the veil of mystery and the obscurity of ages, whereby even its own colossal monuments are magnified to the imagination;—still impressed the mind with such gigantic phantoms, that the whole army suddenly, and with one accord, stood in amazement at the sight of its scattered ruins, and clapped their hands with delight, as if the end and object of their glorious toils, and the complete conquest of Egypt, were accomplished and secured by taking possession of the splendid remains of this ancient metropolis."

The account of Thebes by a later traveller, Mrs Lushington, is more to the point:—"When I compare the descriptions of Denon and Hamilton, I find them essentially correct, yet without giving me any idea of the glorious reality. No words can impart a conception of the profusion of pillars, standing, prostrate, inclining against each other, broken and whole, stones of a gigantic size propped up by pillars, and pillars again resting upon stones, which appear ready to crush the gazer under their sudden fall; yet on a second view he is convinced that nothing but an earthquake could move them: all these pillars covered with sculpture, perhaps three thousand years old, though fresh as if finished but yesterday; not of grotesque and

hideous objects, such as we are accustomed to associate with ideas of Egyptian mythology, but many of the figures of gods, warriors, and horses much larger than life, yet exhibiting surpassing grace and beauty." These colonnades, obelisks, porticos, and statues are in hundreds and thousands, filling the vast plains almost as far as the eye can reach, and extending over five modern villages. Should any city of modern times be exposed without repair to the storms and the whirlwinds of three thousand years, their noblest buildings will be as dust, and the plough will pass over them, nor be impeded in its progress.

The sculptures to which our fair traveller alludes are to be found in the temple of Luxor, a portion of Thebes. It will be observed how much in subject, though in nothing else, they are akin to the marbles of the Athenian temples. On the eastern wing of the north front of Luxor are sculptured the exploits of one of the early conquerors: the enemy are driven roughly back upon a fortified town, from whence they had issued, and the victors are pressing forward, with the design of entering the place with the vanquished. The commander is conspicuous in a war chariot drawn by two horses; a globe surmounts his helmet, with a serpent on each side; an arrow is leaving his bow, and beside him is a lion rushing forward. His horses are in full gallop; under their hoofs are scattered the dead and the dying. The enemy are in disorder and flight; men fall, pierced with wounds, from their chariots; the main body are pushed over a precipice into a rapid river; the town is in dismay; on the walls aged matrons and men run to and fro, shrieking and stretching out their hands, while some of the more resolute citizens sally out, led by a young warrior, whose robes and tiara mark him of note. Various portions or episodes of the same battle are represented on other parts of the building; everywhere the Egyptians are prevailing, and the Indians or Persians are suffering; the short, close dresses of the former contrasting well with the flowing robes of the latter. It is more than likely that these sculptures were stained or painted. That painting generally in ancient times came to the aid of sculpture, is too well established to be questioned.

It appears that the fine arts were chiefly dedicated to history and religion in the land of Egypt. What the houses were like in which the people dwelt, how the walls were adorned, and what their domestic gods resembled, we have no account. Priests sacrificing to the gods, solemn processions, battles fought, cities assaulted or stormed, kings and rulers, living or dead, cut out in stone, couching lions, and crocodiles, and

serpents, slaves of gigantic stature supporting the roofs or porticos of temples, and colossal figures, half man half beast, guarding the way to tombs or the entrances to palaces, were the subjects on which Egyptian genius employed itself. These were the work of many centuries; art seemed to have advanced little. There was much to wonder at, yet nothing was poetic or elegant. - We marvel how they raised such massive and enormous piles; we measure the stones, and we calculate the weight of the gigantic statues, but it would be unsafe to commend, as matters of high genius, any of their works save their architecture. The great merit of their conceptions was durability. The people became rich, luxurious, and degenerate, and their country was invaded and conquered by every nation that chose to draw the sword and march against it, from the days of Nebuchadnezzar to those of Napoleon. But so massive and so mighty were the works of the people, that the most savage of conquerors were unable to prevail against them; they had raised tombs, and temples, and pyramids too vast and strong to be overturned by man, or even by time; and those structures still stand, among the pathless deserts, to prove that intellectual giants lived in the earth in the earlier days.

Colossal magnificence seemed the object of the Egyptian artists; that of the Greeks was simplicity, beauty, grace, and sublimity. The African sculptor desired to astonish; the European wished to delight: the former wrought by mechanical rules, and produced his figures by a formal process, in which the hand had more to do than the mind; the latter called in poetry to his aid, and all but endowed his works with motion and speech. Nor did all this difference arise from more dextrous or more delicate workmanship; it lay as much or more in the original design. The happiest labours of a Greek chisel would have been unable to redeem one of the most naturally imagined statues of the land of Egypt from the original sin of stiff and corpealike conception. But this triumph of poetry in art was not achieved at once; nor did it arise from the exertions of one master mind. In the earliest and rudest of their statues something lofty and god-like appears, as it were, in the dawn. In truth, the Greeks were perhaps, one and all, the most imaginative of nations; they listened to the songs of their bards with a rapture which nothing as divine would excite now, and they wandered among their groves of statues of heroes and of gods, and thought of the time when some achievement of their own would entitle them to similar honours. It is true that

Greece borrowed the idea of its art from Egypt; the stiff and inflexible postures of the latter are visible even in statues which have come down to our own days. Ease and nature came with poetry to help the former, and those miracles, not of size but of sentiment, were wrought, compared to which the happiest efforts of the artists of the Nile are no better than the doings of the Egyptian magicians in the presence of Aaron and his rod.

The poetic feeling of the Greeks is expressed in all their works; all that they looked on and loved was at once endowed with spirit and with life. The neighbouring hill had its divinity, the distant mountains were peopled with gods, the woods, and the streams, and the fountains were filled with things immortal and lovely, and the heavens above and the earth beneath teemed with spiritual existence. Nor were they cloudy, and dim, and undefined, like the visions which pass before our gothic fancies. What the Greeks believed in, they imagined they saw; and whatever they saw, they had the art to endow with shape, and inform with sentiment. Even their most extravagant conceptions are redeemed by the grace and elegance of their handling; the Centaurs, half man and half horse, were all but rendered acceptable to the heart by the delicacy with which the fiction was treated. The whole land of Greece, including its isles and Asiatic provinces, was filled with temples, and statues, and paintings. Even this is still visible to travellers; a stream cannot be forded, a field ploughed, or a grave dug, without finding fragments of gods and reliques of heroes. No one need return without the foot of a Venus, the hand of an Apollo, or the head of a Pan or a Jupiter.

Nor were those statues cold and inanimated personations of popular belief; all was in character and keeping; nothing was mean or vulgar; the seal and impress of something divine was upon them. Venus was known by her loveliness, Apollo by his youthful beauty, Juno by a serene majesty, Neptune by his maritime look, Minerva by her thoughtful gravity, Bacchus by his reveling air, and Jupiter by the majestic grandeur of his brow. All was action,—graceful and elegant action; there was no straining, no picturesque attitudes; whatever was done was accomplished with ease, and without muscular effort. The action, too, in which they were put was individual and historic; Pan played on his pipe, Mercury fitted on his winged sandals, Apollo shot his arrow at the serpent, or sat harping to the celestials, Venus showed the golden apple in her hand, not unconscious of the charms which ob-

tained it, Minerva assumed her helmet and spear, and stood ready for war or wisdom, Bacchus returned reeling from India, Neptune grasped his trident, and extended his hand over the empire of the sea, while Jupiter brandished his thunderbolt, and singled out his victim. The looks and lineaments of these creations were human nature exalted and spiritualized; all that was mean, coarse, ill-shapen, and earthly was avoided; no detail was entered into; the appearance of youth was given, without anything which hinted of the nurse or the cradle; and the looks of age were bestowed, without the furrows and the decay incident to man. A divine spirit seemed to have entered into the loveliest of all created shapes; the beholder felt a lifting up as he gazed: the statues of the gods were the poetry of the land charmed into marble.

Human deeds were treated by the Greek artists in something of a similar manner. Each individual was characterized by the action in which he was represented. The forms were noble, the proportions just; age was there, and so was youth; yet any person of knowledge or taste could see at once that they were all human, not divine. The actions which the gods performed were done with a divine ease, which cost the body no exertion. The actions of man demanded muscular effort, and were accomplished with labour and difficulty. Apollo and Bacchus were celestial conquerors, yet look at their smooth and elegant forms; men with such bodies could not have prevailed in the strife as they did. It was otherwise that Hercules was represented; he is all sinew, and muscle, and bone; he was of earth, and as he wrought more with hand than mind, the sculptors delineated him of gigantic proportions, and gave him members fit for the tear and wear of his undertakings. He is shown resting on his club, and reposing from his toils like a mere mortal; while Apollo slays the Pythian serpent with the ease of a god, and seems unconscious of doing anything uncommon. Few of their statues were meditative; there was a dramatic spirit in the people, which may be seen as strong in their epic poetry, and in their works of art, as it is in their dramas. No figure stood there the idle occupier of its pedestal; a god was busied in some action for the good of Greece, or the overthrow of its enemies; while a mortal seized his sword to march to war, or his harp to charm his hearers with harmony. Life and thought were impressed on sculpture and painting.

All this was not accomplished by inspiration alone; study and science were resorted to. The greatest of all mechanical achievements is to

draw the human figure with perfect truth of proportion and outline; the greatest effort of the mind is to endow that figure with high feeling and sentiment; to unite both is a power bestowed on few. To draw a hill or a tree requires a fine eye and a true hand; but the hill may be of irregular shape, and the tree may not be equal on all sides, and a slight deviation is not observed, and affects not the character of either: it is otherwise with a true proportioned human figure; the separate parts are in themselves so beautiful, and the union of the whole so harmonious, that the slightest deviation injures the figure, and robs it of that perfect grace which it possesses more than any other created thing. In the science of their art the Greeks seem to have excelled all other nations. Nothing in sculpture in ancient Rome or modern Europe can be compared to the unity and harmony of their statues and groups; no drawing has appeared to rival the exquisite elegance of their bounding lines. All with them is easy, graceful, and simple; there is no straining for effect, no picturesque throes to arrest the spectator; they trusted all to natural beauty of form and divinity of sentiment. Their statues still survive in hundreds to attest the truth of this assertion; and though their paintings have perished, we have every reason to believe that they at least equalled the sculpture in truth and beauty.

In Egypt and India, architecture, sculpture, and painting, were united: in Greece, the inventive genius of the people soon gave an individual existence and dignity to each: or rather sculpture and painting escaped from the mechanical clutches of architecture, and rose into the regions of poetry as separate arts. It is true that a Greek temple was raised for the worship of the gods, and that on its pediments and niches, statues and groups were carved, and scenes painted, representing the persons or exploits of those divinities; here, however, the resemblance ends; the statuary and the paintings in the temples of the Nile were subordinate to the architecture; the images supported the roof or the pediments, the reliefs were flat and unobtrusive, and the painting, or rather staining, was all subdued and kept down, so that the genius of architecture triumphed. The Greeks soon perceived that architecture was of a limited nature, and that the two slaves had more of true divinity in them; the fairest proportions, the finest combinations, and the most exquisite workmanship of the former told no story contained no sentiment, and performed no action fabulous or real; the latter had sentiment, action, and, I had almost said, speech. A temple became in Greece a receptacle for exhibiting the

miracles of art. Gods were wrought in marble, in ivory, and in gold, and pilgrims and worshippers approached, rather to behold the majestic beauty of Minerva, or the stern sublimity of Jupiter, than to wonder at the structure which contained them.

Let no one, however, suppose that I am insensible to the merits of the Grecian architecture; if it failed to rise with its sister arts, it was from no want of genius in those who professed it, but rather its own character, which limits it and confines it more to the eye than to the mind. A little was taken from the durability discernible in the Egyptian works, and more was added in the matter of elegance; much that was heavy was avoided; columns were shaped by science, and with some reference to the appearance of the structure they had to support; capitals were rendered more airy and graceful, and those enormous rocky roofings were dispensed with in which the architects of the Nile excelled. Nor was this all; ingenious men divided architecture into degrees or orders; one represented simplicity and strength; another united simplicity with elegance; a third added lightness and beauty; and a fourth preserving truth of proportion and unity of combination, loaded itself with ornament, and carried the florid as far as Grecian simplicity permitted. Much was gained, and something lost, by these changes. While architecture assimilated itself more to the wants of man, and descended from the gigantic and the stupendous to the graceful and the serviceable, the artists who wrought the change seem to have sacrificed durability to beauty. Such frail materials as the forests present were scorned by the architects of the Pharaohs; they knew that wood must soon yield to time, if it succeeded in escaping fire, and with perhaps the terrors of invaders before their eyes, they employed no perishable materials, but made use of enormous slabs of stone, on which fire could take no hold, and which the hurried efforts of enemies could not overturn. The Greek architects had either more faith in the durability of their materials, or the stability of their empire. Less massive structures, and roofs of polished cedar, plated over with marble, no doubt were pleasing to the sight, and when adorned with statues of gods, and pictures of noble actions, could not fail to produce a strong effect on the mind. Yet to those who reflected upon the vicissitudes of nations, the whole must have appeared unsubstantial, nay, shadowy. The roofs could not fail in time to yield to the influence of the elements, and when the frail covering was injured or swept away, the rain would descend without obstruction into the

walls, and sap the vigour of the cement, and loosen and destroy the firmest masonry. This is no visionary fear; it has all come to pass; the enemies of Greece prevailed; her statues of ivory and gold tempted the spoiler by the richness of the materials; her groups of marble lured the more tasteful of the conquerors, and when her gods were gone and her strength had decayed, the roofs of her magnificent temples were neglected, and—behold the difference of the architecture of Egypt and Greece; many of the national buildings of the former are still unbroken and entire; none of the structures of the latter exist in a complete state, though raised a thousand years perhaps after the other, they have sunk gradually to ruin, and will soon exist only in the labours of the draughtsman and the engraver.

But the architecture of Greece may be called immortal, compared to the brief existence which time allotted to her noble paintings, the fame of which has filled the world. He who works in marble or granite may have some chance of surviving in his productions for thousands of years; but he who commits his fancies to fine colours, spread out upon wood or cloth, cannot hope to live visibly for more than a few centuries. "How long," said Napoleon, to the artist David, "will a picture last?" "For some five hundred years, Sire," was the answer. "Bah!" exclaimed the Emperor, "a fine immortality!" That the whole peninsula of Greece, with her numerous isles, and colonies in Asia, were filled with pictures of the highest excellence, we have the testimony of poets, historians, and travellers. Their descriptions are generally rapturous, rather than particular; they dwell more upon the effect, than the means by which that effect was produced, and though they trace architecture and sculpture to the banks of the Nile, they have been less explicit with painting, and left us rather to consider it as a direct emanation of Grecian genius, than a light brought from a far land. Nor is its parentage of much moment. The idea only could come from the Nile: there painting was in a state rude and uncouth, though splendid enough in its colours: the human form had the rigidity of a corpse; and instead of natural expression and agreeable light and shade, all was darkly undefined, or brightly splashed with costly hues, like the landscapes on a Chinese vase.

Of the state of painting, in the earlier days of Greece, we can give no satisfactory account: we may safely surmise, however, that it marched side by side with sculpture, from rudeness to beauty, and soon freed itself from the bounds into which architecture threatened to confine it. If

we dared to imagine, with some intelligent writers, that in the pictures of the Mexicans we behold the early paintings of the Greeks, the character of their first groupings might soon be drawn; but though demi-barbarous both, it appears to us that the genius of the two nations were essentially different. We are told, indeed, that Cortes and his companions viewed with admiration cotton stuffs so fine and of such delicate texture as to resemble silk; pictures of animals, trees, and other natural objects, formed with feathers of different colours, disposed and mingled with such skill and elegance as to rival the works of the pencil in truth and beauty of imitation: nay, farther, that some painters in the train of the Mexican chiefs, set up their easels, and delineated, upon white cotton cloths, figures of the ships, the horses, the artillery, the soldiers, and whatever else attracted their notice as singular, and even attempted to express the evolutions of war; the rushing of armed horsemen, and the smoke, and sound, and effect of the artillery. But neither in the carvings nor paintings of the Mexicans is poetry or science present: in this those rude efforts of the two nations differ; something of the presence of divinity was visible in the sentiment of the unshapeliest work of Greece: in the best works of the Mexicans there is not even the dawn of sentiment; they trusted for effect to rich colours and the variety of the materials. Time and inquiry have confirmed the sentence of the historian,—that though the Mexicans with much skill and ingenuity represented men, animals, and other objects, by such a disposition of various coloured feathers, as produced the effect of light and shade, yet the best efforts of their art are uncouth representations of common objects, or very coarse images of the human and some other forms, destitute of all grace and propriety. In their grotesque compositions there is more of the Egyptian than of the Grecian: the latter never appeared without poetry and feeling, and we must reject as fabulous or fanciful all the points of resemblance perceived by the ingenious and the curious.

It is perhaps a safer way to describe the paintings of Greece by a reference to the efforts of sculpture, in what is called flat relief; a species of production which partakes of the nature of both, without sharing in the high qualities of either. We are the more inclined to do this from observing that the descriptions given by Pliny and Pausanias, of the pictures of Greece, show a close similarity both in character and subject with not a little of the sculpture which has survived. We are not without suspicion too, that the pictures were generally without

landscape or scenic backgrounds; nay, some have gone so far as to assert that the divine painters of Greece had not discovered the art of uniting their separate figures and groups into one grand and harmonious action. The resemblance to sculpture was therefore the closer; and perhaps we are describing the copy in marble of an ancient picture, when we relate the impressions which some of the still existing groups and reliefs make on our minds. On a sarcophagus, now before us, and lately discovered by Sir Pulteney Malcolm, in Crete, there is sculptured, in low relief, one of those scenes on which poets laid out their fancy, and painters lavished their colours. The subject is the triumphant return of Bacchus from India; what this had to do with death and the grave let the learned explain. A naked youth, stooping under a wine skin, accompanied by a musician, leads the procession; an elephant follows, with three girls on its back, playing on the double pipe and cymbals; Silenus, sufficiently intoxicated, is borne after by two youths, who seem not unconscious of the weight, while a satyr follows, striking a tambourine, and actually leaping into the air with delight. A male and female centaur succeed; they are *side* by side; "one seems woman to the waist and fair, but ending foul," the other has his brows bound by vine leaves, and seems in a passion which his female comrade strives to soothe away by throwing her arm around his neck; the empty cup depending from her fingers intimates that wine has something to do with the wrath which agitates him. This is more fully intimated by the action of the closing group: Bacchus appears all youth and beauty, grave rather than joyous, in a splendid car, on a pannel of which a youth and satyr are contending; the left hand of the god supports a trophy, while the right hand protects a trembling faun, his companion in the car, at whom the exasperated centaur seems about to throw a wine-flagon: the fear of the one and the surly wrath of the other are well expressed. Two men, on one end of the sarcophagus, seem disputing about a child which they are bearing away in a basket; while on the other end two cupids are engaged in the task of putting a tipsy satyr to bed; a blanket is suspended between two trees; the urchins have their friend on their shoulders, and are striving on tiptoe to heave him up, while a quiet smile is playing over his brows and in the corners of his mouth at their fruitless endeavours. All this seems more akin to luxurious painting than to the simple gravity of sculpture.

This sarcophagus seems of great antiquity. The subject sculptured upon it was not peculiar

to Greece. We are told by Diodorus Siculus that in the temple of Belus, raised by Semiramis, at Babylon, there were paintings of hermaphrodites and centaurs, and other strange and not very poetical creations: the same writer also informs us, that on a bridge which the same queen threw over the Euphrates, there were "not only single figures of animals represented in colours, but they were also combined in groups: one, a hunting piece of considerable length, wherein the queen herself was represented on horseback, throwing her dart at a panther; and near her Nimus striking a lion to the earth with his spear." These works were painted on the bricks previous to burning: enamel seems to have been well known to ancient artists.

No one has hitherto succeeded in removing the veil which time has thrown over the origin and progress of painting in Greece. Of all the treatises written on art by Apelles, Protogenes, and Persens, not one passage has descended to us, and we are obliged to accept the remarks of critics, and the doubtful testimonies of historians, in place of the narratives of scientific and skillful men. The labours of Penelope, and the amusements of Helen, may be the inventions of Homer, and the legend of the Corinthian maid who traced, by lamp-light, the shadow of her lover on the wall, may be a matter of fancy. We descend to firmer ground when, with Pliny, we ascribe the production of outline to Saurias, and of colour to Cleophanes of Corinth; to these Eumarus, the Athenian, and Cimon, of Cleonsa, added draperies and action, with natural delineation of veins and muscles. To those artists no one has been so bold as ascribe a period of either birth or death. They were followed by Bularchus, who, seven hundred years before Christ, painted, with so much success, the battle of the Magnetes, that Candaules, king of Lydia, thought it cheap of its weight in gold. The fine arts were interrupted by the Persian invasion: when the battle was fought and the victory won they shone out in all their lustre. Panæus, brother of Phidias the sculptor, painted the battle of Marathon, on the walls of the Portico at Athens, and into the vicissitudes of the fight introduced the chief leaders, Greeks and Persians: beauty of colour and harmonious light and shade had not yet risen in all their strength. Mycon seems to have surpassed Panæus: he painted the battle of the Athenians with the Amazons: likewise the war betwixt the Centaurs and Lapithæ, in which Theseus was represented in the act of slaying one of the Centaurs: the victory was left in doubt.

Timagoras of Chalcis excelled Panæus, and

bore away the prize at Delphos; he in his turn was surpassed by Polygnotus of Thasos, a man of uncommon genius and application. He was the first who added gaiety to action, and took austerity out of female looks; his fame reached Rome, and centuries after his death inspired Lucian with his idea of a perfect woman. "Polygnotus," says he, "shall open and spread her eyebrows, and give her that fine glowing decent blush which so inimitably beautifies his Cassandra; he likewise shall give her an easy flowing dress, with all its delicate wavings; partly clinging to her body, and partly fluttering in the wind." These words might be applied to some of the best pictures of Reynolds or Lawrence. The works of Polygnotus were numerous, and chiefly historical. At Platæa he painted Ulysses destroying the suitors, and the expedition of Onatas to the Argive Thebes; they adorned the temple of Minerva, and were in the vestibule: he was also employed to ornament the Pœcile at Athens, and the Public Hall at Delphos. The pictures at the latter place made a strong impression on Pausanias, who in his Phocis displays their merits and meaning in a long and interesting description.

The first of these paintings represented the destruction of Troy and the departure of the Greeks for their native land. Menelaus stands on the prow of his ship: his pilot Phrontis distributes oars or poles; boys and seamen are conversing in groups: on the shore Polites and his brother warriors are taking down the tent of Menelaus. Briseis too is introduced, near her is Diomed, nearer still Iphis: nor is Helen forgotten; soldiers are in a group admiring her, and she is seated: Panthalis stands beside her while her other handmaid Electra fastens her shoes. "Here too," says Pausanias, "Epeus is painted throwing down the walls of Troy from their foundations. And the only thing above these is the head of the horse Durateus. Polyætus, likewise, the son of Pirithous, is painted having his head bound with a fillet. Acamas, the son of Theseus, stands by him with a helmet on his head, and a crest on the helmet. Ulysses too is present, and wears a coat of mail. Ajax, the son of Oileus, approaches with a shield to the altar, in order to swear before he offers violence to Cassandra. But Cassandra sits on the ground, holding the wooden image of Minerva, which she tore from its basis when Ajax drew her from her supplications at the altar. The sons of Atreus likewise are painted with helmets on their heads. But on the shield of Menelaus there is a dragon, viz. the one that appeared as an omen during the sacrifice at Aulis.

These administer the oath to Ajax. Opposite to the horse, Neoptolemus is beheld near Nestor slaying Elacus. This Elacus, whoever he was, resembles a man nearly expiring: Neoptolemus too strikes with his sword Astynous who has fallen on his knees, and who is mentioned by Lesches. Polygnotus, indeed, is the only one of the Greeks that has represented Neoptolemus still continuing to slay the Trojans; and his design in this was that the whole picture might correspond to the tomb of Neoptolemus. An altar too is painted and a boy embracing it through fear. On the altar there is a brazen coat of mail: Laodice stands behind it: nigh Laodice there is a stone pillar, beside which Medusa sits on the ground holding it with both hands. One may rank Medusa among the daughters of Priam, who has read the ode of Himeræus. Near Medusa there is an old woman with her hair shaven to the skin; she holds a naked infant on her knees. With respect to the dead bodies in the picture, one of them is Pelias, who is naked and is thrown on his side; beneath him Eioneus and Admetus lie, having on their coats of mail. Lesches informs us that Eioneus was slain by Neoptolemus, and Admetus by Philoctetes. Under the laver, Polydamas lies, who was slain by Ulysses. Nigh the dead stands Antenor, and close to him Arino his daughter; she holds in her arms an infant boy. These are painted with sorrowful countenances. Servants are placing a chest and other furniture on an ass; and a little boy sits on the ass. In this part of the picture there is the following lines by Simonides:—

"The artist Polygnotus, for his sire  
Who claims Agiophon, in Thebes born,  
Painted the captured tower of Troy."

In the works of Polygnotus, as described by Pausanias, artists, and sensible ones too, have perceived immense labour, high talents, but no idea of composition, perspective, or light and shade. "Each figure," says one of these authorities, "had its appropriate action, consistent with its history and character, but no connexion in lines with its neighbour; and that the observer might be at no loss of time in considering whom they represented, the painter had placed a name to every figure. They were arranged in rows, beside or over each other; and Pausanias, in describing them, begins at one end, and proceeds with an individual enumeration of them to the other, and then speaks of other figures over these; but whether they diminished in size does not appear." Much of the blame which the critic attaches to the painter seems to be attri-

butable to Pausanias. He was anything but a clear describer; yet from the quotation given we may perceive, that though the deeds of many days were, drama-like, brought forward at once, and though the figures were scattered, the destruction of Troy was stamped legibly on the whole; nay, some of the groups had an episodic interest of their own, while at the same time they composed well with the impatience of Menelaus to begone, the lingering delay of Helen with her handmaids, and the burning vengeance of Neoptolemus, who desired to slake the burning ashes of Troy with blood. Let us, with such light as Pausanias affords, look at one or two more of the paintings of Polygnotus, and see whether the opinion of the critic is sustained.

The second picture by Polygnotus at Delphos represents Ulysses descending to Hades, to consult the spirit of Tiresias about his return to Ithaca. A river, the Acheron, is painted, edged with reeds, gloomy, and containing fishes, which seem shadows. The ship of Charon is in the stream, and Charon himself is there; nigh him an unfilial son is strangled by his father; also, there is one punished who committed sacrilege. Eurynomus, too, is not distant, who, according to the Delphic interpreters, is one of the demons who eat the flesh of the dead, so as to leave the bones white and bare. His colour is between azure and black, and is like that of flies which infest meat. He shows his teeth, and sits on the skin of a vulture. Perimedes and Eurylochus carry victims, black rams. Ariadne sits by the Acheron on a rock, and looks at her sister Phædra; Chloris reclines on the knees of Thyia. The former was married to Nereus, and the latter was the mistress of Neptune. Clymene sits with her back to Thyia. In the more interior part of the picture is Megara, who was the wife of Hercules. Above the heads of these women is the daughter of Salmoneus sitting on a stone. Eriphyle stands near her, and raises the extremities of her fingers, through her garments, to her neck. You may conjecture that she holds a necklace in that hand, concealed in the folds of the garment. Elpenor is represented above Eriphyle and Ulysses kneeling, and holding a sword over the trench, to which the prophet Tiresias approaches. Anticlea, the mother of Ulysses, is seated nigh him on a stone. Elpenor is covered with a mat made of bulrushes, after the manner of sailors. Theseus and Pirithous sit on a throne below Ulysses: the former holds his own sword and that of Pirithous in both his hands; the latter looks at the weapons, and seems indignant that he has no sword to aid him

in his daring enterprise. The conception of this picture is at once poetic and historic. The painter desired to represent the chiefs of his country; and the descent of Ulysses into the shades enabled him to bring together the heroes of old, and the leaders of latter times. It seems not to have been wanting in all the higher qualities of invention, composition, and expression. — The third great picture of the series merits examination. It is less stern in character than its companions. Grecian mind and feeling is emblazoned on every part. The artists of that great people found all their subjects at their own threshold.

After these Polygnotus painted the daughters of Pandarus. Through the anger of the gods their parents died early; and thus becoming orphans, they were educated by Venus. They received prudence and beauty of form from Juno, tallness from Diana, wisdom in household duties from Minerva, and Venus, to render all those gifts beneficial, ascended to heaven and obtained for them happy nuptials from Jupiter. But the Fates were unpropitious. During the absence of Venus they were seized by the Harpies, and delivered over to the Furies. Polygnotus crowned them with flowers, and represented them playing with dice. Nigh them Antilochus stands with one of his feet on a stone, and holding his head with both his hands. Agamemnon is close beside him, leaning with his left arm on a sceptre, and holding a wand in his hands. Protesilaus sits looking at Achilles, and Patroclus stands above him. All these, save Agamemnon, are beardless. Iasius appears as a youth; he is endeavouring to take a ring from the finger of Phocus. The latter lost his life through the treachery of Peleus, and the ring is taken as a pledge of friendship in death. Mæra is sitting on the ground; Actæon and his mother are beside her. The latter holds a faun in her hands, and sits on the skin of a hind. A hunting dog is near them, to intimate the fate of the youth. In the lower part of the picture, Orpheus sits with a harp in his left hand; and in his right the leaves of the willow tree, taken from a grove sacred to Proserpine. The figure of Orpheus is Grecian; and neither his garment, nor the covering on his head, is Thracian. Promedon, who loved all kinds of music, and Schedias, who led the Phœnecians to Troy, and Pelias, whose hair and beard were alike hoary, and blind Thamyris, in appearance humble and abject, with a beard thick and long, are all close to Orpheus. At the feet of Thamyris lies a lyre, which seems to have been dashed down; part of the frame is broken, and the chords are burst. Olympus, in the

flower of youth, stands in the attitude of a listener, and holds a pipe in his hands.

“If you look,” says Pausanias, “at the upper parts of the picture, you will see, in a continued series, Salaminian Ajax next to Actæon; and afterwards Palamedes and Thersites playing with dice, which were invented by Palamedes. The other Ajax is looking at them while they are playing; his colour is that of a seafaring man, and his body is yet moist with the foam of the sea. Polygnotus seems to have collected the enemies of Ulysses into one place. The reason why Ajax the son of Oileus hated Ulysses was, because the latter advised the Greeks to stone Ajax to death for his daring wickedness towards Cassandra. I know too, from the Cyprian verses, that Palamedes was drowned when fishing, by Ulysses and Diomed. Meleager the son of Æneus is painted, and appears to be looking at Ajax. All these, except Palamedes, have beards. In the lowest parts of the picture, after the Thracian Thamyris, you will see Hector sitting with both his hands on his left knee, and exhibiting the appearance of a man oppressed with sorrow. After him is Memnon, sitting on a stone; and close by him is Sarpedon, leaning with his face on both his hands. But one of the hands of Memnon is placed on the shoulder of Sarpedon; and all these have a beard. In the robe of Memnon, too, birds are painted; and these birds are called Memnonides. The people of the Hellespont say that these birds, on stated days in every year, fly to the sepulchre of Memnon, dig up every part about the tomb that is void of trees and grass, and then sprinkle the whole with their wings, which are wet in the water of the river Æsepus. Near Memnon, who was king of Ethiopia, stands a naked boy of that country. Paris stands a beardless youth; he is clapping his hands, after the manner of rustics, and you may conjecture by his clapping that he calls Penthesilea. Penthesilea is at no great distance, looking at Paris. She appears to despise him. Her figure is that of a virgin, with a bow like those of Scythia, and with the skin of a leopard thrown about her shoulders. A virgin in the flower of youth, and one of more advanced age, carry water in earthen urns full of holes: they represent the uninitiated. Above them are Callisto, and Pero the daughter of Neleus. A spousal gift of an ox is demanded by Neleus of Iphiclus for his daughter. Callisto has the skin of a bear for her couch-covering. Nigh these the painter has represented a precipice, to the summit of which Sisyphus endeavours to roll a stone. In the same part of the picture an old man, an old

woman, and a boy are seated. The old woman is pouring water into an urn. It appears to me that these are persons who despised the Eleusinian mysteries. Tantalus, too, is there, suffering those punishments mentioned by Homer, and terrified lest a stone which hangs over his head should fall on him. It is evident that Polygnotus followed Archilochus in this. So numerous are the figures, and such the elegance of the picture, which the Thasian artist painted."

Finer unity of parts, more artful grouping, and a happier distribution of light and shade, may be claimed for succeeding painters, but Polygnotus seems to have been one of the first who brought high imagination to the service of the muse of art. Pliny indeed says, that before Apollodorus no picture had been produced which a man might take pleasure in looking at for any length of time. Pausanias seems to have thought differently; and we owe to him the almost sole description of those great masterpieces of Grecian genius. Zeuxis succeeded Apollodorus. He endeavoured to unite the simple and vigorous style of Polygnotus with graces all his own. He took Homer for his model in heroes, and is supposed to have stumped them with that god-like dignity of expression which sculpture had already bestowed. The simplicity of manners in his day was favourable to his profession. When he painted the picture of Juno for her temple at Agrigentum, he caused all the most beautiful maidens of the city to stand before him naked, and selecting five of the most lovely, he combined their charms in the picture of the goddess. It was not in outward loveliness alone that he sought to excel in the figure of Penelope; he expressed the high qualities of her heart and mind. His Jupiter throned among the gods, and his Hercules strangling the serpents, a subject revived by Reynolds, are mentioned among his noblest works: but his youthful wrestler was his own favourite; he wrote underneath it, that it would be easier envied than equalled. His vanity was equal to his genius. He caused his name to be wrought in gold on the border of the garment, and refused to work for money, saying his pictures were above all price.

In talent and in vanity, Zeuxis found a rival and follower in Parrhasius the Ephesian. He had a fine eye for proportion. He made his outlines more visible than his compeers, and sought to charm by graceful action and softness of colouring. Euphranor, a brother artist, said the Theseus of Parrhasius appeared to have lived on roses. This has induced one of our critics to insinuate that the picture wanted substance and colour. When Fuseli talked of Rubens's

hillocks of rosy flesh, he brought no charge of weakness. Perhaps the hue of the hero was too womanly, and wanted vigour; yet the painter might have desired to intimate the elevation of Theseus among the gods. He styled himself Parrhasius the delicate, claimed descent from Apollo, wore a robe of purple, a garland of gold on his head, carried a staff with golden tendrils, and bound on his sandals with golden straps. To enable him to maintain this state, he charged high prices for his works. Nor did the charms of his pictures diminish by time. For his Chief Priest of Cybele the emperor Tiberius gave sixty thousand sesterces. He was excelled by Timanthes, in a picture representing Ajax in the award to Ulysses of the armour of Achilles. "It is true history," still exclaimed the exasperated artist; "Ajax is overcome a second time by one unworthy of such honour!"

Of Timanthes little is said. He excelled in vigour of imagination, and loved subjects of a kind vast and sublime. He painted gods, and heroes, and giants. In a picture of the Cyclops he expressed magnitude by making a satyr measure his colossal thumb with a thyrsus. One of his portrait pictures existed in the temple of Peace during the days of Pliny, who observed, "It is said to be so perfect and so full of majesty, that it appears to comprise everything desirable in the art of painting." The pictures of the Greeks were, as all true pictures are, an union of imagination and nature. The latter corrected the former, and communicated to its conceptions the hue, and the aspect, and the language of life. "Behold," said Eupompus the painter to the sculptor Lysippus, showing him a multitude of people passing by, "behold my models! From nature, not from art, must the artist hope to attain honour and extend the limits of his art." But then a painter was required in those days to be an accomplished person. The history of his country was his study; he sought images of grandeur or of beauty in tradition and in poetry. The sons of the princes of the earth handled the chisel and the pencil, and sought instruction in arts which brought fame and honour. Pamphilus the Amphilopolitan united literature with science, and his example was followed by all who felt the inspiring effect which they mutually exercise.

Apelles studied under Pamphilus; he is called the prince of ancient painters. The station which antiquity assigned him seems not to have satisfied Fuseli, who ingeniously labours to lower him a little. "The name," he remarks, "of Apelles in Pliny is the synonym of unrivalled or unattainable excellence; but the enumeration of his works points out the modification

which we ought to apply to that superiority. It neither comprises exclusive sublimity of invention, the most acute discrimination of character, the widest sphere of comprehension, the most judicious and best balanced composition, nor the deepest pathos of expression. His great prerogative consisted more in the union than the extent of his powers; he knew better what he could do, what ought to be done, at what point he could arrive, and what lay beyond his reach, than any other artist. Grace of conception and refinement of taste were his elements, and went hand in hand with grace of execution and taste in finish; powerful, and seldom possessed, singly irresistible when united." Fuseli was an artist of daring conception; he delighted in the tremendous and the extravagant, and affected the grand and the sublime. But who will measure his merits by the dignity of the subjects which he selected? There is more of moral grandeur in the Mouse of Burns than in the Creation of Blackmore. A humble, a simple theme is lifted to heaven by a true genius; and I see nothing in the names of the pictures attributed to Apelles to justify the depreciating estimate of Fuseli: besides, those who called him prince of painters saw the wonders of his hand; he who sought to lessen him never beheld a line which he drew, or saw him otherwise than through the stained glass of his own disordered fancy. If the people of old were right in naming Homer prince of poets; who can question their judgment in their praise of Apelles?

There was true greatness of soul in this illustrious painter. Men said he was surpassed by Amphion in disposition, by Asclepiodorus in proportion, and by Protogenes in happiness of handling; and though others supposed that in character and combination he excelled all, he seems neither to have been stung by censure nor uplifted by applause. He heard that Protogenes, his most gifted rival, had become poor; he sailed to Rhodes to see him, and purchasing several of his pictures, told the people of that isle that he would carry them to Greece, and sell them for the work of his own hands. They perceived the worth they had overlooked at once, and raised Protogenes to rank and fortune. There is something romantic in this. Nor is this all. The story of their friendly contest with the pencil is no fiction. When Apelles entered the studio of the Rhodian, the latter was absent; the visitor asked for a pencil, to show, as Prior rhymed it,

and at one stroke described a true and harmonious circle. When Protogenes saw this, he confessed the presence of a master; but taking his colours, shaded it so delicately and naturally, "that it seemed at once the egg of Leda," says the bard, "or the apple of Paris, or the breast of Chloe." The tablet found its way to Rome, and was there examined by Pliny; it seemed a large blank surface, till on close inspection the delicate lines grew visible. The drawings were of different colours, and were imagined to contain some mysterious principle of beauty, like that which Hogarth discovered in the winding or serpentine line, such as may be seen in the bloom of a tulip, or in the wreathings of a shell.

The achievements of Alexander became the theme of many of his pictures; for the painter was the friend rather than subject of the hero; and received many proofs of his attachment. He was visited by him, enriched by him, and when Apelles was observed gazing with more than an artist's admiration on the charms of Campaspe, he bestowed her upon him—a gift of the worth of which both were sensible. "Of Alexander the Great and his father Philip," it is observed, "the portraits which he painted were very numerous, some single, and some accompanied by other figures. One in the temple of Diana at Ephesus, of Alexander launching thunder, is highly extolled for its effect and the boldness of its relief, 'the hand which was raised appearing to come forward, and the lighting to be out of the picture.' In another of the same king, he was represented in a triumphal chariot; near him the figure of War, with his hands tied behind his back. This and another Alexander, accompanied by Castor, and Pollux, and Victory, were preserved by Augustus in the Forum." Other works are mentioned, historical and half historical, as Lawrence called his pictures half fancy, half portrait. Of these, Clitus on horseback, armed and bareheaded, in the act of receiving his helmet, Archelaus with his wife and daughter, Megabysus, priest to Diana at Ephesus, sacrificing in his pontifical robes, Antigonus king of Syria, and Antigonus the father of Demetrius Poliorcetes, are the most remarkable, as works reflecting living life; while Diana and her nymphs at sacrifice—Neoptolemus on horseback discomfiting the Persians—Hercules, with his back turned toward the observer—a Horse so lively and so real that it caused living horses to neigh—and last, and most celebrated, Venus rising from the sea, are remembered amongst his works of imagination.

Painting rose to its epic height under Apelles. He seems to have combined all that could

*"How painters write their names at Cos;"*

command, or excite, or astonish in his pictures. We must accept his universal fame as a full proof of his superiority, in spite of the remarks of modern professors. Aristides of Thebes, inferior to Apelles in harmony and grace, surpassed him in delineating the passions. It is said of the Suppliant, whom he painted, that his look was intensely earnest, and his voice seemed to escape from the picture. He loved painful subjects. He painted a sister dying for love of her brother; and a mother, mortally wounded in the bosom, endeavouring to prevent her infant sucking blood with her milk. He now and then touched historical subjects. His battle between the Greeks and Persians contained a hundred heads, and he was paid ten pounds' weight of silver for each. His Chariot Race, too, was widely admired. "You would almost think," said Pliny, "that the wheels were in motion, such was the energy of action in the picture." Other eminent men maintained the glory of Grecian art. Asclepiodorus excelled in symmetry, and Protogenes in beauty of finish. The compliment paid to the latter by the accomplished Demetrius ought not to be forgotten. He refused to assault Rhodes on the side where the painter's studio stood; and when he took the city, and the chief men entreated him to spare the pictures of their admired countryman, he made answer, that he would sooner destroy the images of his own ancestors than touch the productions of Protogenes.

There is a sad deficiency of technical knowledge in the accounts which have descended to us of Grecian painting; nor is there so much detailed or vivid description as we could wish. The same may be said of sculpture; but we are not therefore to conclude—as some have not hesitated to do—that the latter, of which we fortunately see so much, excelled the former, of which no specimens have survived. For anything that can be gathered or surmised from ancient writers, we need not pause before we say that all the secrets of light and shade, and beauty of colours, and harmony and unity of composition, which distinguish modern art, were familiar to the great painters of Greece. The writings of both Pliny and Plutarch abound in passages intimating this. "The hand of Alexander," the former observes, "appeared to come out of the picture." "Painters," says the latter, "increase the brilliancy of light colours, by opposing them to dark ones, or to shades." Pliny speaks even more decisively. "The art assumed new powers, and discovered or invented light and shadow; by graduating which, the colours are alternately heightened or kept down.

Afterwards splendour was added, which was different from light, and which, because it was a mean between light and shade, they called *tone*, and the union of the colours, and the transition from one to another, they called *harmony*."

Those who suspect, from the want of direct and visible evidence, that the paintings of ancient Greece failed to equal those of modern Italy, can entertain no such doubts regarding the excellence of the sculpture; for nothing has yet been created which rivals the grace and dignity of the Venus or the Apollo. It is true that these magnificent works, and others of equal beauty, are the consummation of ancient art; while it may be averred that modern art is still living, and producing groups and statues. But from what is, we may imagine what will be. We want both the austere simplicity and poetic elevation of the productions of Greece; our forms are less pure, our sentiments less ethereal; and though we excel them in the picturesque, we are not sure that they thought it worthy of study.

The sculptors of Greece borrowed perhaps the inanimate body of their art from Egypt or Syria; they endued it with life, and gave it beauty of form and elevation of sentiment. Dædalus seems to have been one of the first who asserted the dignity of sculpture. He wrought chiefly in hard wood; and when he found the material unsuitable for the expression, he made the heads of stone. A naked Hercules from his chisel was seen by Pausanias, who remarks that "his works are indeed rude and uncomely in aspect; but yet they have something as of divinity in their appearance." It is supposed that some of the works, or copies at least, of that artist still exist. "In the British Museum," says Flaxman, "as well as in other collections of Europe, are several small bronzes of a naked Hercules, whose right arm, holding a club, is raised to strike, whilst his left is extended, bearing the lion's skin as a shield. From the style of extreme antiquity in these statues, the rude attempt at bold action which was the peculiarity of Dædalus, the general adoption of this action in the early ages, the traits of savage nature in the face and figure, expressed with little knowledge, but strong feeling, by the narrow loins, turgid muscles of the breast, thighs, and calves of the legs, we shall find reason to believe that they are copied from the Hercules of Dædalus." The Gnossians possessed a Chorus in white stone, made by the same artist for Ariadne, from the eighteenth book of the Iliad, where youths and maidens dance hand in hand. Endæus followed and made the Minerva seen by Pausanias at Athens. From this figure it has been surmised that the

latter Minervas caught their shape and sentiment. There is, however, no little monotony of action and expression in the old divinities of Greece. Jupiter, Neptune, and others, have the selfsame form and action of the Hercules by Dædalus; the difference lay only in the accessories: Jupiter held a thunderbolt, Neptune a trident, and Hercules a bow. But this monotony is accounted for when we think of the religion of the land. The shape and action first bestowed on the gods became the precedent for all succeeding sculptors. A nobler expression, and more scientific beauty of form, were bestowed; but the old attitude was adopted in all single statues. It is supposed that the colossal busts of Apollo and Hercules in the British Museum are very early works; indeed, Flaxman says, they were probably sculptured by Depenis and Scyllis for the Sicyonians.

The harmony of outline seems to have been little studied by the first artists. Cleanthes the Corinthian is said to have discovered or practised it: Telephanes of Sicyon used other lines within the outline to express the workings of the body and limbs: Cimon Cleoneus invented the oblique representation of forms; and added the veins, and multiplied the folds in the draperies. These discoveries ushered in Phidias, who performed for marble all that Apelles did for colour. That illustrious artist gave to sculpture the ease and dignity of poetry. He found his art stiff in its sublimity, ungraceful in its simple beauty, and deficient in natural freedom, though not in loftiness. "His superior genius," says Flaxman, "in addition to his knowledge of painting, gave a grandeur to his compositions, a grace to his groupes, a softness to flesh, and a flow to draperies unknown to his predecessors; the character of whose figures were stiff rather than dignified: their forms either meagre or turgid, the folds of drapery parallel, poor, and resembling geometrical lines, rather than the simple but ever varying appearances of nature." He kindled his genius at the fire of Homer; and thought it his best praise to embody the poet's sentiments and give form to his verse.

Of the works of Phidias we have very full and clear accounts. "His Athenian Minerva, and Olympian Jupiter at Elis," says Quintilian, "possessed beauty which seemed to have added something to religion—the majesty of the work was so worthy of the divinity." He adorned the Temple of Minerva on the outside with his compositions, executed by hands little inferior to his own: but he employed his own genius in the interior, in conceiving and executing that wondrous statue of the goddess which Greeks and Romans alike united in admiring. It was a standing

figure, thirty-nine feet high, composed of ivory and gold, holding a Victory six feet high in her right hand, with a spear in her left, and a simple tunic reaching to her sandalled feet. She had her helmet on, and Medusa's head on her ægis: her shield was adorned with the battle of the gods and giants, the pedestal with the birth of Pandora. Plato tells us that the eyes of the goddess were of precious stones. The sculptures all around the temple related the history, true or fabulous, of Greece. The classic ground of Phidias was the land he lived in: he sought in no far country for subjects for his chisel: our ideas of classicality seem different; when a British artist embodies a Latin song or a Grecian fable, a hundred tongues exclaim classical: they are silent when beauty, and elegance, and dignity, are found in British song or British history. Phidias held all to be classical which was poetic.

The Jupiter of Elis was still more celebrated than the Minerva. "He was seated on a throne," says Flaxman, "his left hand holding a sceptre, his right extending over the Olympian conquerors, his head crowned with olive, and his pallium decorated with beasts, birds, and flowers. The four corners of the throne were dancing Victories, each supported by a nymph tearing a Theban youth. At the back of the throne, above his head, were the three Hours or seasons on one side, and on the other the three Graces. On the bar between the legs of the throne, and the panels or spaces between them, were represented many stories:—the destruction of Niobe's children, the labours of Hercules: the delivery of Prometheus: the garden of the Hesperides, with the different adventures of the heroic ages. On the base, the battle of Theseus with the Amazons. on the pedestal, an assembly of the gods, the sun and moon in their cars, and the birth of Venus. The height of the work was sixty feet; the statue was ivory enriched with the radiance of golden ornaments and precious stones, and was justly esteemed one of the seven wonders of the world." Other statues of astonishing beauty are mentioned among the works of Phidias: a Venus, placed by the Romans in the forum of Octavia; a statue of an Amazon, called Euknemone, from the beauty of her leg; and two Minervas, besides her of the Parthenon, one named Callimorphus, from the beauty of its form. Flaxman conjectures that the fine statue in marble of that goddess in Hope's gallery has been copied by some skilful hand from the bronze statue by Phidias; it resembles closely the reverse of an Athenian coin, and has the graceful and majestic air observed in the other works of the illustrious sculptor.

The glory of Greece was at its height both in arts and in arms during the days of Phidias: the whole land was filled with the trophies of war and with the statues of heroes and of gods: the eye, wherever it turned, was charmed with the loveliest or the noblest forms which the mind of man could conceive or his hand execute. The rudest hinds of Greece looked with reverence on those works, and serf and peasant wandered among groves of statues without injuring or even touching them. How different is the feeling for such works in England: iron rails and paid guards cannot protect the statues of our island from the barbarous hands of the people: they have no taste for the poetic or the grand: they confer a smile of approbation upon coarse representations of vulgar life and throw stones at whatever is beautiful or majestic. The Venus Aphrodite, by Alcamenes, or the Venus of Cnidos, by Praxiteles, would have fared ill among the rustics of Britain; in Greece and her isles they found only admirers. Praxiteles excelled in creations of youth and beauty. Many sailed to Cnidos to gaze at his Venus; of that goddess he formed two statues, one naked, the other draped; the Coons preferred to purchase the latter on account of its severe modesty; the citizens of Cnidos bought the other, and admired it so much as to reject the offer of king Niomedes to forgive them a large debt to have the honour of possessing such a miracle of genius. From his naked Venus it is generally surmised that the Venus de Medicis is derived.

Of the works of the succeeding great sculptors of Greece, some of high merit have descended to us without suffering much injury from accident or time. The gold and ivory creations of Phidias carried such temptations about them as the barbarian conquerors of Greece could not resist; the wooden figures of Dædalus and his successors, perished by fire; the brass or silver statues of Praxiteles or Polycletus were broken in pieces, melted and reproduced in current coin or capacious drinking cups; such is the fate of all works of art executed in too attractive materials. The Waterloo cannon, in the statue of Valour, may at some future day return to their original shape and use. The Discobolus of Nausides, admired for its firm and fine balance, has reached us; the dying hero of Ctesias, the admiration of antiquity has been discovered, too ingeniously we fear, in the Dying Gladiator. The graceful and delicate Hermaphrodite of Polycles has been diffused over Europe in casts. Scholars have perceived the Nine Muses of Philiscus of Rhodes, or those brought to Rome by Fulvius Nobilior, in the Muses of the pope's

collection, of which comedy is eminent for grace, and tragedy for grandeur. That the marbles of the exterior of the Parthenon are the work as well as the invention of Phidias, has been asserted by antiquaries in our own day: the colossal statues on Monte Cavallo, in Rome, bear the names of Phidias and Praxiteles, on their pedestals; the animated character of the group, as well as the style of execution, seem of the best days of Grecian art.

Other works of equal or superior beauty to these have been preserved, viz., the Fighting Gladiator, by Agasias, pronounced by Albata Fea to be Ajax son of Oileus; the touching group of Laocoon and his sons, the work of Apollodorus Athenodorus and Agesander of Rhodes; the Niobe and her youngest daughter, by Leopas; the Apollo of Belvidere, believed to be the Apollo of Calamis; the Venus de Medicis, found in the forum of Octavia, descended without diminution of beauty, it is believed, from the Venus of Cnidos. Of these the Apollo is the most godlike. "Admirable and sublime," says Flaxman, "as its beauty is, there is a reason which perhaps might render it less popular with the ancients than the moderns. Maximus Tyrius describes a statue by Phidias, very similar to this, but more in motion, discharging an arrow, or preparing to do so. There are traces of this statue in some ancient basso-relievos, and it is possible the stronger expression of Phidias's work, together with the authority of his name, might have diminished the public attention to Calamis in a comparative production." Nor should those noble reliques, the Elgin marbles, be forgotten; few of them indeed are perfect; heads, and hands, and feet have been miserably despoiled by time, nay, in some of them the surface is entirely gone: yet in the most time-worn and broken, such simple grandeur of conception, exquisite ease and nature of detail, and delicate skill of workmanship is visible, as justifies the admiration as well as money lavished upon them by the nation.

The architecture of the Greeks all but rivalled their statues and pictures; they found it rude and cumbrous, and they gave it beauty and grace; they added columns to the temple, and raised the ornamented roof, which caught the eye in the distance, shielded the worshippers alike from sun and rain, and preserved the walls from frosts and damps, and from the pressure of heavy snows. They divided it into orders, and assigned to each a proper duty; all their inventions had a meaning; their commonest ornaments spoke history, real or fabulous, to the beholder; they did nothing for the sake of effect only, yet effect was

never wanting. It must be confessed, however, that their system of architecture had its limits; to raise a lofty temple, enormous columns were required; these again demanded enormous blocks of stone for friezes and entablatures, and great wealth, as well as great power, was required to find solid masses of fifty or sixty tons weight, and lift them seventy feet into the air. It may be questioned whether any of the temples of Greece equalled in scientific combination of parts, or in lofty beauty, the cathedrals of St Paul's in London, and St Peter's in Rome; yet they certainly stood singly and alone in the preservation of that elegant and somewhat severe simplicity—the mark of every thing Grecian.

The unity of architecture, painting, and sculpture observed by the Egyptians in all their temples was followed for a time by the Greeks, till poetry came to the aid of the two latter and raised them to be principals rather than accessaries. In Egypt, the temple surpassed the gods which it sheltered, or the paintings which it protected from the elements: in Greece, the temple soon became little more than an elegant case to contain statues which men worshipped as miracles of beauty, and paintings diviner still. No doubt the three were beautiful when united; but poetry gave wings to painting and sculpture which lifted them above their more mechanical associate. The great architects of Greece studied durability as well as beauty; they looked with scrupulous care to the firmness of the foundations, to the size and solidity of the stones, and to the nicety with which they were squared and united. They depended less on cements than on the geometrical skill with which one part sustained another; and there are examples of masonry where the blocks are built without mortar, no doubt from a fear that cement was liable to decay, and would perish sooner than marble. Grecian architecture has been revived in Britain, but it languishes though recommended by high talent, and, more influential still, wealth and rank. The ancient Gothic spirit is strong in our island; we are lovers of the lofty and the picturesque; an awe comes upon us while we walk in a Gothic abbey, but we survey the classic creations of Greece with a cold regard; they are not akin to our emotions, and our heart makes no response.

That the sculpture of Greece surpasses the art of all other nations, can be proved by all who choose to assert it. We need only point to some half dozen groups and statues, and ask what productions of our latter days can be compared to them? We find more action, indeed, and picturesque display, in some of the marbles of Italy; but then violent action and extreme

attitudes were alien to the simplicity in which all of Grecian growth was conceived. A modern warrior fights with ferocity in marble, an ancient warrior fought with grace; the ladies who live in our later art attract us as much by the nicety of their dress as by the beauty of their persons, the ladies of Attic sculpture charmed by their austere modesty, and by the exquisite symmetry of their forms. Equal decorum was observed in their representations of the gods: they stood with elegance, they moved with dignity; and when action was necessary, they performed it with a divine ease, which marked the godhead as much as their majesty of look did. Nor did the artists of Greece seem anxious to spread out their conceptions over a large space; all with them is put into as small compass as possible; they desired to be compact as well as simple; they finished all they touched with surprising nicety and care; the hands, the feet, and heads of their figures seem to have been looked at in every light, and polished to suit all sites and situations. While some modern marbles look hard and sharp in the plaster casts taken from them, the marbles of Greece look soft and round, and lose nothing of their beauty of character by change of material. That the paintings of the Greeks equalled their sculpture, we need have little hesitation in believing. We ought not to see, with some modern critics, the pictures of Athens in the daubings of Herculaneum, any more than behold the excellence of their sculpture in the chisellings on the column of Trajan or the arch of Constantine. The Romans inherited little of Greece save the sea and shore; they were not full heirs of her genius. They carried away multitudes of paintings, and statues by the thousand, and filled Rome with elegant spoil. They carved, too, and they painted, and imagined themselves the rivals as well as conquerors of the people of Attica. In some of their bas-reliefs there is good grouping, and in several of their statues both beauty and simplicity; but then the light by which they wrought was artificial and borrowed. Greece was the source of all their efforts, in poetry as well as art; they were imitators, not true originals.

Those who make the genius of Greece their study will find that her poetry and sculpture, her painting and architecture, are all akin, and marked with the same distinguishing qualities. The study of the ancient masters "will give the young artist," says Flaxman, "the true principles of composition, with effect and without confusion, to produce the chief interest of his subject by grand lines of figures, without the intrusion of useless, impertinent, or trivial

objects. By carefully observing them, he will accustom himself to a noble habit of thinking; and consequently choose whatever is beautiful, elegant, and grand, rejecting all that is mean and vulgar. By thus imbibing an electric spark of the poetic fire, he will attain the power of employing the beauty and grace of ancient poetry in the service of the establishment and morals of our own time and country." To enable the student to accomplish all this more effectually, he will act prudently in taking some poetic animation of his own to the task, lest he should find the "electric spark" of which the great sculptor speaks more of a figure of speech than a sure inspiration.

ON  
THE RISE AND PROGRESS  
OF  
THE FINE ARTS.

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PART II.

CHRISTIAN.

WHEN Christianity rose, the heathen arts fell; not, indeed, at once, as Dagon did, but slowly and surely. Their spirit was touched, oracles became dumb, divine voices were no longer heard on Olympus, and Jupiter and Minerva gradually grew into figures of speech. But the fine arts would have sunk, had the star of Bethlehem never risen. It is true, that Christianity forbade bowing to gods of stone, and wood, and brass, and desired man to raise his eyes towards that Divine Being, the Unknown God of the heathen, who created and directed all. This would have purified art, rather than crushed it; painting and sculpture, taking a new direction, and inspired with a truer inspiration, would have wrought miracles worthy of the days of Phidias and Apelles: but time was not afforded for the change. Before the coming of Christ the northern nations of the earth, an unsummed and unknown race, had given intimations of their resolution to march towards the sun, and contend with those who called them barbarians for the vineyards and cornfields of Italy and Greece. In the days of the apostles this terrible march was begun; and though the warlike spirit of the early emperors, and the discipline of the legions, retarded or repulsed the Gothic nations for a time, they burst the decaying barriers of the empire at last, and science and letters were all but extinguished on the earth. They were neither softened by the harmony of verse, nor gladdened by the loveliness of sculpture or painting. Temples, statues, pictures, books, all were trodden relentlessly underfoot, in their tremendous march.

The spirit—the divine spirit—of Christianity, enabled it to survive this sad devastation; and

with it the hopes of science and letters remained. The fierce conquerors of all that was civilized or elegant rested themselves among the ruins of temples and cities; and with the wine-cup in one hand and the sword in the other, gave a sort of surly audience to the dauntless successors of the apostles, who came to tempt them with the joys of heaven, or alarm them with the horrors of hell. By some it has been reckoned miraculous that those rude and fierce chiefs who ruled the Gothic tribes, seated with one foot, perhaps, on the body of a mangled Roman, and the other on a broken statue—Apollo or Venus—should have listened, and that with emotion, to the first preachers of the word of God. But be it borne in mind, that the latter came neither as suppliants, nor rivals, nor enemies; they desired no share in their conquests, nor in their carousals; the kingdom which they revealed to them was not of this world; and thus opening up fresh sources of glory, the Gothic princes listened, and perhaps postponed the destruction of a temple or the burning of a city—for a day. There was something in the glory or the woe of a future state which suited the imaginations, and, in some measure, accorded with the natural belief of the Goths, and fitted their minds for receiving the sublime truths of the gospel.

Painting and sculpture aided largely in this beneficial conversion. The first missionaries, speaking the classic languages of Greece or Rome, were not understood by their northern audiences till they called in the works of the pencil and chisel as auxiliaries. A Christ on the Cross, a Virgin Mother, a Saint John in the Wilderness, the Raising of Lazarus, the Ascension, together with reliques of the early saints, all helped to relate the history and the hopes of Christianity, and impress it on their rude understandings. Nor were the barbarians reluctant hear-

ers: so anxiously did they look and listen, that when the first preacher of the Scriptures to the Irish struck unwittingly the iron-shod end of his crosier through the foot of one of the princes, the latter bore the pain with fortitude, from a belief that it was a sample of the truths which the other came to teach. We must not, however, imagine, that the paintings and carvings which the preachers carried about with them then, in the same way as a divine of our latter days bears his manuscript sermons, were works worthy of either science or art. They are, in fact, believed to have been coarse and rude in execution, with nothing of the genius of heathen Greece visible in them; and it is, moreover, very possible that they were the works of the missionaries. What renders this surmise probable is the fact, that in the palmier days of the Christian church those magnificent abbeys, the wonder and the envy of living architects, were chiefly imagined and designed by prelates, who did not think it beneath them to apply their talents in creations of usefulness and elegance. From whatever source those drawings and carvings came, there can be no doubt of their usefulness; they did the duty of history and eloquence.

As the Christian religion spread and prevailed, arts and letters were diffused; modified, however, by belief and tradition. The fine arts no longer spoke with a Greek or a Latin tongue; they pleaded the cause of Christ, of mercy, humility, and humanity; and as they addressed a people who had no sympathy with aught that heathen elegance had produced, they prevailed almost universally. It is true that, in some parts of Asia, as well as portions of Europe, the new aim which Christianity desired, to give to the arts had to contend with the old aim given by Pagan genius, of which the impulse long continued. For centuries, science and skill, as well as old associations, were all in favour of the gods of Olympus; the religion which those marvellous works embodied was a visible and a sensual one. The days of divinities and oracles were remembered by scenes of festivity and mirth, by processions, and sacrifices, and feasts; and the people were reluctant to relinquish the present enjoyments of the earth for the bright reversions of paradise. Their cry was, "Great is the Diana of the Ephesians!" They could see, but they could not imagine; and were unable to comprehend the nature of that bliss which was not of this world. The divine power of the gospel prevailed, aided by the simple manners and fervent eloquence of the preachers.

For several centuries, however, art and letters had to contend for existence; not with the monks

and hermits, as has been asserted, but with that love of blood and conquest which, like a demon, possessed all the successive hordes of barbarians who issued from the "frozen loins of the north." No doubt the monks and earlier saints looked coldly upon classic writings, as well as upon classic art, because the heathen had their trust in them, and hoped, through the ancient poets, philosophers, painters, and sculptors, to recover their dominion over the minds of mankind. In preaching against Homer, or Plato, or Apelles, they did not scorn their genius; they desired but to teach their flocks that salvation did not reside in their works, and that, if they desired to be happy hereafter, they must turn to the gospel of God from false religion and vain philosophy. With the church, therefore, science and letters found an asylum. Kings and chieftains looked on literature as a thing effeminate, and rejoiced that they could neither read nor write. When abroad, they confined their attention to war and the chase; and on their return, their domestic pleasures were the wine-cup and the legend. From this mental darkness and confusion light and order at last dawned, and came forth; but the light was not that which shone in Greece of old, nor was the order according to the taste of antiquity.

All was changed; new nations, as well as new rulers, were become lords of the earth; the spirit of the north refused to work according to the compass and square of the south, and imagined and created an architecture, sculpture, and painting altogether its own. The temples of Greece and Rome, with all their gods and goddesses, were forgotten; and new temples, distinguished for their picturesque splendour and geometrical unity, were raised, to which painting and sculpture were, as they had been in Egypt, auxiliary and subordinate. This is the architecture designated Gothic—which the ingenuity of the learned has traced to the buildings of Greece—which the imaginations of the poetic have discovered in the wattled wigwags of our ancestors—but which may safely be pronounced new and original, since all its forms, combinations, and ornaments belong to itself alone. How the simple beauty of the Greek architecture could grow into the melancholy magnificence of the Gothic; how it could change its character, upset all its combinations; how the temple of Saturn could become the cathedral of Salisbury, I must desire those to explain who are ingenious in discovering resemblances which do not exist, and who can see the finished statue in the unquarried block, and a noble poem in a printer's type-box!

Those who are acquainted with the physiognomy of nations, imagine that they perceive in the new architecture the peculiar mind and fancy of the Gothic tribes. The gay, the mercurial Greeks would have thought of the descent of their own Ulysses into the shades, had they entered a Gothic cathedral. The twilight aisles, the cold, fantastic ribbings and knottings of the arches overhead, the niches and recesses filled with stern saints, afflicted madonnas, and with recumbent figures, looking the corpses they imitated, and the lettered gravestones under their feet, would have put a Spartan soldier to flight. The Gothic warrior, on the other hand, felt a not unpleasant melancholy in his mind as he passed the threshold. The haunted woods and darksome vales of the north had prepared him for kindred glooms; the banner and the scutcheon told him of his predecessors in martial glory; the windows shed "a dim religious light," which suited the hue of his thoughts; the voice of the preacher, sounding through the aisles, united with the graves of the dead to make him look upward, and he left the house of God with a solemn step and a saddened spirit, which he could not have known had he visited a Grecian temple.

The early architecture of this rude people was useful and intelligible, but not elegant. It was partly wood and partly stone; nay, one of our earliest Saxon churches was of wicker work. The workmanship was coarse, the design heavy; nor did the painting or the sculpture which it contained atone for such defects. Saints and apostles carved with a hatchet; legends delineated with a mop rather than a brush; postures straight, stiff, and formal; lineaments rudely indicated; expression harsh and savage; all told, as plain as with a tongue, that the science and skill displayed in the Greek and Roman works were departed from the earth, and that man had to begin his studies anew. As the Christian religion spread and grew strong, the fine arts expanded with it; science was applied to the humble fabrics in which the cross of Christ was first set up; the simple form of the cross on which the churches were founded was embellished with taste and skill; geometry came to the aid of the architect, and aided him in forming those elegant and remarkable combinations of beauty and strength, which are the wonder of all who are not blinded with classic glory. The sculptor and the painter also exerted themselves; rigidity of form relaxed into nature; a saint-like mildness of sentiment succeeded to savage expression; something of heaven was stamped on the face; a rude divinity of meaning gave an interest

to the groups, and robes, which formerly depended like icicles, began to grow soft and flexible, and an air of ease, and a capability to think, was impressed on all they touched. This was the work of centuries, and did not arise from the influence of one master-mind; it was the result of growing knowledge, and of a taste for the elegant; modified, however, by the Christian religion, which was interpreted to forbid the seeking for information in heathen sources, and the drinking at other well-springs than those of the church.

Though many pictures, pronounced by the monks noble, and statues of saints, reckoned by the friars divine, were produced during the early ages of the church, we must regard Cimabue as the Chaucer of art; for with him came a maturer science, and above all poetry. He found art in much the same condition as the sculptors of Greece received it from those of Egypt; and he purified and elevated it, and rendered it more worthy of that divine religion with which it was associated. What the fine arts had been doing during the twelve hundred years which intervened between the days of the apostles and those of Cimabue, may be read in the history of the world. One horde of barbarian conquerors succeeded another; war followed war; now a barefooted monk sat on the throne of the Cæsars; then a barbarian from the Danube or the Wolga, and both exercised a power hostile to the development of such genius as delights in noble or lovely creations. That this first of Christian painters was inspired by the consummate models of heathen art, cannot be disproved, though it may be doubted. The superstitious zeal of the image-breakers of the preceding centuries had been directed against those magnificent reliques of Grecian genius; they destroyed in their wrath all that the Huns and Vandals had spared, and little was left save what lay buried in the ruins of towns and temples, to be dug up in a happier age. Neither could the intercourse which still subsisted between Rome and the capital of the East be of advantage to his studies; their alliance was shaken by difference of interest, and imbibed by religious disputes; and, moreover, we are yet to learn that Constantinople had arts to boast of worthy of being communicated. Cimabue had to rely on his own inspiration, and his works were the wonder of his own as well as aftertimes. He painted a life-size picture of the Virgin Mary with so much success, for Florence, his native place, that the citizens treated him with honours almost divine; his work was borne in solemn procession to the church, and the happy day was celebrated by a public feast. He

painted many scriptural and legendary pictures, and though his style was a little harsh, and his drawing inaccurate, his paintings were long the study of the student and the wonder of the devotee.

Cimabue was of a noble family: but true genius is of no rank or caste: his pupil and successor, Giotto, was a shepherd; he left the sheep-crook for the pencil, and soon excelled in beauty of design and in natural ease and grace. He at first formed pictures with labels issuing from the mouths of the chief characters telling their name and history; he soon dispensed with this easy system of expression and produced what he desired by means of shape and sentiment; nor did he confine himself to church legends, the imaginary labours of questionable saints, or to images of the virgin and the apostles; to him we owe the portrait of that heir of immortality, Dante; he likewise painted Brunetti, and others distinguished for literature and eloquence. The pope perceived the worth of one who excelled in devout delineations; he employed him in embellishing St Peter's, and honoured as well as rewarded him. This was Benedict the Ninth: the example of his Holiness was followed by succeeding pontiffs, and the painter and the sculptor became necessary servants in the household of one who had the ability to reward them on earth, and the power, real or imaginary, to smooth their ascent to heaven. The churches of Italy imitated, perhaps envied, that of Rome; he was summoned to Naples, Milan, Lucca, Areggio; nay, his native city, Florence, perceived the genius of its humble son, and his pictures on the walls and ceilings of her principal churches remained for centuries to attest that he had sought in nature for the expression and action of his figures, and sought successfully.

It is remarkable that sculpture began at the same time to feel the inspiration which lifted painting into the region of poetry and beauty. The change was felt as well as perceived; statues, and groups, and processions had hitherto been regarded as little better than carvings of flowers and fruits, and things natural or grotesque, whose chief object was to enrich the plainness of the architecture, and give light and shade, rather than sentiment, to the walls. The moment that poetry and science brought order and grace among them, they began to be looked at for what they expressed rather than for what they represented. Yet the unity required in Gothic architecture was not violated; the new attractions bestowed on the sculpture were still in keeping with the original conception; architecture remained lord of the ascendant, and painting and

sculpture were his auxiliaries; necessary at first, and still more so now that genius had opened their lips and enabled them to speak to the world. Those who desire the true Gothic union of painting, sculpture, and architecture, should have Westminster abbey, during its centuries of catholic glory, placed before them: no organ in those days interrupted the eye in viewing the sublime harmony of the structure: the apostle stood austere in his niche; the virgin looked meekly and benignly from the wall; the mitred abbot and the sandalled saint lay carved in alabaster above the spot where their bodies were buried; while our kings and warriors seemed to lie in slumber, rather than in stone, beneath their carved screens and within their dim recesses. All was solemn, and all was holy. Look at Westminster abbey now: modern sculpture has started out of keeping with the architecture, nay, has openly proclaimed war against it. Figures and groups come audaciously into the body of the building; they no longer confine themselves to niches and recesses; nor is this all, some of the statues are engaged in works not at all devout, and the architecture of their pedestals and accompaniments is of all orders, simple or composite, save the order that would correspond with the structure which contains them.

In the period of which we write the unity which we admire was still unviolated; this perhaps arose in some measure from the artists of those days being painters, sculptors, and architects; they maintained the subordination due to each, and left to latter artists the ungentle task of disuniting them and destroying the true harmony of a Gothic building. Of the progress made by sculpture in other lands it will be enough to say, that it retained all its original simplicity amid the new beauties with which taste and genius adorned it, and that it continued in the service of the church, giving form and substance to legends and miracles, and sentiment to saints, male and female. The progress which it made in our own island demands our notice in a twofold way, for we shall see in it the sculpture of Italy and France, and, moreover, trace the first footsteps of our native sculptors, and observe how far they obeyed an imported spirit or followed an impulse all their own. Those who have studied the rise and progress of the fine arts in Britain, cannot fail to have observed that little knowledge could have been derived from the Romans, because, in the first place, the memory of their practice had perished amid the ferocious wars which the Saxons and Danes waged in the land; and, in the second place, that the examples which they left behind them were too rude and

unfinished to inspire any one. Bits of Roman statues, fragments of bas-reliefs, and heads of figures, have been dug up, and placed in the antiquarian sanctuary; they are one and all unworthy of being classed as works of art, and countenance the surmise that they were the labours of the soldiers rather than of Roman artists. Some of their mosaics, indeed, are of a poorer design; they have however been imitated from Greek statues: they generally represent Bacchus or Orpheus playing on the lyre, such as may be seen on old cameos and ancient sarcophagi. The sculpture which succeeded was of another kind and character.

It would be unsafe to pronounce our early sculpture excellent on the authority of Speed. "King Cadwollo," says the historian, "being buried in St Martin's church, near Ludgate, his image, great and terrible, triumphantly riding on horseback, artificially cast in brass, was placed at the western gate of the city, to the further fear and terror of the Saxons." An image so barbarous as to scare barbarians must have resembled the Gog and Magog ogres at present in Guildhall, which excite our disgust as well as wonder. "If the statue was terrible," observes Flaxman, "as well as great, that characteristic was the consequence of its barbarous workmanship; for in the year 677, when Cadwollo died, the Goths, Franks, and Lombards, and other uncivilized nations, had nearly exterminated the liberal arts in Europe." In truth, little dependence can be placed on such testimony; all ideas concerning the excellence of art are relative. Evelyn, one of the most accomplished men of his time, speaks of the matchless paintings of Verrio, at Windsor; he failed to perceive that they were all grouping, and form, and colour, without feeling, or sentiment, or originality. It is otherwise with the earliest sculptures of British growth which time has spared to us; they are essentially Gothic; they represent passages of Scripture, both of the Old and New Testament; their form, their grouping, their character, have nothing of Greece or of Rome; nor can it be perceived, as surmised, that something of the presence of Arabian or Saracenic art may be detected.

The cathedral of Wells was built by bishop Joceline, who died in the year 1242. "The west front of this church," says Flaxman, who wrote from personal observation as well as genius, "equally testifies the piety and comprehension of the bishop's mind. The sculpture presents the noblest, most useful, and interesting subjects possible to be chosen. On the south side, above the west door, are alto-relievos of the Creation, in its different parts, together with

the Deluge, and important acts of the patriarchs. Companions to these, on the north side, are alto-relievos of the principal circumstances in the life of our Saviour. Above these are two rows of statues, larger than nature, in niches, of kings, queens, and nobles, patrons of the church, saints, bishops, and other religious persons, from its first foundation to the reign of Henry the Third. Near the pediment is our Saviour come to judgment, attended by angels, and the twelve apostles. The upper arches on each side, along the whole of the west front, and continued in the north and south ends, are occupied by figures rising from their graves, strongly expressing the hope, fear, astonishment, stupefaction, or despair, inspired by the presence of the Lord and Judge of the world in that awful moment."

The execution of this work is inferior to the conception; nor is it at all equal to the workmanship of our own times, though few of our sculptors would venture on a subject so bold and poetic. There were then, it has been surmised, no schools of drawing, no teachers of anatomy, and no lecturers on the fine arts; a few learned monks only were acquainted with geometry and mechanics; and the application of science to the figure and motions of man was a matter unknown. In consequence the sculpture on Wells cathedral is ill drawn, and defective in true principle, and carved too in a style rude and severe; yet there is a beautiful simplicity, an irresistible sentiment, and sometimes a grace excelling more modern productions. Nor should it be forgotten that these works were finished even before the birth of Cimabue, and were in progress during the lifetime of Pisano, the restorer of sculpture in Italy; even in the conception priority may be claimed; there are compositions by Giotto, and later artists, representing the creation of Eve, but that sculptured in the cathedral of Wells is not only the oldest, but is not inferior to the others, though one of them bears the name of Michael Angelo. The name of the artist is unknown; but it has been observed by one who was seldom mistaken, that there is some reason for claiming him as an Englishman, since his work is wholly different in character from the tombs of Edward the Confessor, and Henry the Third, which were by Italian sculptors.

The long reign of Henry the Third was favourable to art: the castles of our nobles were only remarkable for their heavy grandeur and their massive strength, and for being the residence of turbulent and illiterate owners; it was otherwise with our abbey-steads and cathedrals; the owners were wedded to heaven, or rather to their

order, and expended the vast revenue raised from the love or the fears of mankind, in the embellishment of the church. It is true that travelling scholars, wandering bards, and other strangers, were entertained hospitably, but the surplus, which our married clergy bestow upon their wives and children, was laid out by the clergy of the Romish church on illuminated missals, splendid copies of the evangelists, statues of saints and founders of their order, and on pictures by the most inspired masters, in which the glory of religion was maintained, and the taste and wealth of the proprietors manifested. During those days grants were made of oaks from the royal forests for the manufacture of saints and apostles; quarries were opened for the construction of sacred edifices; artists were allured from foreign parts, and encouragement extended to those at home, and the cathedrals of York and Gloucester, and others scarcely inferior, were erected, forming the wonder of their age as well as of our own.

The outlay of genius as well as labour in our Gothic edifices is truly wonderful: the geometrical combinations and unity of the whole are scarcely less remarkable than the ornamental detail and sculptural enrichments of every part which court the eye. With what skill processions of saints and labours of the apostles are made to work harmoniously in with the starting of arches, or the gatherings of bands; with how much taste an angel or a devil—for the church employed both—supports the fantastic ribs of the arched aisles: how gracefully a madonna performs her duty, by sustaining the weight of some important portion of the church, while into the hollow, or upon the swelling members of cornices or bands, histories and miracles are delineated, often with great force and elegance. In one of the screen cornices in Westminster abbey, we have a whole royal history carved; there is a royal birth, a coronation, a royal judgment-seat, a royal festival, a royal wedding, a royal voyage, a royal visit to a cathedral, and, finally, a royal deathbed. All this is pronounced barbarous by classic scholars and others who see little merit in aught new, and who deem it a nobler thing to correct a passage in Pindar or Plutarch than create a *Paradise Lost*, or a *Macbeth*. The love of classic architecture is not natural, but inoculated, and must sink beneath the taste of the public which perceives genius akin to its own in the geometrical combinations and historic and legendary embellishments of the Gothic architecture.

The impulse given to painting by Cimabue and Giotto was felt all over Christendom; archi-

ture nevertheless detained it long in bondage as an auxiliary, nor was it till the fifteenth century that it asserted its superiority and independence. The frescoes of Masaccio, the works of Mantegna, and the genius of Luca Signorelli of Cortona, united the dawn of art with its fuller radiance—the days of Giotto with those of da Vinci. The merits of Signorelli were of a high order; he contemplated his subjects with a discriminating eye; he determined what was accidental, and what was essential and fixed; he balanced light and shade, and foreshortened with a happy boldness which Michael Angelo did not disdain to imitate. A brighter star now arose: “Leonardo da Vinci,” says the enthusiastic Fuseli, “broke forth with a splendour which surpassed former excellence: made up of all the elements that constitute the essence of genius, favoured by education and circumstances, all ear, all eye, all grasp; painter, poet, sculptor, anatomist, architect, engineer, chemist, machinist, musician, man of science, and sometimes empiric, he laid hold of every beauty in the enchanted circle, but without exclusive attachment to one, dismissed in her turn each. To a capacity which at once penetrated the principle and real aim of the art, he joined an inequality of fancy, that at one moment lent him wings for the pursuit of beauty, and the next flung him on the ground to crawl after deformity: we owe him chiaroscuro with all its magic; we owe him caricature with all its incongruities.” This great painter was distinguished in his best works by a calm, a solemn grandeur of soul which nothing has ever surpassed; his *Last Supper* has a tranquil sublimity, a pathetic grace diffused over it, which contrasts strangely with the whirlwind charge of his horsemen in the celebrated cartoon for Florence.

A graver, a severer dignity of execution has been claimed for Bartolomeo della Porta; his style was pure; the subjects which he selected were chiefly serious; his draped figures have great simplicity; his naked figures show his acquaintance with anatomy and the antique; he foreshortened with equal boldness and accuracy, and used his drapery as subordinate to the body which it exhibited rather than concealed. He is considered the true master of Raphael; nay, critics have intimated that he had influence on what Fuseli calls the mighty style of Michael Angelo Buonarroti.

Of Michael Angelo much has been written and said: to the imaginative he appears the mightiest of all the children of art; to the cold and the reasoning he seems wild and extravagant; but all agree that his genius was various and of the

highest order. His statue of Moses belongs to a mightier race of men than the present mortals who inhabit the earth; there is a morose, some call it savage, grandeur about it; the soul of the beholder feels elevated by contemplating it; Scripture is realized. His fabric of St Peter, deficient though it seems in unity, is stamped with a sublimity seldom seen in architecture: and his pictures reject all supplemental ornament, all charms of oil colour, and appeal to the heart and imagination with a force which the coldest acknowledge. The epic serenity of his works is indeed injured by occasional extravagance of posture, and the dignity of his forms perplexed by an ostentatious and swelling anatomy, yet all who are intimate with the loftiness and variety of his creations will hardly suspect that Fuseli said more than was merited in the character which he drew. "Sublimity of conception, grandeur of form, and breadth of manner, are the elements of Michael Angelo's style. By these principles he selected or rejected the objects of imitation. As painter, as sculptor, as architect, he attempted, and, above any other man, succeeded to unite magnificence of plan, and endless variety of subordinate parts, with the utmost simplicity and breadth. His line is uniformly grand; character and beauty were admitted only as far as they could be made subservient to grandeur. The child, the female, meanness, deformity, were by him indiscriminately stamped with grandeur; a beggar rose from his hand the patriarch of poverty; the hump of his dwarf is impressed with dignity; his women are moulds of generation; his infants teem with the man; his men are a race of giants. To give the appearance of perfect ease to the most perplexing difficulty was the exclusive power of Michael Angelo: he is the inventor of epic painting, in that sublime circle of the Sistine chapel, which exhibits the origin, the progress, and the final dispensations of theocracy. He has personified motion in the groups of the cartoon of Pisa; imbodied sentiment in the monuments of St Lorenzo; unravelled the features of meditation in the prophets and sibyls of the Sistine chapel; and in the Last Judgment, with every attitude that varies the human body, traced the master-trait of every passion that sways the human heart."

In this high-wrought character the faults as well as the excellencies of the works of Michael Angelo are indicated, though not intentionally; he generally did too much; action with him becomes painful; he is seldom easy, and simple, and always too picturesque. The milder but equally lofty genius of Raphael gladdened the world at the same time with the planet Michael;

he has been termed the father of dramatic painting, and the artist of humanity; he merits higher praise. In delineations of angelic emotion and heavenly grandeur, in calm dignity, "in looks commercing with the skies," he has been equalled by none. The muscular animation of Angelo is mistaken for mental vigour; the tranquil thought and meditative postures of Raphael are pronounced deficient in loftiness. The latter imitated the composure of the gods, and knowing that the religion of Christ was of the soul and not of the body, he stamped a celestial spirit on all his works; the former has more of the "double double, toil and trouble" of human life in his creations; his angels seem inclined to perform miracles by strength of arm, and he abounds so much in violence that action becomes painful. "Michael Angelo," says Fuseli, "came to nature, nature came to Raphael; he transmitted her features like a lucid glass unstained, unmodified. We stand with awe before Michael, and tremble at the height to which he elevates us—we embrace Raphael and follow him wherever he leads us. Energy, with propriety of character and modest grace, poise his line and determine his correctness. Perfect human beauty he has not represented; no face of Raphael's is perfectly beautiful, no figure of his in the abstract possesses the proportions which could raise it to a standard of imitation; form to him was only a vehicle of character or of pathos, and to these he adapted it in a mode and with a truth which leaves all attempts at emendation hopeless. His invention connects the utmost stretch of possibility with the utmost plausible degree of probability, in a manner that equally surprises our fancy, persuades our judgment, and affects our heart."

In composition, Raphael is equalled by few, and excelled by none; the chief circumstance, the leading feature of the picture is not only visible at the first glance, but it is stamped so effectually on the performance that the sentiment which it awakens pervades every group and all accessory figures. He introduces no forms because the canvass and not his story requires them; the eye is not perplexed by secondaries pushing themselves into notice like principals. All is harmony, whether composition, character, or colouring; dramatic propriety is every where observed, and no epic poem can have greater unity or greater breadth; all this is combined with a wondrous simplicity—a simplicity scarcely of this earth, it is so lovely and so holy.

Some, nay many, of the companions and successors of these illustrious artists were scarcely inferior in beauty of form or grace of expression,

while in harmony, Correggio is admitted to have excelled them. "The harmony of Correggio," it has been observed, "though assisted by exquisite hues, was entirely independent of colour; his great organ was *chiaroscuro* in its most extensive sense; compared with the expanse in which he floats, the effects of da Vinci are little more than the dying ray of evening, and the concentrated flash of Giorgione, discordant abruptness." Titian was another of those gifted masters; he excelled in delineations of voluptuous beauty, and in splendour of colour; but in his hands art lost something of its severe grandeur. Tintoretto, too free to be correct, and too daring to be chaste; followed in the same path, and produced works sometimes rising to the sublime, more frequently descending to the timid. The almost supernatural brilliancy of colour which distinguished the Venetian branch of Italian art has been instanced by all painters, particularly those who dealt in duller materials, as a falling off from the severe dignity of the true historic; this is perhaps true, for the colours may be too celestial for figures of mere flesh and blood; but it is true only in those works where conception and character are subordinate to the colour. Had the genius of Titian or Tintoretto been of the same order as that of Raphael, their sentiment would have rivalled their heavenly hues; there is a want of unity and propriety in their performances on that account alone.

While painting was achieving a fame rivaling that in Greece of old, sculpture was advancing, though not with equal success and fortune. Something of this tardiness of growth must be attributed to the climate as well as to the peculiar character of the Gothic tribes. Our northern lands are cold and moist, compared to the sunnier regions whence sculpture came; we are clad in close thick dresses, and unaccustomed to the sight of naked beauty, are startled at the rude figures which filled the isles and continent of Greece. Our taste too inclines more to the picturesque; splendid colours and action, which compared to the repose of ancient statuary, may be regarded as extravagant, are more acceptable than what is simple and staid. Religion, too, called for greater decorum of design; our madonnas were not permitted to bare their voluptuous bosoms; and our male saints, who exhibited their bodies, were those only who had grown skeletons by fasting and vigil, or who were tied to the stake, to be stoned, or flogged, or burnt. It is true that art escaped from this penitential restraint, and displayed all that was beautiful or attractive in form or colour; for centuries, nevertheless, the soberer influence pre-

vailed, and figures male and female were manufactured, the severity of whose looks and forms were sufficiently forbidding and repulsive.

The sculptors who first escaped from this ascetic style into something like nature and poetry were Nicolas Pisano and his son John; they executed some magnificent marble pulpits, adorned with basso relievos and statues, in Pisa and Sienna. They studied the antique sculptures of the Campo Santo; yet there is more of Gothic grandeur than of Greek simplicity in their productions; the positions are elegant and the draperies natural. Donatello, the Florentine, followed; he was a worker in bronze as well as marble; in the cathedral of Florence there is an alto-relief of two singing boys of extraordinary beauty in sentiment and drawing. Also a bronze statue of a youth in the gallery of Florence, so delicately proportioned and so perfectly natural as to be surpassed only by the best works of antiquity; his statue of St George united such simplicity of conception with such living sentiment, that Michael Angelo, after beholding it in wonder for some minutes, suddenly exclaimed, "march!" Ghiberti succeeded, and more than rivalled him in the celebrated bronze gates of the Baptistry of St John, which Angelo declared were worthy of being gates to paradise. The art reached its height in the hands of him who proudly wrote himself "Michael Angelo, poet, painter, sculptor, and architect." In all his works there is a loftiness of conception which shows that sublimity and grandeur were his natural elements; his delight was to be daring; he invaded the sanctity of heaven for subjects, and he penetrated to the depths of hell: the chief actors in his wondrous scenes are gods and demons, and souls of men condemned or saved: with man in his common and household mood he refused to grapple: he touched indeed on female beauty, but it was loveliness connected with the sublimities of religion which he contemplated: he scorned little things, and it may be said of him as it was of Milton, that he could hew a colossus out of a rock, but could not carve a head out of a cherry stone. Yet it must be acknowledged that Michael Angelo sacrificed, oftener than was required, true simplicity to picturesque grandeur: his best groups and his finest figures want the compact elegance and severe truth of Grecian sculpture; it is true that he has left specimens in his *Lorenzo di Medici*, and *Virgin and Child*, which may be compared with aught the ancient world produced, but his common fault is excess of imagination, of conception flying too high a flight, and of action forced into extravagance. His desire of uniting

in one vast harmony the three arts in which he excelled, probably injured his fame as a sculptor: to create groups and figures which instead of being lost in the breadth and magnificence of his architecture should stand out not second but first, was the task which he assigned to himself, and this forced him upon the gigantic and the picturesque more than it is likely he wished. His merits may be summed up by the attestation of Flaxman, who studied his works for years in the heart of Rome. "In the Capella Sistini the sublimity of subjects and characters, the several patriarchal groups, of incomparable interest and beauty, all original, and unlike any production of antiquity, with that wonderful altar-piece of the Last Judgment, form, together, a labour that seems scarcely the work of man, and stands without a rival in ancient or modern art."

Whilst these wonders were achieving by painting and sculpture, architecture was not neglected. Many noble buildings were erected in various parts of Europe, in which the simplicity and beauty of Grecian architecture were supposed to be revived. Yet this was rather an application of the Grecian orders to a composite style of building, than an express revival of the old. The Gothic spirit prevailed on the earth; something picturesque and lofty was required; and as this could not be obtained by one line of columns, two or three were employed, and structures rose into the air in which the Doric supported the Ionic, and the Ionic the Corinthian, till the clouds were scaled, and it was believed and asserted that a triumph had been obtained for Christian churches over the heathen temples. This triumph was, however, achieved at the expense of unity, simplicity, and propriety. The principles of the Gothic architecture allow vast altitude; nor are the proportions lost by expansion; and, what is equally important, the materials out of which all this is achieved still continue obedient to the hand of man. Not so the Grecian architecture. To elevate a temple, according to the true principles of ancient art, requires, with an increase of height in the columns, an augmentation of size in the stones; and before the portico can obtain an elevation of an hundred feet, the materials have become nearly too heavy for human handling. All this was perceived by the Christian architects; and they imagined they had vanquished the difficulty when they placed one row of columns above another. As far as picturesque splendour is useful, they succeeded; but they succeeded at the expense of propriety and truth. The porticos and colonnades of the Grecian temples were useful as well as beautiful; for in Greece they

made nothing without a meaning. Men found shelter there from sunshine or from shower; and, that their time might not be wasted, historical sculptures extended all around, reminding them of the deeds of heroes and the acts of the gods. But under the second row of columns, and within the upper porticos, of the new style of architecture, birds and angels alone could find shelter. Look at the front of Whitehall and the porticos of St Paul's, and say, of what use, save to be looked at, or wondered at, are those columns and friezes. The world abounds with such examples of modern invention. They are beautiful, it is true; and it may be a question whether such elevations could have been achieved by Grecian principles and British materials; for blocks of stone, of seventy or eighty tons' weight, are not produced in every quarry, and cannot be raised a hundred feet high in the air by common machines. Inigo Jones, in his Corinthian portico of the old St Paul's, had to wait long for, and at last obtained with difficulty, a block, of some thirty tons' weight, to cover the opening between the central columns. That architects persevere in this composite or hermaphrodite style of art, is to be accounted for by their proper admiration of the temples of Greece and Italy. They seek to compound the matter with the Gothic predilections of the present Christian nations of the earth; and the result is something which men admire and find serviceable, but the propriety and meaning of which it would be dangerous to discuss.

A great and a sudden change was now at hand. All historians and lovers of art unite in saying that painting, sculpture, and architecture, under the fostering care of the Romish church, had nearly reached perfection, when the Reformation destroyed at once the unity of the Christian religion, and arrested art in its upward career. How this came to pass, need not be described minutely. The discovery of printing diffused knowledge; men were enabled to see with their own eyes; and as Scripture was written so that all might read, the light of the gospel suddenly burst over the land. Wise and scrupulous men began to compare the simplicity of the primitive church with the splendour of that of Rome. They could not shut their eyes to the difference between the Saviour of the world riding into Jerusalem on an ass, and his infallible majesty, the pope, seated amid the magnificence of modern Rome, summoning princes to his presence, exacting tribute from all nations, and holding in one hand the key of heaven, and in the other that of hell. The use of images, too, and pictures, had been sadly abused. At first,

as has been intimated, such auxiliaries were necessary to explain the word of God to barbarous nations; but when printing had opened the sacred volume to all eyes, the charm of painting and sculpture, as applicable to religion, was dissolved. The New Testament revealed all, and that, too, in a way infinitely more direct and simple than through the medium of art. It was discovered also that apocryphal miracles and saints had usurped the places which true saints and real miracles merited. The light of Thomas à-Becket of England, for instance, obscured that of Christ and the Virgin; nor were there wanting votaries, at once so zealous and so ignorant, as to kneel to insensible pictures and images, in preference to supplicating the Most High.

All this, no doubt, time and knowledge would have cured; but the catastrophe was hastened by the fiery determination of the first reformers concerning the abolition of indulgences and other corruptions, and the resolution of an infallible priest to permit none of his actions to be questioned. Art suffered seriously by the contest; the magnificence of religion suffered an immediate eclipse; the reformers refused the aid of painting and sculpture in interpreting the Scriptures; they desired to have them as Christ and the apostles wrote or uttered them, without gloss or comment; they preached down the legions of saints, male and female; they looked cold on the pictures and statues of the apostles, for they knew they were imaginary; they saw the image of the Blessed Virgin, and thought but of the follies committed at her shrine: in short, they broke and burned all works of art found in churches, as superstitious, and called all who countenanced them idolaters. This was good for salvation, and bad for art. The noblest works were those made for the church; painters and sculptors wrought, under a twofold sort of inspiration, in the cause of Rome; the pope held the honours of earth in one hand, and the keys of paradise in the other, and he showered the first, and promised the second, to all who excelled in embodying the current beliefs and holy legends in colours or in marble. The artists of the reformed nations had no such stimulants; they had no assurance that honours on earth and happiness in heaven awaited their labours; they were compelled—with manifest reluctance—to turn from forms purified by celestial intercourse, angels, archangels, and the souls of just men made perfect, to forms gross and corporeal—to the fallible creatures of the earth; and from man, with his worldly passions and pursuits, form a new sort of art, worthy of finding a place in the halls and houses of the gentry and the nobles.

The painter and the sculptor were no longer called upon to unite with the architect in forming a church such as that of St Peter's or of Westminster abbey; the poetical portion of art was excluded—for a time at least—from the company of things holy; the godlike air, and the rapt, inspired look, departed from pictures and statues; for the blessed angels, we had squires and nobles, with square-toed boots and padded jackets; for virgins and saints, we had court ladies, patched and jewelled; and for apostles, we received mayors of corporations, in full-bottomed wigs, with maces borne before them. This was turning from imagination mingled with nature, to nature without imagination,—no wonder that

“Folly clapp'd her hands and wisdom star'd.”

This is spoken only of art in the reformed nations. But the impulse extended to Catholic countries; and Rome, from that hour, fell off in her glory, nor has the genius of any of her sons been able to restore the tiara to her discredited head.

In Britain the change was sudden, and, perhaps, injurious. The true spirit of painting and sculpture, animated by poetry, and purified by science, had more than opened its eyes, when the civil wars of the land crushed the national genius, and threw us centuries back in the scale of civilisation. Those wounds were healed by Henry VII.; commerce spread her sails; discoverers went in quest of unknown lands; and the genius of art exhibited in the Chapel of the King such beauty of combination, simplicity of conception, and richness of emblazoning, as had not hitherto been equalled in the island. “It has been said,” observes Flaxman, “that the number of statues within and without this chapel amounted to three thousand. Perhaps many of these have been destroyed, and in that number every half figure or animal may have been reckoned, but certainly, even at this day, the number is very great; and it is another marvellous example of the astonishing estimation and employment of sculpture in this kingdom before the Reformation. Torrigiano seems to have been employed on the tomb only, and had no concern with the building or the statues with which it is embellished. The structure appears to have been finished, or nearly so, before Torrigiano began the tomb; and there is reason to think that he did not stay in this country more than six years, which time would be nearly, if not quite, taken up in the execution of the tomb, and some other statues about it, now destroyed, together with the rich pedestal and enclosure.

From the names of several English painters, sculptors, founders, and masons mentioned in the documents, who were not concerned in Torrigiano's engagement, we may presume the chapel and its sculptures were native productions. The figures are superior to those of the tomb in natural simplicity and grandeur of character. We must now take a long farewell of such noble and magnificent works of art, in raising which the intention of our ancestors was to add solemnity to religious worship—to impress on the mind those virtues which adorn and exalt humanity."

This British sunrise of art was obscured by the reformation. In the year 1538, images which had been worshipped were commanded to be destroyed. This injunction was afterwards extended to all images whatsoever; and as pictures as well as figures were included, the destruction was immense. The paintings were torn down, cast into heaps, and burned; the statues were thrown out of their niches, and broken to pieces; those which were fixed to the walls had their heads struck off, as well as their hands; and this happened to saints, apostles, warriors, and kings. Many noble sculptures perished. In repairing one of our cathedrals lately, dozens of those heads were found, some of them eminently beautiful, excelling both in form and sentiment. To destroy the sculptures of a Gothic building, is to pick the jewels out of a royal crown; they are in imagination all compact with the architecture, and cannot be removed without destroying that fine harmony and beautiful variety for which those structures are remarkable. "The commands," says Flaxman, "for destroying sacred painting and sculpture, effectually prevented the artist from suffering his mind to rise in the contemplation or execution of any sublime effort, as he dreaded a prison or the stake, and reduced him in future to the miserable ministry of monstrous fashions, or drudging in the lowest mechanism of his profession. This unfortunate check to our national ability for liberal art occurred at a time which offered the most fortunate and extraordinary assistance to its progress. The lately-discovered art of printing began to enlighten the European hemisphere with the beams of knowledge in all directions. Copies of the Bible were generally dispersed; the philosophy of Plato and Aristotle were understood, and well illustrated; mathematics were successfully studied, so was anatomy; linear perspective had been, in a great measure, perfected, by Paul Uccello, the Florentine, some time before. These advantages did much towards the formation of Raphael, Michael Angelo,

Titian, da Vinci, and Correggio, in common with the great scientific and literary luminaries of the same period, among whom we may boast our Bacon, Shakspeare, Spenser, and afterwards John Milton. But the genius of fanaticism and destruction arrested our progress. The iconoclastic spirit continued, more or less mitigated, till its great explosion during the civil wars." The crusade preached in England against painting and sculpture extended only to works found in the churches; in Scotland, the popular fury was directed, for selfish purposes, against the structures, in which all images were enshrined. The magnificent cathedrals and abbeys were passed under the remorseless harrow of Knox and his companions; that of Glasgow alone escaped, like the righteous servant from the destruction of Job's house, to tell of the ruin of the rest. That many fine paintings perished, is not likely; but illuminated books and manuscripts, with thousands of statues, were burned and broken; and all, too, with the idea of doing a deed serviceable to true religion, and welcome to God. The religion for whose sake all this was done has been restored to its rank and influence; but the noble edifices, who will rebuild them!

Painting, sculpture, and architecture, seem to have more of the sensitive plant in them than has fallen to the lot of poetry; for while the former were idle through fear, the latter, in the strains of Shakspeare and Spenser, had asserted the right of the muse of Britain to stand on the same elevation with the heathen muses of Greece and Italy. Protestants perhaps had a scruple of conscience in works of painting and sculpture. We were willing to accept the assistance of other countries in a manufacture which had ceased at home. France was ready to supply us then, as now, with whatever we desired of the neat, the polished, and the affected. Spain might have furnished us with examples of a gloomy splendour and a sullen beauty. From Italy we refused to receive anything, for we dreaded the mark of the beast, and the pollution of the scarlet; but from Holland—dear, dull, protestant Holland—we imported works of art, and artists too, with right good-will. To the market of the United Provinces we went with a wary eye; we had the love of our immortal souls much at heart, and traded cautiously. Yet much caution seems not to have been required; for who would dread to find an apocryphal apostle in a Dutch burgomaster, a madonna in a seven-petticoated dame of Amsterdam, or a St. Stephen or a St. Lawrence in the drinking and drabbing scenes of Teniers and Ostade. From

Holland we, as good protestants, purchased pictures and borrowed artists; and something of the literal spirit of that plodding and unpoetic people is still visible in our works.

On the continent, as well as in Britain, painting suffered an eclipse from the Reformation, and the political and moral changes which it wrought. The lofty aspirations of the Romish church had been equalled by the miracles wrought by art; and all that was bright in heaven, or dark in hell, was revealed to the people in pictures, which continue to astonish the world. But the lofty pretensions of the pope,

"Holy at Rome, here antichrist,"

were rebuked by the reformers. Art lowered its tone, too, and exhibited more of earth and less of heaven; processions of princes and peers, by land or water, took place of those of apostles and angels; instead of a madonna seated on a blue cloud nursing the offspring of heaven, we had a queen of France or of Spain seated on velvet, and feeding the heirs of these kingdoms by proxy; for glimpses of paradise, we had interiors of palaces; and for glorious landscapes, with angels ascending and descending, art supplied us with cows grazing in meadows, and with boats fishing in the Zuyder Zee. To many this change was welcome; for minds literal and unpoetic rejoice in scenes which require no exercise of the imagination. To art it was injurious; for it reduced its labours to a better sort of portrait-style, in which a map was given of the land, and a fac-simile taken of its people. It is the duty of art to exercise our memory less than to elevate our minds; for, of itself, what can the noblest statue or the brightest picture tell us? but for Homer and history, who would understand the Laocoon or the Apollo? This is true of the pictures of Rubens, as well as of those of Rembrandt. "The former," says Fuseli, "compounded, from the splendour of Paul's Veronese and the glow of Tintoretto, that mannered magnificence which is the element of his art, and the principle of his school; he first spread that ideal pallet which reduced to its standard the variety of nature; and, once methodized, whilst his mind tuned the method, shortened or superseded individual imitation. Rembrandt was a genius of the first class, in whatever relates not to form. In spite of the most portentous deformity, and without considering the spell of his chiaroscuro, such were his powers of nature, such the grandeur, pathos, or simplicity of his composition, from the most elevated or extensive arrangement to the meanest and most homely, that the best

cultivated eye, the purest sensibility, and the most refined taste dwell on them, equally enthralled. Shakspeare alone excepted, no one combined, with so much transcendent excellence, so many (in all other men unpardonable) faults—and reconciled us to them." Yet lofty as this praise is, the heavenly halo which hovers over the works of Angelo, and Raphael, and Correggio, refuses its full lustre to the productions of Rubens and Rembrandt: art was on its descent.

Petronius said bitterly it was easier to meet with a god than a man in Rome: in London, it was easier to meet with a man than a god. The sublime creations of Greece and of Italy evoked no kindred genius in Britain. In vain pictures by Raphael and statues by Phidias were placed before our eyes; we looked, we applauded, but sought not to embody from our eventful history, and our more than glorious poetry, shapes and scenes worthy of the national genius. The terrors of popery seem to have paralyzed us; native art was all but extinguished by the change of religion; our efforts were faint and feeble. Jamesone in the north, and Cooper, and Walker, and others, in the south, reminded us, by miniatures and life-size portraits, that art breathed at least, if it could not move. Nor can it be said that the presence and example of the unrivalled Vandyke had a happy influence. How noble, how heroic, and how graceful his heads still look, when compared with the most fortunate efforts of his British brethren! Nor were there any to contest the pre-eminence with either Lely or Kneller. Thornhill, it is true, imagined that he was the reviver of historic art in England. He united with two foreigners, Verrio and La-Guerre, in filling our mansions and palaces with mobs of gods and goddesses from the heathen mythology. Venus, in nudity, walked a minuet with a countess in a hooped petticoat; Apollo sought to inspire with eloquence a marquis in a full-bottomed wig; and Minerva and Diana walked barefooted on the gravel of St James's Park, between Charles the Second and Lady Castlemain. This was a sort of picturesque painting, which had the outward form without the sentiment, and was equally deficient in natural truth and historic propriety; yet Evelyn speaks of those prodigies of absurdity as miracles of genius, even after he had seen some of the noblest pictures of the great masters of Italy.

A new era was at hand. A succession of great architects, sculptors, and painters arose, who asserted the dignity of British art. The first, and perhaps the ablest, of these was Sir Christopher Wren. Accident called out his genius in all its splendour. The great fire of London

levelled old St Paul's, and under his eye the present magnificent edifice arose into existence. It is not alone what an architect accomplishes that we are bound to admire; we should take into consideration the beauties which he is not permitted to realize—the designs which public opinion or private intrigue prevent him from fulfilling. Sublime in conception, harmonious in combination, and unequalled for geometrical unity though the present edifice is, it is excelled, in all these high properties, by the other model of the great artist still preserved in the archives of the church. The internal arrangement displeased the duke of York, who, desirous of re-establishing popery, wished to have room for the monks. The external elegance offended some of the dignitaries of the church, who desired to see the figure of the cross less embellished; and between them they compelled the architect to adopt a design which he did not wholly approve. Of the worth of what we have lost, we may form some notion from the grandeur of the present structure, which, in lofty elegance and exquisite harmony of parts, excels all works of the kind, ancient or modern. Of the fifty churches of London built by Wren, some are scarcely inferior to St Paul's in beauty and geometrical unity. Vanbrugh had genius of a high order; his works are grand, but irregular; picturesque, but wanting in propriety. He sacrificed too much to situation; in his structures he laboured to raise something in the spirit of the landscape around; and though he succeeded, as may be seen in Blenheim, yet it must be confessed that his works are less pleasing than striking and uncommon. Other skilful architects followed. Some of the dead will live, and some of the living will not die, for their buildings will make their names known to future centuries. It must be confessed, however, that grand structures are not in request, either of a religious or a national kind. Save St Paul's, not a single cathedral has been built in England since the Reformation. The noble old abbeys are the work of Catholic priests, who, married to the church, laid out their wealth on the adornment of their sacred spouse. Nor, since the days of Wren, has a single edifice of a national kind been raised at all worthy of our name. Our palaces—though some have been rebeautified, and that skilfully—are anything but princely; our military and marine structures are for use, it is true, but elegance might have mingled more with the conception; and London, the capital of the first maritime empire in existence, is but a city of brick-stacks, with nothing worthy of outliving it save half-a-dozen churches, the cathedral of St Paul, the bank, Westminster

abbey, and the bridges of London and Waterloo. There is an apathy in the nation for such works; moreover, our architects are divided; our reading and schooling are for the classic, our heart and nature for the Gothic. The latter will likely succeed, and more than an indication of its triumph has of late been made manifest.

In sculpture much has been achieved since the merciless hand of reform was laid upon the saints and madonnas of the Catholic cathedrals. It has, however, wholly separated itself from architecture. It is true that statues still occupy the pediments or recesses of the architect's designs; but these, like the figures of Verrio and La Guerre, are matters essentially picturesque, and have nothing to do with sentiment and feeling. No architect mingles sculpture with the interior of a church or a palace; places are left void, for the genius of the sister art to fill up as opportunities occur; situations for statues are merely indicated, or places for groups or reliefs; while room nigh the altar is left for a picture, to be supplied by the chance charity of some opulent devotee, or of an artist anxious to secure a good light and a large audience for one of his scriptural canvasses, of which no purchaser asked the price. This injures the unity of the architecture, for few sculptors regard—as we may see in Westminster abbey—the harmony of the work around; they desire to bring their own productions strongly forward. Nor is this all; they now and then give secular employments to figures set up in sacred places.

The first of our eminent latter sculptors was Cibber; and the works by which he will be known to posterity are the Madness and Melancholy carved for the asylum at Moorfields. They are boldly and poetically, as well as naturally conceived, and more than approach the designs of the great Italian artists. Cibber sought to revive the antique taste for the presence of sculpture in arbours and gardens, and scattered his fawns and satyrs, and gods and goddesses, among the woods of Chatsworth. But our moist, cold climate is out of harmony with the nude progeny of the sunny lands of Asia or Greece; nor has learning yet induced us to love forms which our reason rejects. Banks, with more than the poetic feeling of Cibber, delighted in classic subjects; his sketches from the works of Homer breathe the true austere spirit of antiquity. They are, however, but little known, with the exception of his statue of Achilles, while his national monuments are too well known, and leave an impression on the public mind unfavourable to his fame. Their chief fault is an utter want of historic propriety; he desired to

throw the mantle of poetry over the ordinary occurrences of war, and produced nothing but mystery and extravagance. Bacon, with a mind of a more literal cast, suited the public taste, and made both fame and fortune. The former has, however, suffered something of an eclipse, though his statues of Johnson and Howard are noble works. Nollekens, notwithstanding the praise of Wordsworth, was essentially a bust sculptor. His mind was mechanical; he had no imagination; he was plodding and laborious, and produced many works—but they were works without feeling or passion. Flaxman had the loftiest genius of all our British sculptors; he was alike simple and sublime; he grappled with the most poetic subjects, and reached their grandeur, as well as their beauty. His designs for the Greek poets have so much of the Greek spirit that they might pass for the sketches of Phidias, while his designs from Scripture reach the height of the great argument of the gospel, and form the only commentary we ever saw in perfect harmony with the original. This is high praise. We must add, by way of abatement, that his execution was not equal to his conception, and that, while in true poetic works he fairly rivalled the works of antiquity, in literal transcripts of life and the times he lived in, he was excelled by sculptors who had not a tithe of his talent. He could show the kernel of things, but he failed in exhibiting the husk.—The living sculptors are numerous, and some are of high talent. Chantrey is natural, graceful, and manly: Baily always elegant and sometimes poetic. Westmacott carves now and then a classic group. The sculpture of Britain has not yet reached, and likely never will reach, the excellence of that of antiquity. With us, it is more a matter of necessity than of genius and feeling; a sculptor is considered as a sort of manufacturer; he has to work according to dying bequests, and to fill a certain space with marble, commemorating particular virtues; he has no liberty in selection of subjects; a soldier perishes in battle, and has a statue; a statesman dies, and has his statue also, and materials are furnished, to ensure a good resemblance, both as respects aspect and costume. This sort of act-of-parliament commission can hardly call a true work of art into existence. It is true, that such men as Egremont, and Devonshire, and Bedford desire to have sculptures of a poetic nature. We speak not of individual cases, but of a general feeling; we have no national taste in such matters. The very mobs of Italy and France respect the presence of works of art; they look on them with admiration and awe, while the crowds of old England scratch, and

crush, and break sculpture without remorse. The first emotion felt on beholding a national statue set up in a public place is, to pull it down, or throw stones at it.

The British school of painting occupies a place between the schools of Italy and Holland. It wants the sublime loftiness of the former, neither is it so low or so literal as the latter; it partakes of the qualities of both, while the spirit of the land shines visibly through it, and establishes its claim to originality. It has great variety, great force, vivid colour, and expression. In lofty emotion, historic dignity, and poetic passion, it is less powerful than in human character, domestic incident, natural elegance, and deep pathos, sharp satire, and a humour rich and deep. Painting has taken few successful flights into the regions of the imaginative, though it has made many attempts; neither has it treated with much dignity and vigour the deeds of daring wrought by Britons, by either sea or land. We have no Shakespeares, Spensers, Miltons, or Scotts in art. The academy, it is true, opens its doors to all, and sets an example by models, and gives advice in lectures, concerning the sublime and the historic. It exports, too, to Rome at stated intervals, certain of the most gifted of its students to feel, with Reynolds, the unreachable elevation of Michael Angelo, or confirm their own notions of what is excellent, by gazing on Raphael, Correggio, and other great masters. Yet, nevertheless, the grand historic style is anything but prosperous. Artists dream of the Vatican, and waken to paint a cow grazing in a meadow, two dogs quarrelling for a bone, a windmill after nature, or a lady patched, plumed, and padded, ready to burst upon some astonished coterie, and fan them into envy with her nodding plumes.

The first great painter of the island is still the most vigorous, most characteristic, and original—we mean Hogarth. Some of his brethren, indeed, deny him the title of painter; though they allow he is a great something, they hesitate to say what. But this is mere pedantry. He is held to be a true painter by all who know what art is; for it is by form, by colour, and by force of expression that he accomplishes all. In fact, he has carried art farther than any other man has done. He is not only a painter, but he is more; he is a great dramatist, second only to Shakespeare. Crabbe has been called the Hogarth of poets. There is a little resemblance between them; the song of the poet was of humble vice, and villany, and corruption in rags; the satire of the painter dropped like aquafortis on the profligacy of the high, on those who, from station

and knowledge, should have set an example of worth and virtue. The aim of Hogarth was to represent life, to give us an image of man, to exhibit the workings of his heart for good or for evil, to shake us with mirth, rebuke us by satire, and sadden us into humanity by woeful reflection. Other painters lavished the hues of heaven on ladies of loose reputation; and made their paramours into gods—Hogarth dipped both in the lake of darkness, and held them up to the scorn and derision of mankind.

Reynolds is considered by the academicians as the founder of the British school of painting. To him they attribute the introduction of all that is vivid in colour or lofty in character. He did much, and was one of the first who, by his gentlemanly manners and probity, conferred dignity upon the profession of painter in our isle. The freedom, and ease, and breadth of colouring of his portraits are only equalled by the individuality of character which he gave to all he touched. They contain whatever was manly in man or gentle and lovely in woman. The happy looks and joyous eyes of his children are not more natural than the employments which he has assigned to them; they fondle birds, gather flowers, and chase butterflies, with a grace which it is vain to seek in the earlier artists of the land. His historical pictures are less happy; his imagination was of a humble order; he could not image out a virtue from reflection alone, nor impress the poetic costume of thought on his groups from the poets. Had angels condescended to sit, Reynolds would have found hues to limn them with. Those who desire to see how genius looked, or beauty demeaned herself, for half a century, in Britain, must consult the portraits of this great painter.

To the methodical talents of West we owe order and propriety. He is never extravagant; all his actions are decorously done; his characters think calmly, and work without effort or straining; but he is cold and unimpassioned. His figures are well shaped, and in graceful attitudes, but the spirit of life and thought has entered but partially into them; they seem moved by galvanism, more than by heart and soul. His battle scenes show none of that lofty animation and contempt of death which inspire those who, in the hour of extreme peril, triumph over thousands and tens of thousands. He painted scenes of peace and devotion, but the beholder is not touched in heart by the one, nor elevated in mind by the other; his hues, as well as his spirit, are sober. He was desired by George the Third—a monarch who had many fine qualities with but little poetic taste—to paint a

series of great pictures from the Christian worship and from British history—an order worthy of a great prince; and sore and long the artist laboured

“To reach the height of that great argument,”

with what success, let Windsor palace and chapel tell. We walk before the pictures suspended in those magnificent galleries with as little emotion as if the princes, and peers, and priests who fill the frames were so many shadows accidentally thrown on the wall, or the varied colours in which they are embodied were the passing hues of a rainbow.

Wilson created our poetic landscapes, Gainsborough that of English nature and humble life, and both are admirable. The former had visions of celestial mountains, with gods seated on their summits, nymphs singing on their sides, and the happy children of men disporting in sun-lit streams, shady forests, and “ruined temples grey.” The latter had less heavenly revelations; his hills are rocky, and rough with thorns, and are haunted by horned cattle instead of fawns and satyrs; on his greensward declivities he places smoking cottages and toiling hinds, while he gives life to his groves by strolling children and camps of roving gypsies, who tell fortunes and rob hen-roosts. Wilson has abundance of nature in his poetry, nor is Gainsborough without poetry in his nature.

Fuseli boasted that he alone brought poetry and learning to the service of art, and Barry lived and died in the belief that by his works the true spirit of historic painting was restored. On examining the productions of those audacious men, we can see little to vindicate their lofty pretensions. The former was all extravagance, the latter all coldness and mystery; and both were on the continual strain after a sublimity beyond their reach, and a sentiment too elusive to be rudely grasped. Fuseli possessed a genius fiery and impetuous, which allowed his hand to make no calm delineations; he could do nothing in a common way; his figures seem reeling with intoxication; his lovers meet and salute with an ecstasy as if, like Duncan’s horses, they would eat each other; his soldiers draw their swords like men possessed by seven devils; while his angels—light as well as dark—tumble to hell or ascend to heaven with anything save angelic calmness, and the serenity of conscious power. There is an eternal toil and trouble visible in too many of his pictures. Sometimes, however, he forgot himself—and then his creations were worthy of his genius—almost

of his pretensions. The works of Barry are equally deficient in propriety and imagination; they are prodigious mysteries, historical riddles; ancient times shake hands with latter, and Greek robes and English wigs jostle for precedence. He was afflicted with the desire of reading a grand historic lesson to mankind—and failed because no one understood his mysterious language.

Lawrence and Raeburn may be regarded as the true successors of Reynolds in portraiture, though who will venture to say that they have equalled him. The former was eminent for elegance and grace; his gentlemen are patterns of courtesy, and the looks of his ladies are radiant with beauty and love. The merits of the latter were of a sterner kind; he excelled in breadth and vigour, and expressed the character in mass, without descending to detail. To both we owe many noble portraits of inspired men; they bestowed their colours on the genius as well as wealth of the land, and genius will take pleasure in remembering them.

Northcote and Stothard may be named together—death and life are neighbours. The former teaches us what to shun, the latter is a model for imitation; both were of the academy, but one was made by the force of labour and Reynolds, the other by the force of study and nature. The figures of Northcote are shapeless and bloodless;

“There is no speculation in their eyes.”

He is continually striving to reach the heights of history or the depths of poetry; but he wants dignity for the one, and feeling for the other. The works of Stothard, on the other hand, are all natural elegance and unconstrained beauty. The daughters of England may be said to have inspired him with a true sense of beauty and modesty; for on whose canvass shall we find such unaffected loveliness, and such variety of female attraction? He is indeed very unequal, and a great mannerist, but he is original, and can never cease to be regarded as one of the greatest of British painters.

Historical painting seems at a stand in Britain; portrait painting is not on the advance, and no one will say that the landscapes of Wilson have been excelled, though the flights of Turner fairly rival him. In vivid pictures of social life, Wilkie has no superior; he has all the lively humour, tipsy jollity, and vivid presentment of character visible in the best Dutch artists, with a sentiment wholly his own. He has lately taken a step from the domestic into the historic, and painted two pictures, “Knox Preaching the Reformation,” and “Columbus in Spain,” which rival, in dignity of conception, force of character, and lucid depth and vigour of colouring, the noblest pictures of these our latter days. The Scripture landscapes of Martin are of a class by themselves; they realize the most terrible of the Old Testament scenes. The supernatural splendour of the “Handwriting on the Wall,” and “Joshua commanding the Sun to stand still,” can never pass from the mind of any one with either imagination or feeling. Two such distinguished painters fairly entitle us to claim a present pre-eminence over all other schools—and long may we retain it.

It cannot with truth be said that a true feeling and admiration of art is yet diffused over Britain. Works of high genius are rare matters. Like Milton's *Paradise Lost*, they are long in attaining all their fame, and require, with other mental efforts, serenity of mind, and something like public encouragement. To be the great merchants of the earth, and the rulers of the sea, seems the aim of the nation; yet this might be accomplished without discouraging either poetry or painting. At present, the angry parleys between political parties, and the feuds which inquiry, and love of change, and desire of reform have awakened in village and town, are injurious to literature and art. Perhaps, when the church is placed on a scriptural footing, and the balance of the constitution restored, the sun of public affection will shine as it ought on those studies which lead to true glory and permanent fame.





# THE POPULAR ENCYCLOPEDIA;

OR,  
CONVERSATIONS LEXICON.

## HUNTER.

**HUNTER, JOHN**; a highly celebrated practitioner and writer on surgery, anatomy, and physiology, was born in Kilbride parish, Lanarkshire, on the 13th Feb., or, according to others, on July 14, 1728. His education was neglected, and he was, at first, apprenticed to a cabinetmaker; but hearing of the success of his elder brother in London, he offered his services to him as an anatomical assistant, and was invited by him to London, where he arrived in September, 1748. He improved so speedily, that, in the winter of 1749, he was able to undertake the instruction of dissecting pupils. In 1755, he was admitted to a partnership in the lectures delivered by his brother, in which situation he most assiduously devoted himself to the study of practical anatomy, not only of the human body, but also of brute animals, for which he procured from the Tower, and from the keepers of other menageries, subjects for dissection. He also kept several foreign and uncommon animals in his house for the purpose of studying their habits and organisation. In the beginning of 1767, he was elected a fellow of the royal society. His first publication, a treatise *On the Natural History of the Teeth* (4to), appeared in 1771. In the winter of 1773, he commenced a course of lectures on the theory and principles of surgery, in which he developed some of those peculiar doctrines which he afterwards explained more fully in his published works. His perfect acquaintance with anatomy rendered him a bold and skilful operator, and enabled him to make improvements in the modes of treating certain surgical cases. But his fame chiefly rests on his researches concerning comparative anatomy. In 1776, he obtained the appointment of surgeon-extraordinary to the army. In 1781, he was chosen a member of the royal society of Gottingen, and in 1783, of the royal society of medicine and academy of surgery at Paris. In 1786, he published his celebrated work *On the Venereal Disease*. About the same time appeared a quarto volume, entitled *Observations on Various Parts of the Animal Economy*, consisting of physiological essays, most of which had been inserted in the *Philosophical Transactions*. His *Treatise on the Blood, Inflammation, and Gun-shot Wounds*, was one of the last of his literary labours. On the death of Mr Adair, he was appointed inspector-general of hospitals and surgeon-general to the army. He died October 16, 1793. His *Treatise on the blood, &c.*, was published in 1794, with an account of his life, by Sir Everard Home. Government purchased the museum of Hunter for £15,000, and transferred it to the royal college of surgeons, for the use of the public.

**HUNTER, WILLIAM, M. D.**, elder brother of the preceding, and collector of the Hunterian Museum now in the university of Glasgow, was born May 23, 1718, at Long Calderwood, in the parish of Kilbride, eight miles from Glasgow, and, at the age of fifteen, was sent to that university, where he passed five years in studying as a candidate for holy orders. But having accidentally become intimate with Dr Cullen, then practising physic at Hamilton, he became disgusted with theology and commenced the study of medicine. In the year 1737, he went to reside with Cullen, and afterwards was received into partnership by him; but, in 1740, he went in the winter to Edinburgh to complete his studies, and in the summer of the year following went to London and lived as a pupil in the house of Dr Smellie the accoucheur. Having been the bearer of an introductory letter from Foulis, the learned printer of Glasgow, to Dr James Douglas, that physician took a great liking to young Hunter, and engaged him as his assistant in making dissections for a splendid work on the anatomy of the muscles, which he then was preparing to publish. The following year he had the misfortune of losing his father, and his patron, Dr Douglas, by death, but he still continued to reside in the doctor's family, superintending the education of his son, and attending St George's hospital, as a pupil, under Dr Frank Nichols.

Pursuing his anatomical studies with ardour, he, in 1745, communicated a paper to the royal society respecting the structure of the cartilages of the human body, and Sharpe, a lecturer on anatomy, having resigned in his favour, he commenced a course of demonstrations the same year. The profits arising from this first attempt amounted to seventy guineas, great part of which he very generously lent to some fellow students and lost. The next year he became a member of the college of surgeons, and practised surgery and midwifery, but at length confined himself entirely to that branch, in which he soon outstripped Dr Smellie, and was appointed accoucheur to the British lying-in-hospital. It was rather before this time that he spent some weeks on the continent, where he accompanied young Douglas through Holland and Paris; and having been greatly struck with seeing the anatomical museum, left by the great Albinus, at Leyden, it is conjectured that he then formed the design of emulating the labours of that celebrated anatomist. On the death of Sir Richard Manningham and resignation of Dr Sandys, he became first in his line of practice. In 1750, he obtained his Doctor's degree from the university of Glasgow, and then quitted Dr Douglas's family, and took a house in Jernyn

street; and, having been consulted on the pregnancy of the late queen, he was named one of the physicians extraordinary to her majesty, and was received into great favour by the king.

In the first volume of *Observations and Inquiries*, published by the Medical Society in 1757, appeared doctor Hunter's History of an Aneurism of the Aorta; and he was an important contributor to the subsequent publications of the society, of which he was chosen president on the death of Dr Fothergill. In 1762, he published a work, entitled *Medical Commentaries* (4to), to which was subsequently added a Supplement, the object of which was to vindicate his claim to some anatomical discoveries, in opposition to professor Monro, of Edinburgh, and others. In 1764, he was appointed physician-extraordinary to the queen. Doctor Hunter was elected a fellow of the royal society in 1767; and, in 1768, on the establishment of the royal academy of arts, he was appointed professor of anatomy. He was made a foreign associate of the royal medical society at Paris in 1780, and of the royal academy of sciences in 1782. The most elaborate and splendid of his publications, the *Anatomy of the Human Gravid Uterus* (folio, illustrated by thirty-four large plates), appeared in 1775. In 1777, he joined Mr Watson in presenting to the royal society a Short Account of the late Doctor Maty's illness, and of the Appearances on Dissection; and, in 1778, he published *Reflections on the Section of the Symphysis Pubis*, designed to show the impropriety and inutilty of that surgical operation, which had become fashionable among accoucheurs on the continent, and especially in France. Two Introductory Lectures to his Anatomical Course, which he had prepared for the press, were published after his death.

Being a bachelor he early began to lay aside a sum of money, such as he considered might be sufficient for his own wants, and appropriated the remainder of his income to some plan of public utility. As far back as 1765 he projected founding a great school of anatomy, and offered to ministers to expend £7000 towards it, if they would assist; but his projects were treated with cold indifference, and in 1770 he purchased and completed a house and theatre in Great Windmill street, in which he constituted a splendid museum. To this object he now devoted all his spare time and fortune, and its completion constituted the greatest pleasure of his life. At first he only contemplated a collection of preparations in human and comparative anatomy, but in 1761 he was tempted to become the purchaser of Dr Fothergill's collection of shells, corals, and other objects of natural history, for which he gave £1200, and when his friend Sir Robert Strange died, he purchased the pictures of that artist as well as those which belonged to Mr Foulis of Glasgow. But the most expensive part of his collection is that of ancient coins and medals, for the duplicates of which, after his death, government paid his executors £40,000, and added them to those in the British Museum. Of a part of this collection his friend Dr Combe published an elegant catalogue in 4to in 1783.

Dr Hunter had been subject to attacks of irregular gout as early as the year 1773, when he thought of relinquishing practice, and his death happened on the 30th March, 1783. On Saturday the 15th he had experienced a slight return of wandering gout, with headache and nausea, and been confined to bed. But feeling himself a little better, he got up to deliver an introductory lecture to a course of surgery, during which he was overcome suddenly with faintness, and was carried off and put to bed. This was on Thursday. On the Saturday morning he told his friends that he had suffered a paralytic stroke during

the night, but of which no traces remained, and said, a few hours before his death, to his friend Dr Combe, "If I had strength enough to hold a pen I should write how easy and pleasant a thing it is to die." In his last testament he bequeathed the whole of his splendid museum, valued at £150,000, to the university of Glasgow, with the sum of £8000 in cash, to be expended in an appropriate building for its reception, and a further sum of £500 per annum, to bear the charges of its preservation. To his nephew, Dr Baillie, he bequeathed his family property of Long Calderwood, but Dr Baillie very generously gave it to John Hunter, who had unfortunately had a quarrel with his brother Dr William some years before about some anatomical trifle. The museum was left subject to the liberent of Dr Baillie, who very handsomely relinquished it in 1808, when it was transferred to Glasgow, where it will long remain a glorious monument of the knowledge, enthusiasm, and public spirit of its founder.

HUNTING, in a general sense, includes the pursuit both of hairy and feathered game; but in a narrower sense, is applied only to beasts of venery (of the forest, as the hart, hind, hare, boar, wolf) and of chase (of the field, as the buck, doe, fox, marten, roe). In a rude state of society, it is one of the most important employments of mankind; and, in its more advanced state, becomes an agreeable amusement, men pursuing for pleasure, in the latter case, what they once followed from necessity. Hunting is practised in a great variety of ways, according to the object of the persons engaged in it, the nature of the country, and the description of the game. The object may be to obtain a supply of food, to destroy noxious animals, to get possession of useful ones, or of some useful animal product (as furs, &c.), or merely amusement. The pursuit may be conducted by means of other animals, as by dogs, falcons (see *Falconry*), &c.; or the prey may be caught by stratagem (as by nets, traps, pitfalls), or destroyed by fire-arms, or other weapons, &c. A full account of the methods of hunting among the ancients may be found in the treatises of Xenophon (*Κυνεγεῖα*) and Arrian (under the same title), and in the poem of Oppian—*Cynegetics*, or *On Hunting*. The breeds of hounds, their training and management, the hunting of the hare, the stag, the wild bear, lion, bear, &c.; the instruments, dress, &c., of the hunters, are minutely described with evident keenness and great precision. Xenophon commences with Apollo and Diana, through whose aid the Centaur Chiron, on account of his love of justice, was rewarded with instructions in the science of the chase. Chiron, in turn, taught many eminent pupils. The treatise concludes with a general eulogy of hunting, which, we are informed, not only affords pleasure, but increases health, strengthens the sight and hearing, and pretracts the approach of old age. It is also the best preparation for military service. The author then goes on to prove that activity is the duty of every good citizen, and that the interests of his country, not less than the will of the gods, demand from each man all the exertion of which he is capable. To the passion for hunting which animated the feudal kings and nobles of Europe, the huge tracts of land which were afforested bear fearful testimony; and the writers of the time give a strong picture of the sufferings of the oppressed commonalty, under the tyrannical privileges of sport which were claimed by their masters. (See *Game Laws*.) It is unnecessary here to go into a minute description of the technical terms of hunting, or of the manner in which it is carried on. In England, the fox, the stag, and the hare are the principal objects of the chase; on the continent of Europe, the

Wild boar and the wolf are added to the list. See *Daniel's Rural Sports*.

The lion is hunted by horsemen on plains, and large dogs are used to dislodge him from his haunts. At the first sight of the huntsmen, he always endeavours to escape by speed, but if they and the dogs get near, he either slackens his pace, or quietly awaits their approach. The dogs immediately rush on, and, after one or two are destroyed, overpower him: twelve or sixteen are a sufficient match for him. The huntsmen keep together in pairs; if they have not a sufficient number of dogs, one of them, when within reach of the lion, dismounts and aims at the animal's heart; he instantly remounts, and his companion follows up the blow. In some parts of Africa, when a lion is discovered, the whole surrounding district is raised, a circle of three or four miles is formed, and the party proceeds, always narrowing the circle until the lion appears. He then springs on one of the party, who generally succeeds in killing him with a musket ball.

One of the noblest sports in the East is hunting the tiger, which is done in various ways, but chiefly by a numerous company of sportsmen, with elephants trained for the purpose, horses becoming ungovernable. When the retreat of the tiger is discovered, every attempt is made to dislodge him; the search is conducted with the largest and best trained elephant, which discloses the presence of the tiger by a peculiar kind of snorting and great agitation. The huntsmen, who are mounted on elephants, discharge their pieces, and, if the shot is not fatal, the tiger springs upon his assailants, who are often in great danger. Tigers are sometimes taken in traps, pits, or nets. The other animals of the feline species—the panther, leopard, &c.—are generally roused by dogs, and killed with fire-arms or arrows. The animals of the canine species, though less furious, are more cunning than those above mentioned.

The wolf has always been an object of human vengeance: in the East, it is hunted by eagles trained for the purpose; in Europe, the strongest greyhounds and other dogs are employed, and the chase is prosecuted either on foot or on horseback. It is, however, very difficult to run down a wolf, for it is stronger than a dog, and will easily run twenty miles, which, added to its stratagems, often renders the pursuit abortive. Wolves are also taken in traps and nets, though their vigilance and caution make it difficult to deceive them.

The most formidable animals of North America are the white bear and the grisly bear. They are ferocious, fearless, and extremely vivacious, and are hunted with arrows or fire-arms. The bison is destroyed by the North American Indians sometimes by riding in among a herd, and singling out one, which they wound with their arrows, until a mortal blow is given; or they drive a whole herd over a precipice. When flying before the pursuers, the herd rushes on with great rapidity, and it is impossible for the leaders to stop, as the main body pushes forward to escape the pursuit. The Indians nearly surround them, and rush forward with loud yells. The alarmed animals hasten forward in the only direction not occupied by their enemies, and are hurled over the precipice, and dashed to pieces.

HUNTINGDON, SELINA, countess of, the second daughter of Washington, earl Ferrers, was born in 1707, and married June 3, 1728, to Theophilus, earl of Huntingdon. Becoming a widow, she acquired a taste for the principles of the Calvinistic Methodists, and patronised the famous George Whitefield, whom she constituted her chaplain. Her rank and fortune gave her great influence, she was long considered to be the head of a sect of religionists; and, after the

death of Whitefield, his followers were designated as the people of lady Huntingdon. She founded schools and colleges for preachers, supported them with her purse, and expended annually large sums in private charity. She died June 17, 1791.

HUNTINGDON, WILLIAM; a religious enthusiast, who attained some notoriety towards the end of the eighteenth century. He was the son of a farmer's labourer in Kent, and the early part of his life was passed in menial service, and other humble occupations. After indulging in vice and dissipation for several years, according to his own account, he was converted, and became a preacher among the Calvinistic Methodists. He soon engaged in religious controversies, published a vast number of tracts, and was regarded as the head of a peculiar sect. He died in August, 1813, at the age of sixty-nine. He was a man of some talent, though little cultivated by education. His publications are very numerous, and some of them contain curious details relative to his personal history and religious experience. The titles of two may be mentioned as specimens: *The Arminian Skeleton*, or the Arminians dissected and anatomised (8vo); and *The Bank of Faith* (8vo). After having lost his first wife by death, he married the wealthy relict of Sir James Sanderson, a London alderman, and passed the latter part of his life in affluence.

HUNTINGDON, HENRY OF, an ancient English historian, was born towards the end of the eleventh or the beginning of the twelfth century. He was educated by Albinus of Anjou, a learned canon of the church of Lincoln. He composed a general history of England from the earliest accounts to the death of king Stephen, in 1154, in eight books, which have been published by Sir Henry Saville. Towards the conclusion, the author honestly acknowledges that it is only an abridgment, and allows that to compose a complete history of England, many books were necessary which he could not procure. Mr Wharton has published a letter of his on the contempt of the world, which details many curious anecdotes of the great men of his time.

HUPAZOLI, FRANCIS; one of the few individuals who have lived in three centuries. He was born in 1587, at Casal, in Sardinia, and died in 1702. At first, he was a clergyman, and afterwards became a merchant at Scio; and, in his 82d year, he was appointed Venetian consul at Smyrna. He had five wives, who bore him twenty-four children, besides which, he is known to have twenty-five illegitimate children. By his fifth wife, whom he married at the age of ninety-eight years, he had four children. His drink was water; he never smoked, and ate little (principally game and fruit). He drank a good deal of the juice of the *scorzonera* root, ate but very little at night, went to bed and rose early, then heard mass, walked and laboured the whole day to the last. He wrote down every thing remarkable which he had witnessed, in twenty-two volumes. He never had a fever, was never bled, and never took any medicine. At the age of 100, his gray hair again became black. When 109 years old, he lost his teeth, and lived on soup. Four years later, he had two large new teeth, and began again to eat meat. During the latter part of his life, he had, for almost thirty years, monthly evacuations of blood. After these ceased, he was afflicted with the stone, and frequent colds, which continued until his death. He was of a mild temper. His principal fault was his passion for the other sex. Hupazoli was rich, and had but few wants.

HURD, RICHARD; an eminent English prelate and philological writer of the last century. He was born January 13, 1720, at Congreve, in Stafford-

shire, went to Emanuel college, Cambridge, in which he obtained a fellowship in 1742, and, in 1749, published *Horatii Ars Poetica, Epistola ad Pisones*, with an English commentary and notes. In 1750, he published a Commentary on the Epistle of Horace to Augustus. A satirical attack on doctor Jortin, in defence of Warburton, in an Essay on the Delicacy of Friendship, he afterwards endeavoured to suppress. In 1757, he published Remarks on David Hume's Essay on the Natural History of Religion (8vo). His Dialogues, moral and political, with Letters on Chivalry and Romance, appeared at different times, from 1758 to 1764, and were republished collectively, in 1765 (3 vols. 8vo). None of his works attracted so much notice as the dialogues, which were translated into German by Holty. In 1767, he was made archdeacon of Gloucester, and, in 1768, commenced a series of sermons on the prophecies, preached at the lecture founded by his friend Warburton at Lincoln's Inn. These discourses were published under the title of an Introduction to the Study of the Prophecies concerning the Christian Church, in twelve Lectures (1772). In 1775, doctor Hurd was raised to the bishopric of Litchfield and Coventry; and, not long after, was made preceptor to the late king, and his brother the duke of York. He was translated to the see of Worcester, in 1781, and, at the same time, was bestowed on him the confidential situation of clerk of the closet. The king afterwards desired to elevate doctor Hurd to the primacy, but he modestly declined the offer. In 1788, he published an edition of the works of bishop Warburton, in which he omitted some of the productions of his deceased friend. Doctor Parr supplied the editorial deficiencies of bishop Hurd's collection, by Tracts by Warburton and a Warburtonian. In 1795, the right reverend editor himself published a kind of supplement to the works of Warburton, in the form of a biographical preface, and he subsequently also published the correspondence of Warburton, which was his last literary undertaking. He died in May, 1808.

**HURON;** a lake of North America, 218 miles long, from east to west, and 180 broad, of very irregular form; about 1100 miles in circumference, containing many islands and bays; lon. 80° 10' to 84° 30' W.; lat. 43° 20' to 46° 10' N. It abounds in fish, which are similar to those in lake Superior. Some of the land on its banks is very fertile, and suitable for cultivation; but in other places, barren and sandy. The promontory which divides the lake from lake Michigan, is composed of a vast plain, upwards of 100 miles in length, but varying in its breadth. At the north-east corner, the lake communicates with lake Michigan, by the straits of Michilimackinac. On its banks are found amazing quantities of sand cherries, and in the adjacent countries, nearly the same fruits as about the other lakes.

*Huron River*, or *St Clair River*, connects lake Huron with lake St Clair. It is 40 miles long, and about one mile wide.

**HURONS;** a tribe of North American Indians, which was formerly numerous, and dwelt on the east of lake Huron; but, in 1650, they were driven out by the Iroquois, and retired to the south-west of lake Erie. The Six Nations (the Mohawk tribes or Iroquois) call the Hurons *father*, without doubt because they are descended from the Hurons, who are now reduced to 700 warriors. They are among the most civilized of the North American Indians, live in good houses, have horses, cows, and swine, and raise grain for sale. Their proper name is *Ojigandots*. (See *North American Review*, vol. 24, pp. 419, 428.) The Iroquois are sometimes included under the name of Hurons, but they are a separate people.

**HURRICANE** (in Spanish *huracan*; in French, *ouragan*; in German, *orkan*); a word, according to the most probable supposition, picked up by voyagers among the natives of the West Indies; properly a violent tempest of wind, attended with thunder and lightning, and rain or hail. Hurricanes appear to have an electric origin: at the moment that the electric spark produces a combination of oxygen and hydrogen, a sudden fall of rain or hail is thus occasioned, and a vacuum formed, into which the circumbient air rushes with great rapidity from all directions. The West Indies, the Isle of France, and the kingdoms of Siam and China, are the countries most subject to their ravages. What are called hurricanes, in the more northern latitudes, are nothing more than whirlwinds, occasioned by the meeting of opposite currents. But in the real hurricane, all the elements seem to have armed themselves for the destruction of human labours and of nature herself. The velocity of the wind exceeds that of a cannon ball; corn, vines, sugar canes, forests, houses, every thing is swept away. The hurricane of the temperate zone moves with a velocity of about sixty feet a second; those of the torrid zone, from 150 to 300 feet in the same time. They begin in various ways; sometimes a little black cloud rolls down the mountains, and suddenly unfolds itself and covers the whole horizon; at others, the storm comes on in the shape of a fiery cloud, which suddenly appears in a calm and serene sky.

**HUSBAND AND WIFE.** Of all private contracts, that of marriage is most intimately blended with the social condition of a community, and gives rise to the most numerous and important relations, rights, and duties. It was for this reason, in part, though still more, perhaps, from the desire of dominion and jurisdiction on the part of the clergy in former times, that this contract was invested with a peculiar religious character, and made one of the *seven sacraments* of the Catholic church. Marriage, accordingly, is often celebrated in places of public religious worship, in both Catholic and Protestant countries; and the ministers of religion, even in countries where the church has no judicial jurisdiction whatever over the rights arising from this contract, still officiate, for the most part, at its solemnization. (As to the forms of solemnizing marriage, and as to its dissolution, the reader is referred to the respective articles *Marriage* and *Divorce*.) The first and one of the most important rights resulting from this contract, is the control, in a greater or less degree, according to the laws of different countries, which it gives to the husband of the person of the wife. The terms in which this right is expressed, in the laws of England, are stronger than those of the civil law, or the modern codes derived from it. But this right is still recognised in those codes, of which that of France may be referred to as an example. The old writers in the English law express themselves more directly upon this subject than is grateful to modern ears, putting the authority of the husband upon a footing similar to that of a parent over a child, or a master over a servant; and, in this case, as in those, they very compositely lay down the rules and limits of the exercise of this authority, describing the degree of coercion permitted by the law to be used, and the degree of correction which it allows to be administered by the husband. In modern times, these doctrines are expressed in more cautious and qualified terms, and some writers are careful to reserve to the wife some corresponding rights. However the mutual rights of the parties in this respect are to be construed and reconciled, it is certain that the English law distinctly recognises the husband's right to

the personal services of his wife; and, in the action by the husband against another on account of criminal conversation with the wife, direct allusion is made to this marital right, while the wife has no corresponding action against a woman who does her a similar injury. In respect to the children—as a divided authority, where the voices would be equal would lead to embarrassment—the law assigns the guardianship and authority over them to the father, to which the mother succeeds, in a great degree, on his decease, but not wholly, for the children may, at a certain age in their minority, choose guardians for themselves, in case of the father's decease.

As the law assigns a certain ascendancy to the husband, so it provides some compensation, by imposing upon him stronger and more extensive obligations; and both the authority and the obligations of the husband are more extensive where the common law of England has sway than where the Roman law is the fountain of civil jurisprudence. As this common law, according to its original spirit and usual operation, leaves the wife destitute of the means of supporting herself, it imposes upon the husband the obligation of supporting her, in the most direct and absolute terms. His duty to provide for the support of the children is no less imperatively enjoined by the law, to which duty the wife succeeds, in its full force, in case of the decease of the husband. In either case, the duty extends to the utmost ability and means of the party. In respect to the distinct possession of property, and distinct civil abilities of the two parties, in regard to the acquisition and management of property, the common law of England and the codes springing from the Roman law are widely different, and give rise to the most striking diversities in the civil relations of families under the jurisdiction of these respective systems.

By the theory, as well as the practical administration of the common law of England, which has not been very deeply trenced upon by statutes or judicial modifications, the civil rights and abilities of the wife are mostly merged by the marriage. The husband and wife are considered, in law, to be one person, and that one person recognised by the law is the husband. By the very act of the marriage, the chattels of the wife become the property of the husband. He has a right, also, to collect all the debts due to her; but then he also, at the same time, incurs a corresponding obligation, for he at once becomes liable to pay all her debts. Though, in bringing suits, after the marriage, for the debts due to the wife before marriage, the names of both the husband and wife are used as plaintiffs and creditors, yet, when the debts are collected, the proceeds are at the absolute disposal of the husband. So the rents and income of the wife's real estate, during the continuance of the conjugal connexion, belong to the husband as absolutely as if the estate itself were his own; but he cannot sell the estate without the concurrence of the wife, and, in England, such a sale can be made only under judicial cognizance, by a proceeding in which the wife must appear personally in court, and express her assent to the sale. In the United States of America this precaution is not taken, though, in some of the states, the wife must be examined separately from her husband, by some magistrate authorized to take the acknowledgment of deeds; and, on her acknowledging that she, freely, and without constraint by the husband, assents to the sale, the conveyance will be good; while, in other states, no such separate examination is required, but she may execute the deed either in the presence or absence of her husband, as the law may provide in this respect. If the wife has already commenced a suit, at the time of the marriage, the husband's con-

trol of the claim for the demand in suit is considered to be so direct and absolute, that the defendant is no longer liable to answer to the wife, and the suit will be defeated on the defendant's objecting to its being further prosecuted in her name; for the common law does not allow the husband, in such case, to come in and join in the prosecution, though there seems to be no very good reason why it should not. In such case, the proceedings must be commenced anew, in the names of both. If a suit is pending against the wife at the time of the marriage, it does not abate, for the law will not permit the rights of third parties to be injured by the voluntary act of the defendant, but such suit proceeds as if no marriage had taken place, or the husband is cited in and made a co-defendant in the suit. The same principles extend to all the civil relations of the wife. If she was acting as executrix on an estate, the husband, on the marriage, becomes executor with her. So if she is appointed executrix during the marriage, the husband is executor with her; and so where imprisonment for debt is permitted, the law does not allow the wife to be imprisoned on execution for her own debt, separately from her husband, but he must be imprisoned with her; and if he escapes from prison, and is not retaken, after a reasonable time allowed for this purpose, the wife will be discharged.

On the dissolution of the marriage by the death of the husband, or by a divorce from the bonds of matrimony, the civil abilities of the wife revive, and she will then also be entitled, in her own right, to the rents and income of her real estate accruing subsequently, and she will also be entitled, in her own right, to all the debts due to her before the marriage, and which the husband has not appropriated to himself. But, as all the earnings of the wife, during the marriage, belong exclusively to the husband, whether gained by her labour, by trade, or in any other way, he alone can sue for any claim thence arising; and, in case of his decease, his executors succeed to his right, and not the wife in her individual capacity. The law, at the same time, shows a scrupulous respect for a union so intimate, and permits the parties mutually to defend each other against the attacks of other persons; and also exempts them, except in a few extreme cases, from being witnesses against each other, upon the same principle on which it exempts a party from being a witness against himself; and even farther, for it will not permit either to be a witness against the other.

It is a general rule, that this contract of marriage so completely absorbs all others, that the parties cannot afterwards contract with each other, since, in the view of the law, it would be equivalent to a contract of a party with himself. In the time of lord Mansfield, some decisions were made by the court of king's bench, in England, tending to the introduction of an exception to this doctrine, in case of an agreement between husband and wife to live separately, upon formal articles made by them, providing for a separate maintenance of the wife. But the same court retraced its steps, in the time of the succeeding chief-justice, lord Kenyon, and re-established the old doctrine, that all such agreements were absolutely void. The only way, accordingly, of protecting and maintaining the pecuniary contracts of the wife, and preventing them from being merged by the marriage, is through the intervention of trustees. The law does not prevent the putting property into the hands of trustees, to be managed either according to the discretion of the trustees, or under the direction of the wife, for her separate benefit, as if she were a single woman; and this may be done either before or after the marriage, provided that the interest of creditors, having subsisting claims at the time,

shall not be affected. So that, after all, this civil identity of the husband and wife, as to the possession, use, control, and application of the wife's property, or its income, is merely nominal, since the law permits to be done in the name of another what it does not permit in her own. And, where there are courts established with sufficient powers to give suitable remedies in regard to such contracts (as there ought, undoubtedly, to be every where), any provisions and conditions may be agreed upon between the parties, as to any property already existing. Such contracts are, however, collateral to that of marriage; for the law will by no means allow of any conditions or modifications to the contract itself.

In countries where the civil institutions are borrowed from the Roman law, as has already been said, the conjugal bond, of its own force, and according to the general laws, independently of any express stipulations of the parties between themselves, or of the intervention of any third parties, gives rise to a very different set of relations and rights. To take the French code, for an example, without going into an inquiry how far the laws of other countries, derived from the same source, coincide with that code in minor details and provisions, there are two descriptions of marriage contract, as far as the property of the parties is concerned, both of which, however, contemplate the rights of property of the parties as distinct. By one form of the marriage contract, the husband and wife become partners; by the other, their rights of property continue distinct, notwithstanding the marriage. In case of no stipulation, a community of goods will, by the operation of law, result from the marriage; so that a special agreement is requisite, in order to maintain a separate property in each party; and this is called a *dotal* marriage, or one in which the wife's *dot*, or *portion*, is regarded as a distinct property. If the marriage is intended to be a dotal one, it must be so expressed, in a formal instrument, drawn up before a notary public; and thus the same object is effected, which, under the jurisdiction of the common law of England, can be secured only by the interposition of a third party, and a set of minute and elaborate provisions, creating a trust. The French code does not, however, any more than the English common law, permit any conditions or modifications to be introduced into the marriage contract itself, which makes the personal rights of the parties the same throughout the kingdom; and, in respect to the rights to property, and its possession and use, it does not, like the English common law, affect at all to consider the parties as identified. This community of goods extends to all the movable property of the parties, possessed at the time of the marriage, and to all that is acquired by them during the continuance of the conjugal relation, as well what accrues from their industry, and the use of their property, as that which comes by descent or donation, unless the donation is upon other conditions prescribed on the part of the donor; but, on the dissolution of the partnership, or community of goods and interests, whether by the death of one of the parties, or otherwise, a division is made between them, or between the survivor and the heirs of the deceased partner, as in the case of an ordinary partnership; but, if the marriage is dotal, the wife's portion, or its value, will continue to be her separate property; but still, unless it be otherwise agreed, the management and income of it will belong to the husband, who is not obliged to give any sureties for his proper management of the trust, unless it shall be so stipulated by the parties. If this separate property consists of lands, neither the husband alone, nor both parties concurring, can dispose of it during the marriage. In general, this separate property, or

its value, must eventually, on the dissolution of the marriage, like the wife's share in the partnership funds in the case of community of property, go to the wife, or her representatives. There are, however, certain cases in which a part or the whole of the capital, of which the portion consists, may be alienated during the marriage; as, for instance, to obtain the release of the husband from prison, to supply the means of support to the family, and in a few other specified cases; but in general, it is to remain the separate property of the wife, and, as such, whether it consists of personal or real estate, descends to her heirs.

HUSKISSON, WILLIAM, the right honourable, a political character of the present century, who distinguished himself chiefly in matters of finance and the commercial relations of the country, was born in 1769, and sent to Paris, while quite young, to study anatomy and medicine. On the breaking out of the French revolution, he was warmly disposed to the liberal side of the question, and was an active member of the London corresponding society, though not, as has been said, of the Jacobin club at Paris. He was soon after, however, introduced to the notice and favour of Mr Pitt, and, in 1794, was placed in the office of Mr Dundas (lord Melville), then secretary of the home department. In 1801, he was appointed receiver-general of the duchy of Lancaster, and a commissioner of trade and plantations. He soon after entered parliament as member for Morpeth. Here Mr Huskisson did not speak much, but was very useful to the ministry in financial matters, both in parliament and in preparing papers. When Mr Canning's difference with lord Castlereagh induced him to leave the ministry (1809), Mr Huskisson retired with him, and in subsequent debates it soon appeared that a third party existed in the house, agreeing with the ministry on questions of general policy, but joining the opposition in demanding retrenchment in the public expenditure. On the appointment of Mr Canning to the foreign secretariat, Mr Huskisson entered the cabinet with him as president of the board of trade. In the Goderich ministry, he became secretary for the colonies, and retained that post in the Wellington ministry, composed of the warm enemies of his late friend, Mr Canning; but it was soon apparent that no cordial co-operation could take place between men of such opposite principles, and Mr Huskisson and his friends were soon obliged to withdraw. His death took place Sept. 15, 1830. Being present at the celebration on the opening of the Liverpool and Manchester railway, he came inadvertently in the course of one of the steam-carriages, moving at a rapid rate, which passed over him, and crushed one of his legs in consequence of which he died next day.

HUSS, HUSITES. John Huss was born in 1373, at Hussinec, near Prachatitz, in Bohemia, whence he acquired the name of *Huss*, or *John of Hussinec*. In 1389, he was sent, by his feudal lord and some other patrons, to the university of Prague, where he was distinguished for his talents and industry. Having become the servitor of a professor, to whose library he thereby had access, he had an opportunity of acquiring a degree of theological information, which, for that age, was remarkable. In 1396, he took the degree of master of arts, and, in 1398, delivered public theological and philosophical lectures. In 1402, the office of Bohemian preacher in the Bethlehem chapel at Prague, which was established by a private foundation, was conferred on him. Here he began to acquire influence over the people, with whom, as well as with the students, his sermons were very popular; and, being soon after made confessor to the queen Sophia, he thus gained access to

the court. At this time, he became acquainted with the writings of Wickliffe. His knowledge of the Scriptures soon made him feel the justice of that bold reformer's attacks on the abuses of the church, and he now became himself the boldest advocate of a reform which should restore to the corrupt church the simplicity and purity of scriptural Christianity. His boldness did not long remain unobserved; and as, in the frequent disputes of the Germans with the Bohemian academicians, he took part with the latter, he had soon to contend with powerful enemies. This made a national division of that which hitherto had been only a contest between the philosophical schools of the Realists, to which Huss belonged, and of the Nominalists, to which most of the Germans had attached themselves. About 5000 foreign professors and students left Prague, and either created or gave a new impulse to the universities of Leipsic, Erfurt, Ingolstadt, Rostock, and Cracow, a loss which Prague and Huss himself, who was now a rector, sensibly felt. Yet he could not be attacked in Bohemia; the great schism had exposed the weakness of the priesthood; Bohemia did not recognise Benedict XIII., nor Gregory XII., after 1409; the nobility and people were excited against the arbitrary decrees of the pope, by some bold spirits, who served as the precursors of Huss's doctrines, and thus became accustomed to judge freely; the government of Wenceslaus favoured the anti-papal spirit of many among the people, from political grounds, and from an inclination favourable to Huss, who was generally esteemed. He ventured, therefore, to censure publicly the corrupt morals of the priests and the laity, and to preach against the sale of papal indulgences in Bohemia; he said nothing new, when he declared masses for the dead, image-worship, monastic life, auricular confession, fasts, &c., to be inventions of spiritual despotism and superstition, and the withholding of the cup at the Lord's supper unscriptural. The new pope, Alexander V., finally summoned him to Rome, and, as he did not appear, the archbishop of Prague, Sbynko, commenced the immediate persecution of this preacher of the truth. About 200 volumes of copies of Wickliffe's writings were burnt in 1410, in the archbishop's palace, and the Bohemian preaching at the Bethlehem chapel prohibited. But Huss did not obey either this prohibition or the new summons of John XXIII., but appealed, as his envoys at Rome were imprisoned, to a general council.

When the pope caused a crusade against Ladislaus of Naples to be preached in Bohemia, Huss opposed it in the warmest manner, and his friend Jerome expressed himself on the subject in violent language, which the pope ascribed to Huss, who was, in consequence, excommunicated, and Prague laid under an interdict as long as Huss should remain in it. Huss, therefore, distrustful of the protection of the weak king of Bohemia, went to the feudal lord of his birthplace, Hussines, whose name was Nicholas. Here, and in many places in the circle of Bechin, he preached with much success; here he also wrote his memorable books *On the Six Errors*, and *On the Church*, in which he attacks transubstantiation, the belief in the pope and the saints, the efficacy of the absolution of a vicious priest, unconditional obedience to earthly rulers, and simony, which was then extremely prevalent, and makes the holy Scriptures the only rule of matters of religion. The approbation with which these doctrines were received, both among the nobility and common people, increased the party of Huss in a great degree; and, as nothing was nearer to his heart than the diffusion of truth, he readily complied with the summons of the council of Constance to defend his opinions before the clergy of all

nations. Wenceslaus gave him the count Chlum and two other Bohemians of rank for his escort. The emperor Sigismund, by letters of safe conduct, became responsible for his personal safety, and John XXIII., after his arrival at Constance, November 4, made promises to the same effect. Notwithstanding this, he was thrown into prison, November 28, after a private examination before some of the cardinals, and, in spite of the reiterated remonstrances of the Bohemian and Moravian nobles, was kept in confinement, and, though sick, was not permitted an advocate. At a public examination, June 5, 1415, the fathers of the council interrupted him in his defence by loud and vehement vociferation. In a trial on the 7th and 8th of June, he defended himself at length, in the presence of the emperor; but his grounds of defence were not regarded, and an unconditional recantation of heresies which he had not taught, as well as those which he had, was demanded of him. Huss, however, remained firm in his belief, and the last examination (July 6) eventuated in a sentence of death, which had long since been determined on. Huss on this occasion reminded the emperor of his promise of safe conduct, at which Sigismund could not refrain from showing his shame by a blush; yet the hatred against a man who had ventured to speak the truth was too great to allow any hopes of safety. He was, without being convicted of any error, that same day burnt alive, and his ashes were thrown into the Rhine. On his way to the pile, he was observed to smile at a place where some of his writings had been burnt, and afterwards expired in the midst of joyful prayers. Even his enemies speak with admiration of his unblemished virtue and his firmness in the hour of death.

*Hussites.* The gentle and pious mind of Huss would not have approved of the terrible revenge, which his Bohemian adherents took upon the emperor, the empire, and the clergy, for his death, in one of the most bloody and terrible wars ever known. The decrees and excommunications of the council were despised in Bohemia. Instead of destroying the new doctrines, the *auto-da-fé* of Constance was the watchword of union for multitudes of all classes, who, from their teacher, were called *Hussites*. Wenceslaus was compelled, in 1417, to grant them many churches for the celebration of the sacrament in both forms, and as their number increased every day, there were soon many among them who wished for something more than mere religious freedom. The wavering and temporising conduct of this king (who died August 13, 1419) and the inquisitorial violence of the cardinal legate, John Dominico, kindled the fire of insurrection. The people could not, however, set aside the claims of the hated emperor Sigismund to the vacant throne. Always bent upon the extirpation of heretics, faithless in treaties, and unequal to contend with the activity of the Hussites, and the genius of their generals, he was obliged to see the kingdom which he had inherited in a state of anarchy for fifteen years. The Hussites commenced their rebellion by a bloody vengeance on the Catholics; their convents, many of which, in Bohemia, were more splendid than elsewhere, and their churches, were plundered and burnt, and the priests and monks murdered. John Ziska of Trocnow, a Bohemian knight, formed of the large bodies of people which were constantly flocking to him, a well mounted and disciplined army, which, in its barricado of wagons, repelled all attacks, and built the fortified city of Tabor, for a place of arms and a point of defence, upon a mountain consecrated by the field preachings of Huss, and strong by nature, in the circle of Bechin. The oldest friend of Huss, Nicholas of Hussines, commanded under this general. Nicholas

was well known for the courage with which he had, in 1417, placed himself at the head of the Hussites, and beaten and driven from Tabor the faithless Ulrich of Rosenberg, together with the imperial army, in 1420. He resisted, from patriotic motives, the plan of the inhabitants of Prague, to choose a foreign prince for a king, but died, too soon for the welfare of Bohemia, December 25, 1420, with the glory of having been rather a defender of the faith of Huss, than a persecutor of the Catholics.

In this persecution, Ziska was the most zealous and most cruel—*Ziska of the cup*, as he was called, chief of the *Taborites*, as the Hussites under his banner designated themselves, from their city. The strength of his army, and his victories over the imperialists gave him an influence in the Bohemian affairs which was nearly allied to that of a protector. But when the murders and devastations of his army, and of the small bands which made the religious war a pretext for plunder, continually increased, the most moderate Hussites of the nobility, and the citizens of Prague, whose chief concern was the allowance of the cup to the laity at the sacrament (thence called *Calixtines* or *Praguers*), and the quiet of the kingdom, were induced to offer the Bohemian throne, first to Ladislaus, king of Poland, then to the grand prince Vitold, of Lithuania, and at last to his nephew Koribut. But Ziska, with the *Taborites*, dissented, and the difference of these parties, which had appeared in the diversity of their demands for a church reform, now produced a real division. Nothing was more dangerous to the cause of the Hussites than the multitude of sects and parties in Bohemia; each, since 1421, acted by itself, and they only united against the common enemy, in order that, as soon as he was routed, they might again quarrel with each other. Ziska having become totally blind at the siege of Raby, and victorious over the imperialists, whom he defeated in the great battle of Deutschbrod, and continually successful in small contests against the nobility, who lost immensely by his ravages, without being able to place any limit to them, and against the inhabitants of Prague, who preserved their city from destruction only by a hard and short-lived peace, Sept. 14, 1424, died October 12, of the same year, of the plague. At his death, the fearful mass, which only his military talents and good fortune had held together, fell to pieces. The majority of the *Taborites* elected for their general Andrew Procopius, who had been recommended by Ziska, and who, having been at first destined to the church, is called the *Shorn* (Holy, *rasus*). Koribut, a mere shadow of a king, had been chosen by the inhabitants of Prague, in 1422, and, although he had routed Busso of Vitthum with the strongest army which Saxony had ever produced, June 16, 1426, at Aussig, was not able to control the ferocity and plundering propensity of the parties among the Hussites, and was obliged to abdicate the throne, in 1427. Procopius showed himself worthy of his predecessor. The decisive victories which he gained in July, 1427, and August 14, 1431, at Miss and Tachau, over the army of the cross, composed of the people of the German empire, and far superior to the Hussites in number, made the arms of the latter not less formidable than the devastating expeditions, which the detached bodies of partisans carried on against the neighbouring states almost every year from the beginning of the war until 1432. Austria, Franconia, but especially Saxony and those provinces of Bohemia which were yet obedient to the pope, Lusatia and Silesia, were the theatre of the most horrid cruelties and robberies. All parties were now desirous of peace; and, as the German arms were unsuccessful against the Hussites, the council of

Baile saw itself compelled by Sigismund, who had always retained a faction among the Bohemian nobility and the inhabitants of Prague, to come to terms with the heretics; and thus, Nov. 20, 1433, a compromise was made (the compact of Prague), which, however, was not received by all parties, and hostilities recommenced, but were ended by a complete victory of the Calixtines and Catholics under Meinhard of Neuhaus, at Bomischbrod, May 30, 1434. The Calixtines, who were now superior, in conjunction with the Catholic states, chose the emperor Sigismund for their king, who swore at Iglaa, July 5, 1436, to adhere to the compact, which had been rendered somewhat easier by the council, in compliance with the wishes of the Calixtines, but was again faithless to his promise, and died, Dec. 9, 1437, without having restored perfect quiet to Bohemia. The *Taborites*, very much weakened, were able to maintain their dispute only in the deliberations of the diet, and in theological controversial writings, whereby their confession of faith acquired a purity and a completeness which made it similar, in many respects, to the confessions of the Protestants of the sixteenth century; but their religious freedom continually suffered more and more, until they merged in the fraternity of Bohemian and Moravian Brethren, which arose in 1457, and, under the most violent persecutions, exhibited an honourable steadfastness and purity. See *Bohemian Brethren*, and *United Brethren*.

**HUSSARS**; originally, the name of the Hungarian cavalry, raised in 1458, when Matthias I. ordered the prelates and nobles to assemble, with their cavalry, in his camp. Every twenty houses were obliged to furnish a man; and thus, from the Hungarian words *huzar* (twenty), and *ar* (pay), was formed the name *Huzar*, *Hussar*. The arms and dress of this light cavalry were afterwards imitated, and the name borrowed by other nations.

**HUSTINGS**, COURT or; the principal court in the city of London, of great antiquity, held before the lord mayor and aldermen in London, the sheriffs and recorder in Guildhall. The derivation is uncertain. In a popular sense, it is used in England for a place raised for the candidates at elections of members of parliament, perhaps from *hoistings*.

**HUTCHESON**, FRANCIS, LL. D., an ingenious philosophical writer, was born in the north of Ireland, August 8, 1694, and, in 1710, was entered a student in the university of Glasgow. After spending six years at Glasgow, he returned to his native country, where he was licensed to preach among the Dissenters, but accepted the invitation of some gentlemen acquainted with his talents, to set up a private academy in Dublin. In 1725, the first edition of his celebrated *Inquiry into the ideas of Beauty and Virtue* appeared without his name; but its merit would not allow the author to be long concealed. In 1728, he published his *Treatise on the Passions*, which has often been reprinted, and is admired even by those who dispute the soundness of its philosophy. In 1729, he was called to the chair of philosophy at Glasgow. He died in 1747, in his fifty-third year. In 1755, was published, from his MSS. a *System of Moral Philosophy* (in three books, 2 vols 4to); to which is prefixed some account of the Life, Writings, and Character of the Author, by Doctor Leechman, Professor of Divinity in the University of Glasgow. The system of morals of Doctor Hutcheson is founded upon nearly the same principles as that of Lord Shaftesbury. He deduces all our moral ideas from an implanted moral sense or instinct, like that of self-preservation, which, independently of argument, or the reasonableness of certain actions, leads us to perform them ourselves, and to approve them in others.

His works and lectures contributed to diffuse a taste for analytical discussion in Scotland, which led to the production of some of the most valuable writings of the eighteenth century.

HUTCHINS, THOMAS, geographer to the United States of America, was born in New Jersey, about 1730. He entered the army in the French war, and served at fort Pitt and against the Indians in Florida. He was imprisoned in England, in 1779, on the charge of having corresponded with doctor Franklin, then American agent in France. On recovering his liberty, he joined the army of general Greene at Charleston. He was nominated geographer-general to the United States; and died at Pittsburgh, in 1789. He published an *Historical Sketch of the Expedition of Bouquet against the Indians of Ohio*, in 1764; a *Topographical Description of Virginia, Pennsylvania, Maryland and Carolina*, with maps (London, 1778); a *Historical Account and Topographical Description of Louisiana, West Florida, and Philadelphia* (1784).

HUTCHINSON, ANN, a religious enthusiast, who occasioned dissensions in the churches of New England, came from Lincolnshire to Boston, in 1636. She instituted meetings for women, in which, pretending to enjoy immediate revelations, she taught many Antinomian and other sentiments, which soon occasioned great controversy in the colony, and, in 1637, drew together an ecclesiastical synod, which condemned her errors. Not long after, she was banished from the colony, and removed to a Dutch settlement in New York, where, in 1643, she, and her family, consisting of fifteen persons, were captured by the Indians, and all except a daughter killed.

HUTCHINSON, THOMAS, a governor of the colony of Massachusetts, was of a family distinguished in the annals of New England, and was born in Boston, in 1711. After graduating at Harvard college, in 1727, he became a merchant; but, not succeeding in trade, engaged in the study of law and politics, in order to qualify himself for public life. He was sent to London to transact some business for the town of Boston, which charge he executed satisfactorily, and, on his return, was elected a representative. He was, after a few years, chosen speaker of the house, and, in 1752, succeeded his uncle as judge of probate. He was placed in the council, and was appointed lieutenant-governor in 1758, and chief-justice in 1760—all of which offices he held simultaneously for several years. In 1771, he received his commission as governor of Massachusetts. It is affirmed that there was no single officer of the British government in America, who contributed more to produce the separation of the two countries than Hutchinson. His ambition and avarice were such as to render him completely subservient to the views of the British ministry, and to cause him to sacrifice his principles, in order to abet every arbitrary regulation, and to suggest the most odious means of enforcing them. He went so far even as to challenge the legislature to a discussion of colonial rights, which, he believed, he could convince them by argument that they did not understand, and ought to abandon. For some time, he enjoyed considerable popularity in the province, in consequence of his attention to business, and the circumstances of his being a native, and not a member of the English church. But the publication of several of his letters to the ministers, which had fallen into the hands of Doctor Franklin in London, and by him had been transmitted to Boston, by which the people became aware of his hypocrisy, and of the odious counsels which he had given against their rights, combined

with his obstinacy in preventing the obnoxious tea from being returned to the ships, so exasperated them, that his recall was rendered indispensable. In the year 1774, accordingly, he was removed from his office, and general Gage was put in his place. He then repaired to England, where, for some time, he was fed with expectations of favour: but, after it was found by the British ministry to be a more difficult matter to conquer the Americans than he had led them to suppose, he fell into disgrace, and lived in the most retired way, near Brompton, until his death, June 3, 1780, in his sixty-ninth year.

The following extract of a letter from president Adams to William Tudor will give an idea of governor Hutchinson's condition in London: "Fled, in his old age, from the detestation of a country where he had been beloved, esteemed, admired, and applauded with exaggeration; in short, where he had been every thing from his infancy, to a country where he was nothing; pinched by a pension, which, though ample in Boston, would barely keep a house in London; throwing round his baleful eyes on the exiled companions of his folly; hearing daily of the slaughter of his countrymen, and conflagration of their cities; abhorred by the greatest men and soundest part of the nation, and neglected, if not despised, by the rest—hardened as had been my heart against him, I assure you, I was melted at the accounts I heard of his condition. Lord Townsend told me that he put an end to his own life. Though I disbelieve this, I knew he was ridiculed by the courtiers. They laughed at his manners at the levee, at the perpetual quotations of his brother Foster (Foster Hutchinson, brother of governor Hutchinson, was a judge of the supreme court in Massachusetts), searching his pockets for letters to read to the king, and the king's turning away from him with his nose up," &c.

As a judge, he was irreproachable, and evinced great ability. He was a writer of considerable merit, more valuable for his facts than his style. His principal work was a *History of Massachusetts Bay*, in two volumes, with a volume of *State Papers*, which was brought down to the year 1750. He left a continuation of it in manuscript, which was published in London, in 1828, forming a third volume of the history. His other productions consist of occasional essays, and a pamphlet on *Colonial Claims*, in 1764. A large number of manuscripts of all kinds concerning the colonies, which he had collected, were unfortunately destroyed during the riot in Boston, when his house was nearly demolished.

HUTTEN, ULRICH VON, was descended from an ancient family, which could boast of many knights and statesmen distinguished in the service of the German emperors. Hutten was born at the family castle of Steckelberg on the Maine, in 1488. In his tenth year, his father placed him at Fulda, in order to educate him for a monk. The monastic school there was one of the most famous in all Germany, and he received an excellent education; but the monastic life corresponded so little with his inclination, that he fled to Erfurt, in 1504, where he became intimately acquainted with several scholars and poets. A pestilence drove him, in the next year, to Cologne, the university in which place was then flourishing. But Rhagius, one of the most learned professors there, having been banished, retired to Frankfurt on the Oder, whither Hutten accompanied him. His patron, Eitelwolf von Stein, assisted him in various ways, during the three years of his residence here. But quiet did not long accord with his restless disposition. He travelled in the north of Germany, although tormented with the loathsome disease, which, making its first appearance at that time, raged like a pesti-

lence, but was not as yet attended with disgrace, and visited Greifswald and Rostock, where he was welcome as a poet and man of talents, and where he supported himself by his labours. In 1511, he went to Wittenberg, where he published a work on versification. From thence he proceeded to Pavia to study law, and, if possible, to conciliate his father. During the time of his residence there, Pavia was taken by the Swiss in the service of Maximilian I., and these troubles compelled him to remove to Bologna, after having been stripped of his property by the soldiers. He was finally compelled, by sheer want, to enter the imperial service, in 1513. The next year, he left the service, and became known throughout Germany. Ulric, duke of Wurtemberg, had murdered a cousin of Hutten, partly from jealousy, partly from hatred, and Hutten gave free course to his indignation in poems, letters, and addresses. He was no less distinguished in the Reuchlinian controversy with the Dominican Hogstraeten in Cologne. Hutten vigorously defended the learned, honest, and persecuted Reuchlin, particularly in satires, and the *Epistola obscurorum Virorum*, in which he had the greatest share, contributed to display the monks in all their nakedness. To please his father, he went again to Italy, in 1515, to take the degree of doctor of laws in Bologna. He first visited Rome, and afterwards went to Bologna; but he could not remain any where long, and soon returned by way of Venice to his country, where he was adorned with the poetic laurel in Augsburg, by the fairest of the German maidens—Constantia, the daughter of Peutingier—and was knighted by Maximilian.

In Italy, Hutten had become acquainted with the monastic life in all its deformity, and was so much the enemy of the clergy, that, by his edition of Laurentius Valla, *De falso credita et ementita Donazione Constantini*, he declared war upon them, and opened the way for Luther. He dedicated the work to pope Leo X., but it is difficult to decide whether this was in ridicule, or from a sincere conviction that this pope was more honest in his opinions than the former popes. In 1518, he entered the service of Albert, archbishop of Mayence, and made several official journeys to Paris. He also accompanied the archbishop to the diet at Augsburg, where Luther held his well known discussion with Cajetan, and Hutten, in a Demosthenic oration, urged the German princes to a war against the Turks; but he was soon wearied with courts, and he took the field, with the Suanbian league, in 1519, against his hereditary enemy, Ulric of Wurtemberg, where he contracted an intimacy with the brave Francis of Sickingen. After the termination of the war, he returned to Mayence, where he received applause from all quarters for his various works against the hierarchy. In order to engage anew in this labour, he retired to the solitude of his paternal castle. Here one work followed another, exhibiting in a strong light the arrogance and corruption of Rome; but, as the objects of his attacks complained to his patron, Albert of Mayence, he lost, eventually, the favour of the latter, but formed publicly a connexion with Luther, and began to write altogether in German, instead of Latin, as he had formerly done. At length the Roman authorities demanded that he should be delivered up to them: attempts were made to assassinate him, and he was not safe, even in the headquarters of Charles V. But his faithful friend, Francis of Sickingen, allowed him an asylum in his castle, whence he issued new missives to princes and people. Meanwhile, Sickingen became involved in a bloody feud with Richard, archbishop of Treves, which terminated unhappily for the former, and Hutten had to seek another place of

refuge. He hoped to find it in Switzerland, but Erasmus was opposed to him, so that he was obliged to change from one place to another, till finally, overpowered by a new attack of his disease, at the age of thirty-six years, he found, on the island of Ufman, in the lake of Zurich, Aug. 31, 1523, that repose which had never been his lot on earth, in consequence, partly of his character, partly of his domestic relations, partly his literary labours.

Hutten was one of the boldest and most free-spirited men of his time; a forerunner and promoter of the reformation; an example, an assistant for Luther, with whom he was never personally acquainted, for, although he met him in Augsburg, in 1518, he had then too little respect for a mendicant friar to seek his acquaintance. But he was subsequently impressed with the greatest veneration for him, as he had formerly been for Reuchlin. His principal fault as a writer was a kind of frivolity, which caused him to disregard many circumstances, which, to use the words of Erasmus, should have been treated more tenderly. But his motto—*Jacta alea est*—expressed his principles, which allowed him as little to pause as Luther, who was more favoured by fortune. Injustice, falsehood, hypocrisy, and tyranny filled him with indignation, and he unmasked them with all his power. While all his friends were trembling, his courageous spirit knew no fear. There are forty-five works from his hand, exclusive of several which are not certainly known to be his. After several attempts, a collection of them has been made. It appeared in five volumes (Berlin and Leipzig, 1821—1825); the editor is E. J. H. Munch. The most complete and the latest biography of Hutten appeared in Nuremberg, 1823, from the pen of C. J. Wagenseil of Augsburg.

HUTTON, CHARLES, LL. D., an eminent mathematician, was born at Newcastle-upon-Tyne, Aug. 14, 1737, and his father, who was a viewer of miners, intended to devote him to his own employment. He received a little instruction in the rudiments of the Latin language, and in the elements of the mathematics; but he owed nearly the whole of his subsequent acquirements to his own application. Having received an injury in one of his arms, he was found unfit for his intended occupation, on which the natural bent of his inclinations led him to prepare himself for becoming a mathematical teacher. The destruction of the old bridge at Newcastle having attracted his attention to the subject of the construction and properties of arches, he was led to the production of a small work on the principles of bridges, which laid the foundation of his future fame. He was soon after appointed professor of mathematics at Woolwich college, elected a fellow of the royal society, and, in 1779, received the degree of LL. D. from the university of Edinburgh. In 1785, he published his *Mathematical Tables*, preceded by an introduction, tracing the progress and improvement of logarithms from the date of their discovery. This work has gone through five editions. The next year, doctor Hutton published a quarto volume of *Tracts, Mathematical and Philosophical*, which was not long after followed by his *Elements of Conic Sections*, for the use of the academy at Woolwich. His *Mathematical and Philosophical Dictionary* (2 vols., 8vo), appeared in 1796, of which a new and greatly enlarged edition was published in 1815. In 1798, he gave the world the first edition of his *Course of Mathematics*, in 2 vols., 8vo, to which a third was added in 1811. From 1803 to 1809, he was employed, in conjunction with doctors Pearson and Shaw, in an abridgment of the *Philosophical Transactions*, published in eighteen thick quarto volumes. In 1812, he published another collection of *Tracts*,

on mathematical and philosophical subjects. He died January 27, 1823, in the eighty-sixth year of his age.

HUTTON, JAMES; a natural philosopher, distinguished as the author of a system of geology, which refers the structure of the solid parts of the earth to the action of fire, hence termed the *Plutonian theory*. He was born at Edinburgh, in 1726, and studied in the university under Maclaurin, the celebrated mathematician. He also applied himself to chemistry, and went to Leyden, where he graduated as M. D., in 1749. About 1768, he settled at Edinburgh, where he published numerous works relating to natural philosophy, among which are, *Dissertations on different Subjects in Natural Philosophy* (Edinburgh, 1792, 4to), an *Investigation of the Principles of Knowledge*, and of the *Progress of Reason from Sense to Science and Philosophy* (Edinburgh, 1794, 3 vols., 4to), *Theory of the Earth, with Proofs and Illustrations*, in four parts (Edinburgh, 1795, 2 vols., 8vo). His death took place in 1797. The geological system, or theory of the earth, proposed by this philosopher, excited a warm controversy among men of science, and met with an advocate in the late professor Playfair, who, in 1802, published a work entitled *Illustrations of the Huttonian Theory of the Earth*.

HUUS (*Aenue, dwelling*); a Danish and Norwegian correlative of the German *haus*, and English *house*, appearing in many geographical names.

HUYGENS, CHRISTIAN (or, as it was sometimes written, *Huyghens*), distinguished for his researches and discoveries in the departments of mathematics, physics, and astronomy, son of Constantine Huygens, a poet, was born in 1629, at the Hague. He accompanied Henry, count of Nassau, in 1649, to Holstein and Denmark. He afterwards travelled in France and England, and lived at Paris, from 1666 to 1681, with a pension from the king of France. To him is generally ascribed, on the European continent, the application of the pendulum to clocks (1656), by which he was led to the discovery of evolutes. The English attribute the invention of the pendulum clock to Hooke. Huygens treats of these subjects in his principal work, *Horologium oscillatorium*, &c. (Paris, 1673, fol.), which also contains a complete treatise on the properties of the cycloid, connected with his theory of pendulum clocks and evolutions. This, and other geometrical discoveries, he applied with great success to mechanics. He investigated the laws of the motion of heavy bodies in a given path. He discovered, in 1661, simultaneously with Wallis and Wren, the laws of the communication of motion, by impact, and proposed the theory of oscillatory motion, in which he solved the problem of the centre of oscillation, and the laws of the central forces. To him is, moreover, ascribed the discovery of the principles more fully developed by James Bernoulli, of the preservation of living forces. He was not less distinguished in optics, and he gave a physico-mathematical theory of the motion of light, by which he attempted to explain the strength and liveliness of light. He also acquired a high reputation in astronomy, by establishing many fundamental truths; he examined more minutely, with telescopes improved by himself, in 1655, the form and ring of Saturn, and discovered the four satellites of this planet, &c. His works have appeared in three collections—*Huygenii Opusc. Posthuma* (Leyden, 1707); *Opera varia* ed. J. A. s' Gravesande, with the *Life of Huygens* (Leyden, 1724, 4 parts); and, finally, *Opera reliqua*, &c. (Amsterdam, 1728, 2 vols. 4to). Jurisprudence, which he studied at Leyden, he abandoned from a greater inclination for the mathematical and natural sciences, for the study of which he tra-

velled much. He devoted his life to science, and resided partly in Paris, partly at the Hague. At the latter place he died, in 1695. See his *Life* prefixed to the edition of his works, by s' Gravesande, and in Montucla's *Hist. des Math.*, 2d vol., p. 415.

HUYSUM, JOHN VAN, the most distinguished flower and fruit painter of modern times, was born at Amsterdam, in 1682. He surpassed his predecessors in softness and freshness, in delicacy and vivacity of colour, in fineness of pencilling, in the disposition of light, and in exquisite finish. His father, Justus Huysum, a picture dealer and a painter of moderate merit, at first employed him in all branches of painting; but young Huysum, at a maturer age, felt a decided inclination for the representation of the productions of the vegetable kingdom. He therefore separated from his father, and married about 1706. In landscape painting, he followed the manner of Nicholas Pienmont, a much esteemed painter in Holland. But he reached the highest perfection in flower and fruit pieces. He knew how to penetrate the secrets of nature, to seize the transitory blossom in its most perfect state, and to represent it with enchanting truth and variety of colours. He was the first who had the idea of painting flowers on a white ground. He was so jealous of rivalry, that he permitted no one to see him at work, nor would he take any pupils, except his brother Michael and the daughter of a friend. His flowers have more truth and beauty than his fruits; the drops of dew and insects which he painted on them are like real life. Unhappy domestic circumstances, particularly the levity and prodigality of his wife, and the bad conduct of his son, rendered him melancholy; yet his works show no traces of this turn of mind. He died at Amsterdam, 1749, without leaving a fortune to his three sons, though his pictures sold for 1000 to 1400 florins. His brother Justus was a battle painter, and died at the age of twenty-two years. The third, James, copied his brother's flower and fruit pieces so perfectly, that they brought a very high price. He died in England, in 1740.

HYACINTH. The numerous and splendid varieties of the garden hyacinth (*hyacinthus Orientalis*) have always been general favourites, and in some countries, the fondness for this plant amounts to a complete mania. In Holland, upwards of 2000 varieties have received distinct names, recognised by the different florists, and the price of 1000 florins has been paid for a single plant. (See *Flower-Trade*.) The environs of some of the Dutch towns astonish the traveller, from the gorgeous appearance produced by the vast profusion of these flowers. The wild plant is a native of the Levant, and has a bulbous root, from which rise a few linear lanceolate leaves and a leafless stem, bearing six or eight bell-shaped flowers, of a blue or white colour. The cultivated double varieties have very graceful forms and a remarkable diversity of colour. The natural affinities of this plant place it in the same family with the squill and onion. All the species of hyacinth are natives of Europe.

HYACINTH, in mineralogy. See *Zircon*.

HYACINTHUS; in heathen mythology a son of Amyclas and Diomedes, greatly beloved by Apollo and Zephyrus. He returned the former's love, and Zephyrus, incensed at his coldness and indifference, resolved to punish his rival. As Apollo, who was intrusted with the education of Hyacinthus, once played at quoits with his pupil, Zephyrus blew the quoit, as soon as it was thrown by Apollo, upon the head of Hyacinthus, and he was killed with the blow. Apollo was so disconsolate at the death of Hyacinthus, that he changed his blood into a flower which bore his name, and placed his body among the con-

stellations. The Spartans established yearly festivals in honour of the nephew of their king.

**HYADES.** The Hyades, according to Ovid, were nymphs, daughters of Atlas and Æthra; according to others, daughters of Cadmus or Erectheus. Their number was given differently. They bewailed the death of their brother Hyas, who was torn in pieces by a lioness, with such unceasing anguish, that the gods, moved with compassion, transferred them to the heavens, where they still weep. They form the well known constellation in the head of Taurus. According to the most probable account, these stars derived their name from the Greek word *hyo*, to rain, because rain usually follows their rising and setting. On this account they have received the names of *mournful* (*tristes*) and the *rain-bringing* (Latin, *succulæ*), which circumstances probably gave rise to the above-mentioned fable. Some poets have confounded them with the Pleiades. The chief of the Hyades in the left eye of Taurus, is the bright star called *Aldebaran*, by the Arabs.

**HYÆNA** (*canis*, Lin., *hyæna*, Desm.) This well known and savage genus of quadrupeds is distinguished by having no tuberculous or small teeth behind the carnivorous. Its dental formula is, incisors  $\frac{1}{1}$ , canine  $\frac{1}{1}$ , molar  $\frac{1}{1}$  = 34. These teeth are well adapted from their great thickness and strength, to break bones. The head of the hyæna is of a middle size, with an elevated forehead; the jaws are shorter, in proportion, than those of dogs, and longer than those of cats; the tongue is furnished with rough papillæ; the eyes are large, and have longitudinal pupils; the ears are long, pricked, very open, and directed forwards. Beneath the tail is a glandulous pouch. Naturalists have described three species of the hyæna.

The common or striped hyæna (*H. vulgaris*), which is a native of Asiatic Turkey, Syria, Abyssinia, &c., is about the size of a large dog, of a brownish gray colour, and marked with transverse bands of dark brown on the body, which become oblique on the flanks and legs. The hair upon the line of the back is much thicker and stronger than on any other part, forming a sort of mane, extending from the nape of the neck to the origin of the tail. This species was well known to the ancients, who entertained many absurd notions respecting it; believing that its neck consisted of but one bone; that it changed its sex every year; that it could imitate the human voice; that it had the power of charming the shepherds, and riveting them to the spot, as the serpent is said to fascinate a bird. Lucan furnishes the Thessalian sorceress with the neck of one of these animals as a potent spell.\* The hyæna generally inhabits caverns and rocky places, prowling about at night to feed on the remains of dead animals, or on whatever living prey it can seize. The common idea, that these animals tear newly buried bodies out of graves, is not inconsistent with their insatiate voracity and the peculiar strength of their claws. The courage of the hyæna is equal to his rapacity. Kämpfer says, that he saw one which had put two lions to flight. At Darfur, a kingdom in the interior of Africa, the hyænas come in herds of six, eight, and often more, to the villages at night, and carry off with them whatever they are able to master. They will kill dogs and asses, even within the enclosure of the houses, and fail not to assemble wherever a dead camel or other animal is thrown; nor are they much alarmed at the sight of men or the report of fire-arms. In these attacks, if one of them should be wounded, his companions instantly tear him in pieces and devour him. (Brown.) A remarkable peculiarity in

this animal is, that when he is first obliged to run, he always appears lame for a considerable distance, and that, in some cases, to such a degree, as to induce a belief that one of his legs is broken; but after running for some time, this halting disappears, and he proceeds on his course very swiftly. (Bruce.) It was formerly supposed that the hyæna was untamable, and this assertion has been copied by most writers on natural history without investigation. But that it can be completely tamed, there is not the shadow of a doubt. The hyæna has lately been domesticated in the Sneeuberg (South Africa), where it is considered as one of the best hunters after game, and as faithful and diligent as any of the common domestic dogs. (Barrow.) A Mr Trill, in India, had one for many years, which followed him about like a dog. (Heber.) It is, in fact, exceedingly doubtful whether any animal is incapable of subjection to man.

The spotted hyæna (*C. crocuta*, Lin., *H. capensis*, Desm.) has a considerable resemblance to the former species, but is larger, and is marked with numerous round blackish-brown spots instead of stripes, nor is the mane so large. This species inhabits many parts of Africa, but is particularly numerous around the cape of Good Hope, where it is much dreaded. One of them entered a negro hut, laid hold of a girl, flung her over its back, held her by one leg in its teeth, and was making off with her, when her screams fortunately brought assistance, and she was rescued. (Bosman.) Those animals act the part of scavengers in South Africa. At the cape, they formerly came down into the town, unmolested by the inhabitants, to devour the filth and offal. Among the savage tribes in this part of Africa, the dead are never buried after a battle, the birds and beasts of prey relieving the living of that trouble; even the bones, except a few of the less manageable parts, finding a sepulchre in the voracious maw of the hyænas. Thunberg informs us, that they are so excessively bold and ravenous, as sometimes to eat the saddle from under the traveller's head, and gnaw the soles on his feet, while he is sleeping in the open air. In fact, every kind of animal substance is a prize to them, and this gluttony seems a kind provision of nature, to consume those dead and corrupting bodies, which, in warm climates, might otherwise cause disease and death among the inhabitants. The following curious incident is related by Sparrmann: One night, at a feast near the cape, a trumpeter, who had become intoxicated, was carried out of doors, in order to cool and sober him. The scent of him attracted a hyæna, which threw him on his back, and dragged him along like a corpse up towards Table mountain. In the mean time the drunken musician revived sufficiently to find the danger of his situation, and to sound the alarm with his trumpet, which fortunately he had not relinquished. The wild beast became alarmed in turn, and fled.

There is another species mentioned by Cuvier (the *H. brunnea*, Thunberg; *H. villosa*, Smith), of which little is known. It differs from the preceding, by having stripes on the legs, the rest of the body being of a dark grayish-brown. It inhabits the south of Africa, and is known there under the name of *sen shore wolf*. The bones of a species of this animal have, of late years, been found in a fossil state in various parts of Europe, but more particularly in England. The scientific world are indebted, in a great measure, to professor Buckland, of Oxford, for the information we have on the subject. This fossil or extinct species (*H. spelæa*), according to Cuvier, was about one third larger than the striped species, with the mane, in proportion, much shorter. The teeth resemble those of the spotted species, but are considerably larger.

\* Non dira nodus hyænae defuit. Lib. vi. 672.

**HYALITE.** See *Opal*.

**HYBLA**; a mountain in Sicily, where thyme and odoriferous flowers of all sorts grow in abundance. It is famous for its honey. There is, at the foot of the mountain, a town of the same name. There is also another near mount *Ætna*, and a third near *Catana* (*Pauss.*, v. c. 23; *Strab.*, vi. c. 2; *Mela*, ii. c. 7; *Stat.*, xiv. v. 201). A city of Attica bears also the name of Hybla.

**HYCSOS** or **HYK-SHOS** (that is, *shepherd-kings*), a nomadic people from Arabia, which conquered the greater part of Egypt, and held it from about 1700 to 1500 B. C. Their invasions were begun long before their final conquest of Lower and Middle Egypt. They destroyed the temples and cities, carried away women and children into captivity, and, as the Egyptian historians assert, committed the most brutal cruelties. On the eastern frontier of the country, near Pelusium, they built the fortress of Avaris, and founded a kingdom, the capital of which was Memphis. Thebes, however, and some other states, remained distinct governments, but became tributary. The Hyk-shos are supposed to have entered Egypt during the residence of the Israelites in that country, on account of which, the two nations have been confounded with each other. The Pharaoh who was drowned in the Red sea, when pursuing the Israelites, is thought, by some, to have been a Hyk-sho. Manetho (q. v.) mentions a series of their kings, whom he reckons among the Egyptian dynasties. They were probably the builders of the pyramids, who are called in the annals of the priests, *oppressors of the people and enemies of religion*. They were finally conquered by Tethmosis, king of Thebes. Avaris was besieged, and they were obliged to leave the country. On the magnificent ruins of Karnac (q. v.), the events of this war are represented. The Egyptians detested them as the enemies of every thing holy or noble. They are always represented in the bas-reliefs as captives, often lying bound on the ground, serving as footstools, and their images were often painted under the sandals of the Egyptians. If, as is very probable, on the block of black granite in the museum at Turin, which represents three different nations, the Israelites, Negroes, and Hyk-shos are intended, the latter appear in a state of barbarism, wearing a rough skin over their shoulders, with their legs and arms tattooed. This stone is described in one of Champollion's letters to the duke of Blacas. See Spineto's *Lectures on the Elements of Hieroglyphics*, London, 1829.

**HYDASPES**; a river of Asia, flowing by Susa.—Another in India, the boundary of Alexander's conquests in the East. It falls into the Indus.

**HYDE**, EDWARD, earl of Clarendon. See *Clarendon*.

**HYDE**, THOMAS, a celebrated Orientalist, was born in 1636, and went to King's college, Cambridge, at the age of sixteen. There he was recommended to Walton, as capable of assisting him in his great polyglot Bible. Such were his attainments at that time, as to enable him to make a Latin translation of the Persian Pentateuch for that work. In 1658, he went to Oxford, where he was admitted a student of Queen's college, and soon after appointed Hebrew reader to that society. In 1697, he was appointed regius professor of Hebrew, and canon of Christ church, Oxford. He died in 1703. His *Veterum Perseorum et Medorum Historia* (third edit., Oxford, 1760) is a valuable work. The *Syntagma Dissert.* (2 vols. 4to, 1767) was edited by doctor Sharpe.

**HYDE PARK** is situated at the west extremity of London. This park derived its name from having been the manor of the Hyde, belonging to the abbey of Westminster. It contains nearly 400 acres, and abounds with fine trees and pleasing scenery. At

the south-east corner of Hyde park, near the entrance from Piccadilly, is a colossal statue of Achilles, executed by Mr Westmacott, and dedicated to the duke of Wellington and his companions in arms. This statue was cast from cannon taken in the battles of Salamanca, Vittoria, Toulouse, and Waterloo, is about eighteen feet high, and stands on a basement of granite, making the whole thirty-six feet above the level of the ground. It was cast from twelve twenty-four pounders, and weighs upwards of thirty tons. The sheet of water called the *Serpentine river*, although in the form of a parallelogram, was made between 1730 and 1733, by order of queen Caroline. It is much frequented in summer for bathing, and during frosts for skating. At the eastern end of it is an artificial waterfall, constructed in 1817. On the south side are the barracks of the life-guards. The park is much frequented as a promenade.

**HYDERABAD**, as a province (*subah*) of the Mogul empire containing forty-two districts (*circars*), and upwards of 400 townships (*perganahs*), comprehending nearly the whole territory between the Godavery and the Krishna, has been much reduced by the diminution of the Mussulman power in India, but still comprehends the territories of the most powerful Mohammedan prince, the nizâm of the Deccan. It is now divided into sixteen districts. Nearly the whole country is parcelled out into feudal lordships, the possessors of which are bound to maintain an armed force. The soil is fertile, but agriculture and commerce are equally discouraged by the badness of the government. A small quantity of muslins, salt, and opium are almost the only articles of commerce. On the death of Aureng-Zebe, this country, which had formed a province of his empire, was taken possession of (1717) by his viceroy, who still preserved the title of *nizâm* or minister. His successors, alarmed by the growing power of the Mahrattas, who had already seized a valuable part of their territory, formed treaties with the British (1798 and 1800), by which it was agreed that a British force should be stationed in the country, and that all the foreign affairs of the nizâm should be managed by the English government.

**HYDERABAD**, the capital, is in 17° 15' N. lat.; 78° 35' E. lon. It is about four miles long and three broad, and is surrounded by a stone wall. Its streets are narrow, crooked, ill-paved, formed by rows of houses of one story. The palace and some of the mosques are the only remarkable buildings, but the tank is worthy of notice; it is nearly seventeen miles in circumference, and covers about 10,000 acres. It is filled by a canal from the river, and is formed by an imbankment, consisting chiefly of granite, 3350 feet long and fifty feet high, which closes the open end of a valley, surrounded on the other three sides by mountains. It was finished in 1812. The population is 200,000.

**HYDER ALLY KHAN**; an Asiatic prince, who rose by his talents to sovereign power, and was a formidable enemy to the English in Hindostan, in the latter part of the last century. He was born at Dinavelli, in the Mysore, and after some military service under his father, a petty chief of the country, he joined his brother in an alliance with France, and introduced European discipline among his troops. He became general-in-chief of the forces of Cinoas, who then reigned at Seringapatam as a vassal of the Great Mogul; and having quarrelled with the grand vizier of his master, he marched against the capital, and obliged Cinoas not only to deliver the vizier into his power, but also to appoint him regent. He subsequently assumed the sovereignty himself; and having deposed the royal family, he founded the Mohammedan kingdom of Mysore, in 1760. He so

greatly extended his dominions, that, in 1766, they contained 70,000 square miles, and afforded an immense revenue. His reign was passed in wars with the English and with the Mahrattas, the former of which powers excited his peculiar jealousy. A treaty which he made with the East India company, in 1769, was violated in 1780, and he was opposed with success in the field by the English general, Sir Eyre Coote. The Mahrattas joining in a league against him, he carried on a disadvantageous war, during the continuance of which he died, in 1782. For an account of the subsequent fate of his empire, see *Tippoo Saib*.

HYDRA; in fabulous history, a celebrated monster, which infested the neighbourhood of the lake Lerna in the Peloponnesus. It was the fruit of Echidna's union with Typhon. It had a hundred heads according to Diodorus, fifty according to Simonides, and nine according to Apollodorus, Hyginus, &c. The central head was immortal. As soon as one of those heads was cut off, two immediately grew up, if the wound was not stopped by fire. It was one of the labours of Hercules to destroy this dreadful monster, and this he easily effected with the assistance of Iolaus, who applied a burning iron to the wounds as soon as one head was cut off. The central head the conqueror buried in the earth, and covered with a piece of rock. While Hercules was destroying the hydra, Juno, jealous of his glory, sent a sea-crab to bite his foot. This new enemy was soon despatched, and Juno, unable to succeed in her attempts to lessen the fame of Hercules, placed the crab among the constellations, where it is now called the *Cancer*. The conqueror dipped his arrows in the gall of the hydra. From that circumstance all the wounds which he gave proved incurable and mortal. Some writers consider this fable as a symbolical representation of the clearing and draining of the Peloponnesus by the first authors of civilisation.

HYDRA, the centre of the Greek maritime trade, and the palladium of Greek independence, with the neighbouring Spesnia, is situated south-east of the Peloponnesus, between two and three leagues from the coast, and is guarded by steep rocks and batteries from the attacks of an enemy; so that vessels in the port are in no danger but from fire-ships. Spesnia, on the contrary, is unprotected, and its inhabitants at the approach of an enemy, flee for shelter to Hydra. The two islands together contain about eighty-five square miles and 40,000 inhabitants, although without springs, herds, or agriculture. They subsist by navigation and trade. The city of Hydra, containing 30,000 inhabitants, rises like an amphitheatre over the harbour. The houses are very beautiful, and adorned with modern works of art in marble. In the interior, they are very neat and tasteful. A natural grace shows itself even in the dress of the sailors. The ladies live very retired, in the bosom of their families. The first inhabitants of Hydra and Spesnia were of Albanian descent. They differ in their Arnaout dialect, as well as in their character, dress, and manners, from the Romaics or modern Greeks. When the Russians, in the war of 1774, evacuated the Morea, many of the Peloponnesians fled with their property from the vengeance of the Turks to the rocks of Hydra. They now built greater vessels, and undertook more distant voyages, especially since France, in consequence of the war of 1792, was obliged to give up its trade to the Levant. Three modern Argonauts were seen in every harbour of Italy, France, Spain, the Baltic, and even America. In Marseilles, they exchanged the Greek corn for the cloths and silks of Lyons. As bold as they were dexterous, they escaped the British cruisers, and safely entered blockaded harbours, and gained

large profits in this way; so that they were enabled, by the extension of their trade, to establish mercantile houses in the first cities of Europe, before 1810. They equipped their vessels with cannon to secure them against the Algerine corsairs. Accustomed from youth to great activity, to moderation, and the dangers of a sea life, the Hydriots and the other islanders of the Archipelago are the boldest and the most active sailors in the Mediterranean. Commerce has not merely filled their purses; it has also enlightened their minds. Besides the common schools, Hydra has erected, within thirty years, an institution for the cultivation of classical literature, and the Italian and French languages. The rich Hydriots, the Sciots, and others, encouraged the translation and publication of books in foreign languages. They sent their sons to the best schools in Germany, France, and Italy. Thus they became acquainted with the sciences, and acquired a taste for the arts; their manners were refined, and they were enabled to establish, on their return, good seminaries of learning. The late war exhausted their wealth, and caused a total stagnation of their trade. Scarcely were the magistrates able to defray the expenses of the sailors and vessels. On this account, they have, in times of danger, contemplated leaving their country, taking with them their families and property. The restoration of peace, we trust, will restore their ancient prosperity.

HYDRANGEA; a genus of plants, including three or four shrubs, having somewhat of the general appearance of the gelder-rose or viburnum, but differing in the structure of the flowers. All the species are, in their wild state, exclusively confined to the United States of America, but they are frequently cultivated in the European gardens, for ornament. The *H. vulgaris* grows on the Alleghanies, and in other parts of the Union, but not north of Philadelphia, in the Atlantic states. The *H. nives*, a more ornamental shrub than the preceding, and differing by the white inferior surface of the leaves, and the large size of the marginal flowers, seems to be more exclusively confined to the region about the southern portion of the Alleghanies, extending, however, as far north as Pennsylvania. The *H. quercifolia*, distinguished by its lobate leaves, inhabits the country bordering on the gulf of Mexico, and is not unfrequently cultivated in our own gardens. The *Aortensis* or Japan rose-plant closely allied to the preceding genus, and even united with it by some authors, is more frequent with us, and has very commonly usurped the name of *Hydrangea*. This plant is a general favourite in China and Japan, the countries from which it was originally brought; and, indeed, the fine corymbs of large rose-coloured flowers, which retain their freshness a long time, and succeed each other throughout the whole season, added to the ease of cultivation, afford well founded claims for distinction. The fruit is yet unknown, the large flowers, so much resembling those of the snow-ball tree, being constantly barren.

HYDRAULICON (*water-organ*), in music; an instrument acted upon by water, the invention of which is said to be of higher antiquity than that of the wind organ.

HYDRODYNAMICS treats of the static and forces of liquids, at rest or in motion. The name is derived from *ὑδρ*, water, and *δυναμις*, force. It is divided into hydrostatics and hydraulics.

*Hydrostatics* (from *ὑδρ*, water, and *στασις*, the science of bodies at rest) is the science which treats of the weight, pressure, and equilibrium of liquid fluids. The particles in liquids are freely movable among each other, so as to yield to the least disturbing force; but though it was formerly believed that the liquid fluids are incompressible, recent experiments have shown that they may be

slightly condensed by pressure. The fundamental rule, on which the whole science of hydrostatics rests, is equality of pressure. All the particles of fluids are connected together, that they press equally in every direction, and are continually pressed upon; each particle presses equally on all the particles that surround it, and is equally pressed upon by them; it equally presses upon the solid bodies which it touches, and is equally pressed by those bodies. From this, and from their gravity, it follows, that when a fluid is at rest, and left to itself, all its parts rise or fall so as to settle at the same level, no part standing above or sinking below the rest. Hence, if we pour water or any other liquid into a tube bent like the letter U, it will stand at the same height in both limbs, whether they are of the same diameter or not, and thus a portion of the liquid, however small, will resist the pressure of a portion however large, and balance it. In a common tea-kettle, for instance, water poured into the body of the vessel will rise to the same level in the nose as in the vessel; and if poured into the nose, the same will also be true, and the small column of water in the nose balances the whole column in the body of the vessel, and will continue to do so, however large the one, and however small the other may be. From this fact two important conclusions follow, derived both from reasoning and from daily experience. The one is, that water, though, when unconfined, it can never rise above its level at any point, and can never move upwards, will, on being confined in close channels, rise to the height from which it came, that is, as high as its source; and upon this principle depend all the useful contrivances for conveying water by pipes, in a way far more easy, cheap, and effectual than by those vast buildings, called *aqueducts*, by which the ancients carried their supplies of water in artificial rivers over arches for many miles. In this case, the stream must have been running down all the way, and consequently a fountain fed from it at its termination, could not furnish the water at the same height as its source. The other conclusion is not less true, but far more extraordinary, and, indeed, startling to belief, if we did not consider the reasoning upon which it is founded; it is that the pressure of the water upon any object against which it comes, is not in proportion to the body or bulk of the water, but only to the size of the surface, on or against which it presses, and its own height above that surface. Thus, in a tunnel-shaped vessel, the pressure on the bottom is not proportioned to the whole body of water in the vessel, but only to a column of the fluid equal in diameter to the bottom. The general rule for estimating the pressure of any fluid, is to multiply the height of the fluid by the extent of the surface on which it stands. If any portion of the fluid is supported by a tube above the remainder, the pressure on the bottom of the vessel will be the same as if the water was throughout at the same height as that in the tube, so that the height of the tube is properly multiplied by the extent of the bottom of the vessel, to determine the whole pressure. This principle of equal pressure has been called the *Hydrostatic paradox*, though there is nothing in reality more paradoxical in it than that one pound at the long end of a lever should balance ten pounds at the short end; it is, indeed, but another means, like the contrivances called *mechanical powers*, of balancing different intensities of force by applying them to parts of an apparatus which move with different velocities. This law of pressure is rendered very striking in the experiment of bursting a strong cask by the action of a few ounces of water. Suppose a cask already filled with water, and let a long tube be screwed tightly into its top, which tube will contain only a few ounces of water; by filling this tube the cask will

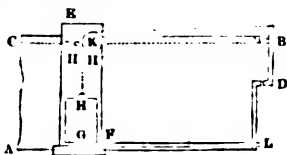
be burst. The explanation of the experiment is this; if the tube have an area of a fortieth of an inch, and contain half a pound of water, this will produce a pressure of half a pound upon every fortieth of an inch over all the interior of the cask. The same effect is produced in what is called the *hydrostatic bellows*. The tube is made to communicate with an apparatus constructed like a common bellows, but without a valve. If the tube holds an ounce of water, and has an area equal only to one thousandth of that of the top board of the bellows, an ounce of water in the tube will balance weights of a thousand ounces resting on the bellows. The hydrostatic or hydraulic press of Mr Bramah, (See *Bramah's press*), is constructed on this principle; a prodigious force is thus obtained with great ease, and in a small compass, so that, with a machine the size of a common teapot, a bar of iron may be as easily cut as a slip of paste-board. A small forcing pump takes the place of the tube in the instrument above described, and a pump barrel and piston is substituted for the bellows; water is then driven from the small pump into the large barrel under the piston, and the piston is thus pressed against the object to be operated upon. If the small pump have one thousandth of the area of the large barrel, and the force of 500 pounds be applied to its piston by its lever handle, the great piston will rise with a force equal to one thousand times 500 pounds, or more than two hundred tons. The uses to which this power may be applied, are of great variety and extent, but this branch of art seems to be yet in its infancy. Upon the tendency of all the parts of fluids to dispose themselves in a plain or level surface, depends the making of *levelling instruments*, or instruments for ascertaining whether any surface is level, or any line horizontal; for finding what point is on the same level with any given point, and how much any point is above or below the level of any other point.

We have thus far spoken of the pressure of liquids upon a horizontal or level surface, in which case it is only necessary to multiply the height of the fluid by the extent of the surface, and the weight of the bulk is equal to the pressure upon the surface. But if the surface is not horizontal, a different rule must be applied; for then the pressure is equal to the weight of the bulk, found by multiplying the extent of the surface into the depth of the centre of gravity of the surface. In this manner we can find the pressure upon a dam; we must take half the depth of the water, and multiply it by the superficial extent of the dam; this gives the bulk of water whose weight is the pressure on the dam. The pressure against the upright sides of a cylinder filled with water, may be found by multiplying the curve surface under water by the depth of its centre of gravity, which is half the depth of the water. The increase of pressure in proportion to the depth of the fluid, shows the necessity of making the sides of pipes or masonry, in which fluids are to be contained, stronger in proportion to their depth. It is therefore needless to make them equally thick and strong from the top downwards. If they are thick enough for the great pressure below, they will be thicker than is required for the smaller pressure above. The same is true in regard to flood-gates, dams, and banks.

When a solid body is plunged in any liquid, it must displace a quantity of that liquid exactly equal to its own bulk. Hence by measuring the bulk of the liquid so displaced, we can ascertain, precisely the bulk of the body; for the liquid can be put into any shape, as that of cubic feet or inches, by being poured into a vessel of that shape divided into equal parts. This is the easiest way of measuring the solid contents of irregular bodies, when a body is plunged into a

liquid, if it be of the same weight as the liquid, it will remain in whatever part of the fluid it is placed; if it be heavier, it will sink to the bottom; if lighter, it will rise to the top. If any body, therefore, be weighed in the air, and then weighed in a liquid, it will lose as much in weight as an equal bulk of the liquid weighs. In this manner we determine the relative weights of all bodies, or the proportion which they bear to each other in weight, which is called their *specific gravity*. (q. v.) Suppose a mass of gold, for instance, to have a certain weight in the air; it would lose, on being weighed in water, about a nineteenth of its weight; that is, the gold would be nineteen times heavier than water. The instrument used for this purpose is called the *hydrostatic balance*, (See *Balance*) and affords the easiest and most accurate method of comparing all substances, whether solid or fluid. This operation may be performed with substances lighter than water, by attaching them to a stiff pin, fastened to the bottom of the scale, or by suspending some heavy substance of a known weight. The same principle also enables us to ascertain the specific gravities of different fluids; for, if the same substance be weighed in two fluids, the weight which it loses in each is as the specific gravity of that fluid. (See *Hydrometer*.)

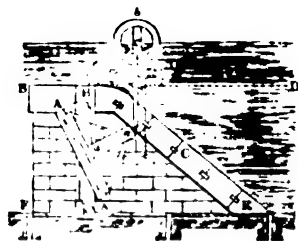
Mr Thom of Rothsay has employed the principle of floating bodies in the regulation of the height of water in mill dams. The accompanying wood cut shows a section of one of his contrivances for this purpose, called a self-regulating sluice.



**The water sluice.** This sluice, when placed upon any river, canal, reservoir, or collection of water, prevents the water within the embankment from rising above the height we choose to assign to it; for whenever it rises to that height, the sluice opens and passes the extra water; and whenever that extra water is passed, it shuts again; so that whilst it saves the banks at all times from damage by overflow, it never wastes any water we wish to retain. A C B L, part of a canal, river, stream, or collection of water. B C, high water mark, or the greatest height to which the water is to be allowed to rise. B D, a sluice, or folding dam, which turns on pivots at D. E F, a hollow cylinder, having a small aperture in its bottom, to which is joined F L, a small pipe always open. I I I I, small holes in cylinder E F, on the line of high water mark. G H, another cylinder, waterproof, that moves up and down freely within cylinder E F; and the weight of which keeps the sluice B D shut by its connexion with B K H, a chain fixed to cylinder G H at H, thence passing over pulley K, and having its other end fixed to sluice B D at B. When the water in the canal, river, or pond, rises to the line B C, it passes into cylinder E F, at the small holes I I I I; and this lessens the weight of cylinder G H so much that the pressure of the water in front of sluice B D throws it open. When the water subsides, so as not to enter these holes, the cylinder is emptied by the tube F L; and then the weight of cylinder G H shuts the sluice as before. The dimensions and weight of this cylinder must of course correspond with the weight of the column of water pressing upon sluice B D. This sluice is here represented with the pivots on which it turns at its under edge, but they may be

placed either at the upper or under edge as circumstances render advisable. The upper edge is also here represented on a level with high water mark, but if necessary, it may be placed anywhere between that and the bottom of the pond, or aqueduct, or right below, as on an aqueduct bridge, or similar situation. The cylinders may also be placed on the outside of the dam or embankment, by having a pipe to communicate between them and the water within, but in whatever situation the sluice or cylinders may be placed, the pipe that communicates between the cylinders and the water within the embankment must always have its opening there exactly at the level of high water mark, or at the greatest height to which the water therein is to be permitted to rise. On this principle a self-acting dam may be raised in any river or stream, up to high water mark, by which means a considerable reservoir will be obtained, whilst during floods the dam will fold down, and no new ground be overflowed. In lawns, or pleasure grounds, through which streams or rivulets flow, these sluices might be applied to advantage; for by placing one on the bank of each pond, the water within would always be kept at the same height, whether the weather were wet or dry; and hence flowers or shrubs might be planted close to the water's edge, or in it, (as best suits their respective habits,) and their position with regard to water, would always be the same.

The principles of buoyancy are very ingeniously applied in Mr Farey's *self-acting flood-gate*. In the case of common sluices to a mill-dam, when a sudden flood occurs, unless the miller gets up in the night to open the gate or gates, the neighbouring lands may become inundated; and, on the contrary, unless he be present to shut up when the flood subsides, the mill-dam may be emptied and the water lost when he would need the next day. To prevent either of these occurrences, Mr JOHN FAREY, whose talent and ingenuity are well known, has proposed a *self-acting flood gate*, the following description of which has been given in the *Mechanics' Weekly Journal*.



A A represents a vertical section of a gate poised upon a horizontal axis passing rather above the centre of pressure of the gate, so as to give it a tendency to shut close. a a is a lever, fixed perpendicular to the gate, and connected by an iron rod with a cask, b, floating upon the surface of the water, when it rises to the line, b, d, which is assumed as a level of the wear or mill-dam, b, c, x, r, in which the flood-gate is placed: by this arrangement, it will be seen that when the water rises above the dam, it floats the cask, opens the gate, and allows the water to escape until its surface subsides to the proper level at a, r, the cask now acts by its weight, when unsupported by the water, to close the gate and prevent leakage. The gate should be fitted into a frame of timber, m, n, which is set in the masonry of the dam. The upper beam, n, of the frame being just level with the crown of the dam, so that the water runs over the top of the gate at the same time that it passes through it, to prevent the current disturbing the cask, it is cus-

acted by a small rod,  $e$ , at each end, to the upper beam,  $u$ , of the frame, and jointed in such a manner as to admit of motion in a vertical direction.

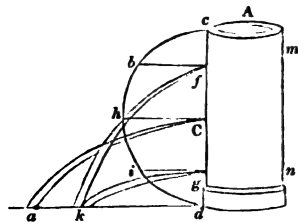
If a single drop of water, or any liquid of a like degree of fluidity, be pressed upon a solid surface, it will wet that surface, and adhere to it, instead of keeping together and running off. This shows that parts of the liquid are more attracted by the parts of the solids than by one another. In the same manner, round the glass in which a liquid is contained, its surface will be seen to be higher than in the centre. If the vessel be less than the twentieth part of an inch in diameter, the liquid will rise in it the higher in proportion to the smallness of the diameter. This is called *capillary attraction*, and tubes of this kind are called *capillary tubes*. See *Capillary Tubes*; see also *Pumps, Siphons, Springs*.

*Hydraulics* (from  $\text{ὕδωρ}$ , water, and  $\alpha\upsilon\lambda\alpha\iota\varsigma$ , a pipe, referring to the movement of water in certain musical instruments used by the Greeks); that branch of hydrodynamics which has for its object the investigation of the motions of liquids, the means by which they are produced, the laws by which they are regulated, and the force or effect which they exert against themselves or against solid bodies. This subject naturally divides itself into three heads: 1. the effects which take place in the natural flowing of fluids through the various ducts or channels which convey them; 2. the artificial means of producing motion in fluids, and destroying their natural equilibrium by means of pumps and various hydraulic engines and machines; and 3. the force and power which may be derived from fluids in motion, whether that motion be produced naturally or artificially.

The particles of fluids are found to flow over or amongst each other with less friction than over solid substances; and as each particle is under the influence of gravitation, it follows that no quantity of homogeneous fluid can be in a state of rest, unless every part of its surface is on a level, that is, not a level plane, but so far convex as that every part of the surface may be equally distant from the centre of the earth. As the particles of all liquids gravitate, any vessel containing a liquid will be drawn towards the earth with a power equivalent to the weight it contains, and if the quantity of the fluid be doubled, tripled, &c., the gravitating influence will be doubled, tripled, &c. The pressure of fluids is, therefore, simply as their heights,—a circumstance of great importance in the construction of pumps and engines for raising water. As liquids gravitate independently, if a hole be made in the bottom of the vessel, the liquid will flow out, those particles directly over the hole being discharged first. Their motion causes a momentary vacuum, into which the particles tend to flow from all directions, and thus the whole mass of the water, and not merely the perpendicular column above the orifice, is set in motion. If the liquid falls perpendicularly, its descent will be accelerated in the same manner as that of falling solid bodies. (See *Mechanics*.) When water flows in a current, as in rivers, it is in consequence of the inclination of the channel, and its motion is referable to that of solids descending an inclined plane; but, from want of cohesion among its particles, the motions are more irregular than those of solids, and involve some difficult questions. The friction between a solid and the surface on which it moves can be accurately ascertained; but this is not the case with liquids, one part of which may be moving rapidly and another slowly, while another is stationary. This is observable in rivers and pipes, where the water in the centre moves with greater rapidity than at the sides, so that a pipe does not discharge as much water in a given time, in proportion to its magnitude, as theoretical calcu-

lation would lead us to suppose. As water, in descending, follows the same laws as other falling bodies, its motion will be accelerated; in rivers, therefore, the velocity and quantity discharged at different depths would be as the square roots of those depths, did not the friction against the bottom check the rapidity of the flow. The same law applies to the spouting of water through jets or adjutages. Thus, if a hole be made in the side of a vessel of water, the water at this orifice, which before was only pressed by the simple weight of the perpendicular column above it, will be pressed by the same force as if the water were a solid body descending from the surface to the orifice; that is, as the square root of the distance of those two points; and, in the same way, water issuing from any other orifices, will run in quantities and velocities proportionate to the square root of their depths below the surface. Now, the quantity of water spouting from any hole in a given time, must be as the velocity with which it flows: if, therefore, a hole  $A$  be four times as deep below the surface as a hole  $B$ , it follows that  $A$  will discharge twice as much water in a given time as  $B$ , because two is the square root of four. A hole in the centre of such a column of water, will project the water to the greatest horizontal distance (or range), which will be equal to twice the length of the column of which the orifice is the centre. In like manner, two jets of water, spouting from holes at equal distances above and below the central orifice, will be thrown equal horizontal distances. The path of the spouting liquid will always be a parabola, because it is impelled by two forces, the one horizontal, and the other (gravitation) perpendicular.

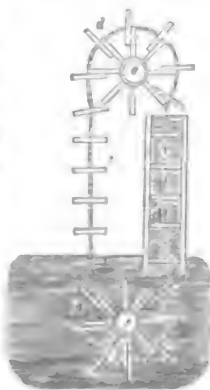
To prove this by experiment, let two pipes of equal size,  $m$  and  $n$ , be fixed into the side of the vessel  $A$ , but so that the pipe  $n$  is placed four



times deeper below the surface  $c$  than the pipe  $m$ . (In this case the orifices  $f C g$  are supposed to be closed.) If the surface of the water in the vessel be kept at the same height by a constant supply being poured in, and if two vessels, one of which would hold a pint, be placed under the pipe  $m$ , and the other which would contain a quart under the pipe  $n$ , both vessels will be filled in the same time from their respective pipes. Wherefore the quantities of water passing through equal holes in the same time, are as the square roots of their depths. The horizontal distance to which a fluid will spout from a hole made in the side of an upright vessel may be determined in the following manner. Let the vessel  $A$  be filled with water to the height of the surface, and let  $d k a$  be a horizontal plane upon which the jets fall; on  $c d$ , as a diameter describe a semicircle  $c A d$ , whose centre  $C$  shall be the central height of the column of fluid in the reservoir  $A$ ; then if holes be made in the reservoir at the points  $f C g$ , and lines drawn from them to the semicircle perpendicular to the diameter of the semicircle, or the side of the vessel as at  $f b, C h$ , and  $g i$ ; the distance to which water will spout from the holes  $f C g$ , will be proportionate to the length

of line which cuts the semicircle. As  $C A$  is the longest line which can be drawn within the semicircle, the water spouting from  $C$  will reach the greatest horizontal distance  $a$ , and that range, if in vacuo, would be equal to twice the length of line drawn from the point of discharge to the semicircle. Though water will rise in pipes as high as the surface of the head from which it is supplied; yet in perpendicular jets it can never rise so high, because of the resistance of the air, and the friction of the adjutage. The best kind of adjutage is the end of the tube covered with a thin plate, in which is made a smooth hole much less than the bore of the tube. In such an adjutage the water will ascend in a regular shape, and find little friction in passing through the thin plate.

The second division of the subject, mentioned in the beginning of this article, is of the greatest practical utility, as embracing an account of the various pumps and machines which have been employed to raise water; and numerous as these may appear, it will be found that they may all be comprehended under four general heads: 1. those machines in which water is lifted in vessels by the application of some mechanical force to them. The earlier hydraulic machines were constructed on this principle, which is the simplest; such are the Persian wheel, consisting of upright buckets attached to the rim of a wheel, moving in a reservoir of water; the buckets are filled at bottom, as they pass through the water, and emptied at top, so that the water is raised a height equal to the diameter of the wheel. The wheel may be turned by living power, or, if in running water, by fastening float boards to the circumference. A modification, and decided improvement on the Persian wheel has been long in use in Scotland. This wheel was the invention of Mr George Mickle, an ingenious millwright of Alloa, in Clackmannanshire. (See *Persian Wheel*.) The Archimedian screw, the bucket-engine or chain-pump, and the rope-pump of Vera, are modifications of the same principle. The *Chain Pump* is shown in the annexed figure: it usually consists of a succession of long links of metal rods, revolving like an endless rope over two wheels  $e f$ , one of which,  $f$ , must be under water. On this chain, between each joint, is fixed a flat piece of wood or metal,  $d d d$ , usually square, which is supported and kept in its place by the projecting arms of the wheels  $f$  and  $e$ , though at the same time they are permitted to turn with the same freedom as the chain;—the wheel  $e$  is turned by a winch, which causes the whole chain to move; one side of it passing upwards, while the other side is continually descending in the same direction. The ascending side of the chain is made to pass through a box or pipe, one end of which is immersed in the water, the other end nearly reaching the upper wheel; this box corresponds in shape with the size of the plates which fit pretty closely, and form the pump. The succession of plates passing upward through the trunk, forms a succession of cavities which are filled with water, and are constantly discharged at the top. From the formation of this pump it will only work in deep water, and conse-

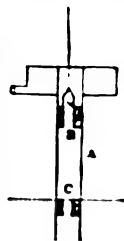


quently cannot drain a reservoir to the bottom; but it has the advantage of not becoming choked with sand or weeds; and though some of its advantages may be lost by the plates not fitting closely to the trunk, and thereby allowing some of the water to drain out, yet as an upper chamber can only leak into one below, if the motion of the machinery be very rapid, it cannot lose any considerable quantity of water. It is for these reasons frequently used in draining the water from the foundations of bridges, docks, and other large works. If the top and bottom wheels,  $e f$ , of this machine be retained, while the tube or trunk is taken away, and a number of small boxes or buckets be attached to the chain instead of the plates  $d d d$ , the machine then becomes a *bucket engine*, which is but another form of the Persian wheel already described. A pump on this principle is used in ships, and is called a *chain pump*.

2. The next class of machines are those in which the water is raised by the pressure of the atmosphere, and comprises all those machines to which the name of *pump* is more particularly applied. These act entirely by removing the pressure of the atmosphere from the surface of the water, which may thus be raised to the height of about thirty-two feet. (See *Atmosphere Air*.) Whenever it becomes necessary to raise water to greater heights, the third class of machines, or those which act by compression on the water, either immediately or by the intervention of condensed air, are employed. All pumps of this description are called *forcing-pumps*. (See *Pump*.) Although atmospheric pressure is not necessary in the construction of forcing-pumps, it is, in most cases, resorted to for raising the water, in the first place, into the body of the pump, where the forcing action takes place. In machines of this kind, the water may be raised to any height.

The common *suction pump* consists of a hollow cylinder  $A$ , of wood or metal, which contains a piston  $B$ , stuffed so as to move up or down in the cylinder easily, and yet be air tight: to this piston there is attached a rod which will reach at least to the top of the cylinder when the piston is at the bottom. In the piston there is a valve which opens upwards, and at the bottom of the cylinder there is another valve  $C$  also rising upwards, and which covers the orifice of a tube fixed to the bottom of the cylinder, and reaching to the well from whence the water is to be drawn. This tube is commonly called the *suction tube*, and the cylinder, the *body* of the pump. When the piston is at the bottom of the cylinder, there can be no air, or at least very little between it and the valve  $C$ , for as the piston was pushed down, the valve in it would allow the air to escape instead of being condensed, and when it is drawn up, the pressure of the air would shut the valve, and there would be a vacuum produced in the body of the cylinder when the piston arrived at the top. But the air in the cylinder being very much rarefied, the pressure of the valve  $C$  on the water at the bottom will be greatly less than that of the external atmosphere on the surface of the water in the well; therefore, the water will be pressed up the pump to a height not exceeding thirty-two feet. As the valves shut downwards, the water is prevented from returning, and the same operation being repeated, the water may be raised to any height, not exceeding the above limit in any quantity.

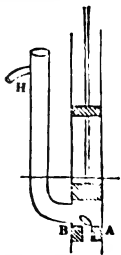
The quantity of water discharged in a given time, is determined by considering that at each stroke of the piston a quantity is discharged equal to a cylin-



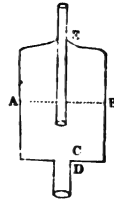
der whose base is the area of a cross section of the body of the pump, and height the play of the piston. Thus, if the diameter of the cylinder of the pump be 4 inches, and the play of the piston 3 feet, then, by *assumption*, we have to find the content of a cylinder 4 inches diameter, and 3 feet high—now, 4 inches is the  $\frac{1}{3}$  of a foot, or  $\cdot 333$ , hence,  $\cdot 333 \times \cdot 7854 = \cdot 110999 \times \cdot 7854 = \cdot 08796$  = the area of the cross section of the cylinder in square feet; hence,  $\cdot 08796 \times 3 = \cdot 2639$  = the content of the cylinder in cubic feet = the quantity of cubic feet of water discharged by one stroke of the piston. Now, a cubic foot of water weighs about 63.5 lbs. *avoirdupois*, wherefore,  $\cdot 2639 \times 63.5 = 16.756$  lbs. *avoirdupois* and an imperial gallon is equal to 10 lbs. of water; whence, dividing the above number 16.756 by 10, we get the number of ale gallons = 1.6756. The piston, throughout its ascent, has to overcome a resistance equal to the weight of a column of water, having the same base as the area of the piston, and a height equal to the height of the water in the body of the pump above the water in the well.

**The lifting pump.** This pump like the suction pump has two valves and a piston, both opening upwards; but the valve in the cylinder instead of being placed at the bottom of the cylinder is placed in the body of it, and at the height where the water is intended to be delivered. The bottom of the pump is thrust into the well a considerable way, and if the piston be supposed to be at the bottom, it is plain, that as its valve opens upwards, there will be no obstruction to the water rising in the cylinder to the height which it is in the well; for, by the principles of hydrostatics, water will always endeavour to come to a level. Now when the piston is drawn up, the valve in it will shut, and the water in the cylinder will be lifted up; the valve in the barrel will be opened and the water will pass through it, and cannot return as the valve opens upwards;—another stroke of the piston repeats the same process, and in this way the water is raised from the well: but the height to which it may be raised is not in this as in the suction pump limited to thirty-two feet. To ascertain the force necessary to work this pump, we are to consider that the piston lifts a column of water whose base is the area of the piston, and height the distance between the level of the water in the well and the spout, at which the water is delivered.

**The forcing pump** remains to be considered. The piston of this pump has no valve, but there is a valve at the bottom of the cylinder the same as seen at A. In the side of the cylinder, and immediately above the valve B, there is another valve A opening outwards into a tube, which is bent upwards to the height H at which the water is to be delivered. When the piston is raised, the valve in the bottom of the pump opens, and a vacuum being produced, the water is pressed up into the pump on the principle of the sucking pump. But when the piston is pressed down, the valve A at the bottom shuts, and the valve B at the side which leads into the ejection pipe opens, and the water is forced up the tube. When the piston is raised again the valve B shuts, and the valve A opens. The same process is repeated, and the water is thrown out at every descent of the piston, the discharge therefore is not constant. It is frequently required that the discharge from the pump should be continuous, and this is effected by fixing to the top of the eduction

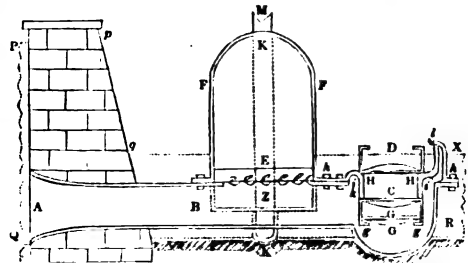


pipe an air vessel. This air vessel consists of a box AB, in the bottom of which there is a valve C opening upwards into the box. This valve covers the top of the eduction pipe D. A tube, E, is fastened into the top of the box, which reaches nearly to the bottom of the box, it rises out of the box, and is furnished with a stop cock. If the stop cock be shut, and the water be sent by the action of the pump into the air vessel, it cannot return because of the shutting of the valve at the bottom of the box; and because of the space occupied by the water, the air in the box is condensed, and will consequently exert a proportionate pressure on the water in the air vessel, and force it higher up the tube E.



4. The fourth class of hydraulic machines for raising water, consists of such engines as act either by the weight of a portion of the water which they have to raise, or of any other water that can be used for such purpose, or by its centrifugal force, momentum, or other natural powers; and this class, therefore, includes some very beautiful and truly philosophical contrivances, too numerous for us to describe. The Hungarian machine, the centrifugal pump, and the water-ram, are among the number.

The large pipe AB called the body of the ram, passes through the side of the reservoir PQ, from which the fall of water is obtained. It has a trumpet mouth at one end A, and at the other end an opening HH, which can be closed by valves C or D. When these valves are open, the water will issue at HH with a velocity due to the height AP; but when the internal valve C is closed, as in the figure, the water is prevented from issuing. When the valve C opens, it descends into the position shown by the dotted lines GG, being guided between three or four stems *g g*, which have hooks at the lower ends for supporting the valves. In this case the water has a free passage between these stems, and the width of the passage can be increased or diminished by the screws with



which the stems are fixed. The valve C is made of metal, and has a hollow cup or dish of metal attached to its lower surface. The seat HH of the valve is wider than the diameter of the pipe AB. It consists of a short cylinder or pipe screwed by its flange *h h* into the opening of the upper surface of the head R of the ram; and the cylinder is so formed as to have an inverted cup or annular space *i i* round the upper part of it for containing air, which cannot escape when it is compressed by the water. A small pipe *k l*, leading from this annular space to the open air, is furnished with small valves, *k, l*, one of which, *k*, opens inwards to admit the air into *i, i*, but to prevent its return, while the other valve, *l*, admits a certain quantity of air, and then shuts and prevents any farther entrance. The valve D is exactly the same as C, only it descends as in the figure when it shuts, and rises when it opens. The upper part

of the head of the ram at E is made flat, and has several valves which allow the water to pass freely from the pipe AB, but prevent its return. On each side of the head of the ram, at the part opposite to these valves is a hollow enlargement, shown by the dotted lines K, forming a circular basin, through the centre of which the pipe ABR passes. The pipe is here made flat instead of circular, for forming the seats of the valves, and the basin KK is covered with an air vessel FF. This air vessel communicates all round the pipe B, with the basin KK, and with the vertical pipe M. The machine being thus constructed, let us suppose the pipe ABR full of water, and the valve C to be opened, the water will lift the valve D, and escape with a velocity due to the height of the reservoir. In a short time, the water having acquired an additional velocity, raises the valve G, which shuts the passage, and prevents the escape of the water. The consequence of this is, that all the included water exerts suddenly a hydrostatical pressure on every part of the pipe, compressing at the same time the air in the annular space *ii*, which by its elasticity diminishes the violence of the shock. This hydrostatical pressure opens the valves at E, and a portion of the water flows into the air vessel F, and condenses the air which it contains. The valves at E now close, preventing the return of the water into the pipe, and the water recoils a little in the tube with a slight motion from B to A, in consequence of the reaction or elasticity of the compressed air in *ii*, and also of the metal of the pipe, which must have yielded a little to the force exerted upon it in every direction. The recoil of the water towards A produces a slight aspiration within the head R of the ram, which causes the valve D to descend by its own weight, and prevent the water X which covers it from descending into the tube. The air, however, passes through the pipe *lk*, opens the valve *k*, and a small quantity is sucked into the annular space *ii*; but the quantity is very small, as the valve *k* closes as soon as the current of air becomes rapid. During the recoil towards A, the valve C, being unsupported, falls by its own weight; and when the force of recoil is expended by acting on the water in the reservoir PQ, the water begins again to flow along ABR, and the very same operation which we have described is repeated without end, a portion of water being driven into the air vessel F at every ascent of the valve C. The air in this vessel being thus highly compressed, will exert a force due to its elasticity upon the surface of the water in the vessel F, and will force it up through the pipe M to a height which is sufficient to balance the elasticity of the included air.

The small quantity of air which is drawn into the annular space *ii* through the air tube *lk* at each aspiration, causes an accumulation of air in the space *ii*; and when the aspiration of recoil takes place, a small quantity of air passes from *ii*, and proceeds along the pipe till it arrives beneath the valves at E, and lodging in the small space beneath the valves, it is forced into the air vessel at the next stroke, and thus affords a constant supply of air to the vessel. The valves make in general from fifty to seventy pulsations in a minute.

When the fall of water, or PQ, is five feet, and the pipe AB six inches in diameter and fourteen feet long, a machine with its parts proportioned as in the figure will raise water to the height of 100 feet. It will expend about seventy cubic feet per minute in working it, and will raise about two and a third cubic feet per minute to the height of 100 feet.

The third general division of the subject relates to the means by which motion and power may be obtained from liquids, and includes the general consid-

eration of water-wheels and other contrivances for moving machinery. Motion is generally obtained from water, either by exposing obstacles to the action of its current, as in water-wheels, or by arresting its progress in movable buckets, or receptacles which retain it during a part of its descent.

Water-wheels have three denominations, depending on their particular construction, on the manner in which they are set or used, and on the manner in which the water is made to act upon them; but all water-wheels consist, in common, of a hollow cylinder or drum, revolving on a central axle or spindle, from which the power to be used is communicated, while their exterior surface is covered with vanes, float-boards, or cavities, upon which the water is to act. The undershot wheel is the oldest construction of this kind: it is merely a wheel, furnished with a series of plane surfaces or floats projecting from its circumference, for the purpose of receiving the impulse of the water which is delivered under the wheel. As it acts chiefly by the momentum of the water, the positive weight of which is scarcely called into action, it is only proper to be used where there is a great supply of water always in motion. It is the cheapest of all water-wheels, and is more applicable to rivers in their natural state than any other form of the wheel; it is also useful in tide-currents, where the water sets in opposite directions at different times, because it receives the impulse equally well on either side of its floats. In the overshot wheel, the circumference is furnished with a series of cavities or buckets, into which the water is delivered from above. The buckets on one side, being erect, will be loaded with water, and the wheel will be thus set in motion; the mouths of the loaded buckets, being thus turned downwards by the revolution of the wheel, will be emptied, while the empty buckets are successively brought under the stream by the same motion, and filled. The breast-wheel differs from this in receiving the water a little below the level of the axle, and has floats instead of buckets. In these two wheels, the weight and motion of the water are used, as well as its momentum, and a much greater power is, therefore, produced with a less supply of water than is necessary for the undershot wheel. In order to permit these wheels to work with freedom, and to the greatest advantage, it is necessary that the *back* or *tail* water as it is called, or that which is discharged from the bottom of the wheel, should have an uninterrupted passage off; for otherwise it accumulates, and forms a resistance to the float-boards. One of the simplest methods of removing it consists of forming two drains through the masonry, each side of the water-wheel, so as to permit a motion of the upper water to flow down into the tail, in front of the wheel. The water, thus brought down with great impetuosity, drives the tail-water before it, and forms a hollow place, in which the wheel works freely, even if the state of the water be such that it would otherwise form a tailing of from twelve to eighteen inches. The drains may be closed whenever the water is scarce. Numerous other contrivances are in use, which our limits will not permit us to describe. See *Bristol, Over-shot and Under-shot, and Wheel*.

In Barker's centrifugal mill, the water does not act, as in the contrivances above noticed, by its weight or momentum, but by its centrifugal force and the reaction that is produced by the flowing of the water on the point immediately behind the orifice of discharge. It consists of a revolving vertical tube, which receives the water at the top, and at the bottom of which is a horizontal tube, extending on each side of it, and having apertures opening in opposite sides, near the ends. The water spouting

from these apertures keeps up, by its reaction, a constant rotary motion.

**HYDRIADS.** The Hydriads, in mythology, were a kind of water-nymphs, who danced with the Hamadryads, to the sound of the pipe of Pan.

**HYDRO** ; two syllables which occur in a number of scientific words ; derived from the Greek *ὕδωρ*, water. See the following articles.

**HYDROCEPHALUS.** See *Dropsy*.

**HYDROGEN** ; a simple non-metallic body, forming acids by its union with chlorine, iodine, and bromine, and hence termed an *acidifiable* body, and producing water by its combination with oxygen, in allusion to which the name *Hydrogen* (from *ὕδωρ*, water) has been applied. The most simple state in which we can procure it is in that of a gas, i. e., in union with caloric, and possibly with electricity and light. To effect this, water is always employed ; and one of the following arrangements is adopted : water in the state of vapour is passed over the metallic iron heated to redness, by adjusting a retort, half filled with this fluid, to one extremity of an iron tube containing clean iron wire, and laid across a heated furnace, the other extremity having a bent tube connected with it and dipping under the shelf of a pneumatic cistern ; the water in the retort is made to boil briskly, and the steam to come in contact with the heated iron ; upon which hydrogen gas is copiously disengaged, and collected in the pneumatic apparatus. Or, slips of sheet zinc, iron filings or turnings, or small iron nails, are introduced into a small gas-bottle with a bent tube, or into a common retort, upon which sulphuric acid, diluted with five or six times its weight of water, is poured ; effervescence ensues, and the escaping gas may be collected in the usual manner. One troy ounce (480 grains) of zinc gives 356 os. measures = about 676 cubic inches ; and 1 ounce of iron, 412 os. measures = 782 cubic inches, of hydrogen gas. The hydrogen obtained in these processes is not absolutely pure. The gas evolved during the solution of iron is contaminated by a compound formed from hydrogen and the carbon contained in the iron. This compound, which is a volatile oil, is removed by transmitting the gas through alcohol. The gas obtained by means of zinc is more free from impurities ; though the small proportion of sulphur and carbon still remaining in the zinc of commerce, gives rise to the same compound as in the former case, and also to a little sulphuretted hydrogen. The impurities in this instance are removed by passing the gas through a solution of caustic potash. Thus purified, hydrogen gas has neither taste nor odour ; it is colourless, and the lightest of all ponderable matter known, its specific gravity being 0.068, that of the atmospheric air being 1.000, or about  $14\frac{1}{2}$  times lighter than common air. This remarkable levity allows it to ascend with the greatest readiness through all liquids and gases, and is the cause of its being employed to fill balloons ; which, notwithstanding the weight of the materials of which they are constructed, are sufficiently light, compared with the atmosphere, to rise to very great elevations, or until they meet with a medium whose density is such as to render them stationary. (See *Aeronautics*.) Hydrogen gas is a powerful refractor of light, and has hitherto resisted all attempts to compress it into a liquid. It is sparingly absorbed by water, 100 cubic inches of that liquid dissolving about  $1\frac{1}{2}$  of the gas. It is incapable of supporting respiration ; nor is it a supporter of combustion ; for when a lighted taper is passed up into an inverted glass full of hydrogen gas, it is immediately extinguished. But its most characteristic property is that of its inflammability, though, like other combustibles, it requires the aid of a sup-

porter for enabling its combustion to take place. This is exemplified by bringing a lighted candle or taper to the mouth of a narrow jar, or wide-mouthed bottle, filled with the gas ; it is immediately kindled, but only burns where it is in contact with the air, the combustion going on quietly in successive strata from the orifice to the bottom of the vessel. Mingled with oxygen gas, no action takes place so long as the compound remains cold ; but, on the approach of a flame, the whole is kindled at the same instant ; a flash of light passes through the mixture, followed by a violent explosion. The report is the loudest when the proportions observed in the mixture are two volumes of hydrogen and one of oxygen. The same phenomena take place, though less strikingly, when atmospheric air is substituted for oxygen gas : in the latter case, however, the proportions are two measures of hydrogen to five or six of air. And not only is hydrogen gas inflamed when in contact with air or oxygen gas by the contact of a burning taper, but by a solid body heated to redness, and by the electric spark. If a jet of hydrogen be delivered upon recently prepared spongy platinum (see *Platinum*), this metal very quickly becomes red-hot, and then sets fire to the gas. The electric spark ceases to cause detonation when the explosive mixture, formed of two measures of hydrogen to one of oxygen, is diluted with twelve times its volume of air, fourteen of oxygen, or nine of hydrogen, or when it is expanded to sixteen times its bulk by diminished pressure. Sudden and violent compression, likewise, causes an explosion of the explosive mixture ; apparently from the heat emitted during the operation ; for an equal degree of condensation, slowly produced, has not the same effect. When the action of heat, the electric spark and spongy platinum no longer cause an explosion, a silent and gradual combination between the gases may still be occasioned by them. Oxygen and hydrogen gases unite slowly with one another when exposed to a temperature above the boiling point of mercury, and below that at which glass begins to appear luminous in the dark. An explosive mixture, diluted with air to too great a degree to explode by electricity, is made to unite silently by a succession of electric sparks. Spongy platinum causes them to unite slowly, though mixed with 100 times their bulk of oxygen gas. A very high temperature is excited by the combustion of hydrogen gas, especially when it is burned in oxygen gas, as in the compound blow-pipe of doctor Hare. (See *Compound Blow-pipe*.) Water is the sole product of the combustion of hydrogen—a fact first demonstrated by Cavendish, who burned oxygen and hydrogen gases in a dry glass vessel, and obtained a quantity of pure water exactly equal to that of the gases which had disappeared during the experiment. The synthetic proof of the composition of water is obtained also by detonating two measures of hydrogen, mixed with one of oxygen, in a tube, over the mercurial cistern ; the whole is condensed into water. Lavoisier first exhibited the composition of water analytically, by passing a known quantity of watery vapour over metallic iron heated to redness in a glass tube. Hydrogen gas was disengaged ; the metal in the tube was oxydized ; and the weight of the hydrogen, added to the increase which the iron had experienced from combining with oxygen, exactly corresponded to the quantity of water which had been decomposed. Its composition by volume is very clearly shown by galvanism. On resolving water into its elements by this agent, and collecting them in separate vessels, two measures of hydrogen to one of oxygen are obtained ; and, on the other hand, these gases, when inflamed by the electric spark, unite in the exact ratio of one to two, whatever may

be their relative quantity in the mixture. Hence the composition of water, by weight and measure, is,

	By weight.	By volume.
Oxygen, .....	8	1
Hydrogen, .....	1	2

(For a further account of the properties of water, see that article.) The processes for procuring a supply of hydrogen, described at the commencement of the present article, will now be intelligible. The first is founded on the fact that iron, at a red heat, decomposes water, the oxygen of which unites with the metal, while the hydrogen gas is set free. That the hydrogen which is evolved when zinc or iron is put into dilute sulphuric acid, is derived from the water, is obvious from the consideration, that of the three substances, iron or zinc, sulphuric acid, and water, the last is the only one which contains hydrogen. The product of the operation, besides hydrogen, is the sulphate of the protoxide of iron, if iron is used, or of the oxide of zinc, when zinc is employed. Hydrogen, therefore, is one of the most abundant substances in nature. It forms, as has been stated, eight-ninths of water; besides, with carbon and oxygen, it enters into the composition of all vegetable substances; and, with oxygen, carbon, and nitrogen, it forms a part of all animal substances. Large quantities of it, often united with more or less carbon, are continually evolved into the atmosphere from the decomposition of vegetable and animal matters.

**HYDROGRAPHY**; that part of geography which treats of waters.—*Hydrographic maps*; such as make the rivers and other collections of water their chief subject.

**HYDROMETER**, (*Greek*), measurer of density (for fluids), is an instrument, which, being immersed in fluids, as in water, brine, beer, brandy, determines the proportion of their densities or their specific gravities, and thence their qualities. The use of the hydrometer depends on the following propositions—

1. The hydrometer will sink in different fluids in an inverse proportion to the density of the fluids; 2. the weight required to sink a hydrometer equally far in different fluids, will be directly as the densities of the fluids. Each of these two propositions gives rise to a particular kind of hydrometer; the first with the graduated scale, the second with weights. The latter deserves the preference. (See *Traité d'Aréométrie* de M. Francœur, and *Le Cours de Physique* de M. Biot.)—There are various instruments used as hydrometers; one is a glass or copper ball, with a stem, on which is marked a scale of equal parts or degrees. The point to which the stem sinks in any liquid being ascertained and marked on this scale, we can tell how many degrees any other liquid is heavier or lighter, by observing the point to which the stem sinks in it. Another kind is formed by preparing a number of hollow glass beads, of different weights, and finding which bead will remain stationary in any liquid, wherever it is placed. An instrument of great delicacy, which will even detect any impurity in water too slight to be detected by any ordinary test, or by the taste, consists of a ball of glass three inches in diameter, with another joining it, and opening into it one inch in diameter. A wire, about ten inches long and one-fortieth of an inch in diameter, divided into inches and tenths, is screwed into the larger ball. A tenth of a grain, placed on the top of the wire will sink it a tenth of an inch. Now it will stand in one kind of water a tenth of an inch lower than in another, which shows that a bulk of one kind of water, equal to the bulk of the instrument (which weighs 4000 grs.), weighs one tenth of a grain less than an equal bulk of the other kind of water; so that a difference in specific gravity of one

part in 40,000 is detected. The areometer is more simple and accurate. A glass phial, about two inches in diameter, and seven or eight long, is corked tight; into the cork is fixed a straight wire, one twelfth of an inch in diameter, and thirty inches long. The phial is loaded with shot, so as to sink in the heaviest liquid, leaving the wire just below the surface. The liquor is then placed in a glass cylinder, three or four feet long, with a scale of equal parts on the side, by which the point to which the top of the wire sinks is marked. This instrument is so delicate, that the sun's rays, falling upon it, will cause the wire to sink several inches; and it will rise again when carried into the shade.

Nicholson made an improvement by which the hydrometer is adapted to the general purpose of finding the specific gravity both of solids and fluids. A is a hollow ball of copper, B a dish affixed to the ball by a short slender stem D; C is another affixed to the opposite side of the ball by a kind of stirrup. In the instrument actually made, the stem D is of hardened steel 1-40 of an inch in diameter, and the dish C is so heavy as in all cases to keep the stem vertical when the instrument is made to float in any liquid. The parts are so adjusted, that the addition of 1000 grains in the upper dish B, will just sink it in distilled water, at the temperature of 60° of Fahrenheit's thermometer, so far that the surface shall intersect the middle of the stem D. Let it now be required to find the specific gravity of any fluid. Immerse the instrument in it, and by placing weights in the dish B cause it to float, so that the middle of its stem D shall be cut by the surface of the fluid. Then, as the known weight of the instrument, added to 1000 grains, is to the same known weight added to the weight used in producing the last equilibrium, so is the weight of a quantity of distilled water displaced by the floating instrument, to the weight of an equal bulk of the fluid under examination. And these weights are in the direct ratio of the specific gravities. Again, let it be required to find the specific gravity of a solid body, whose weight is less than 1000 grains. Place the instrument in distilled water, and put the body in the dish B. Make the adjustment of sinking the instrument to the middle of the stem, by adding weight in the same dish. Subtract those weights from 1000 grains, and the remainder will be the weight of the body. Place now the body in the lower dish C, and add more weight in the upper dish B, till the adjustment is again obtained. The weight last added will be the loss the solids sustain by immersion, and is the weight of an equal bulk of water. Consequently the specific gravity of the solid is to that of water, as the weight of the body to the loss occasioned by the immersion. This instrument was found to be sufficiently accurate to give weights true to less than one-twentieth of a grain.

**HYDROPHANE**. See *Opal*.

**HYDROPHOBIA** (from *hydro*, water, and *phobos*, fear); a specific disease arising from the bite of a rabid animal. The animals most liable to be afflicted with madness are dogs; but cats, wolves, foxes, &c., are also subject to it. The following description of the way in which rabies affects dogs, is from a communication in the *Sporting Magazine*, September, 1825:—The symptoms of rabies in the dog are the following, and are given nearly in the order in which they usually appear:—An earnest licking, or scratching, or rubbing, of some particular part; sullenness, and a disposition to hide from observation; considerable costiveness, and occasional vomit-



ing; an eager search for indigestible substances—as bits of thread, hair, straw, and dung; an occasional inclination to eat its own dung, and a general propensity to lap its own urine. The two last are perfectly characteristic. The dog becomes irritable; quarrels with his companions; eagerly hunts and worries the cat; mumbles the hand or foot of his master, or perhaps suddenly bites it, and then crouches and asks pardon. As the disease proceeds, the eyes become red; they have a peculiar bright and fierce expression; some degree of strabismus, or squinting, very early appears—not the protrusion of the *membrana nictitans*, or haw, over the eye, which, in distemper, often gives the appearance of squinting, but an actual distortion of the eyes; the lid of one eye is evidently more contracted than that of the other; twitchings occur round that eye; they gradually spread over that cheek, and finally over the whole face. In the latter stage of the disease, that eye frequently assumes a dull green colour, and at length becomes a mass of ulceration. After the second day, the dog usually begins to lose a perfect control over the voluntary muscles. He catches at his food with an eager snap, as if uncertain whether he could seize it; and he often fails in the attempt. He either bolts his meat almost unchewed, or, in the attempt to chew it, suffers it to drop from his mouth. This want of power over the muscles of the jaw, tongue, and throat increases, until the lower jaw becomes dependent, the tongue protrudes from the mouth, and is of a dark, and almost black colour. The animal is able, however, by a sudden convulsive effort, to close his jaws, and to inflict a severe bite. The dog is in incessant action; he scrapes his bed together, disposes it under him in various forms, shifts his posture every instant, starts up, and eagerly gazes at some real or imaginary object; a peculiar kind of delirium comes on; he traces the fancied path of some imaginary object floating around him; he fixes his gaze intently on some spot in the wall or partition, and suddenly plunges and snaps at it; his eyes then close, and his head droops, but the next moment he starts again to renewed activity; he is in an instant recalled from this delirium by the voice of his master, and listens attentively to his commands; but as soon as his master ceases to address him, he relapses into his former mental wandering. His thirst is excessive (there is no hydrophobia, or fear of water, in the dog), and, the power over the muscles concerned in deglutition being impaired, he plunges his face into the water up to the very eyes, and assiduously, but ineffectually, attempts to lap. (In Johnson's Shooter's Companion, the author observes, "In those instances of hydrophobia which have fallen under my notice, the animal has always been capable of lapping; however, in the disease called *dumb madness*, I have noticed symptoms similar to the above.") His desire to do mischief depends much on his previous disposition and habits. I have known it not to proceed beyond an occasional snap, and then only when the animal was purposely irritated; but with the fighting dog, the scene is often terrific. He springs to the end of his chain; he darts with ferocity at some object which he conceives to be within his reach; he diligently tears to pieces every thing about him; the carpet or rug is shaken with savage violence; the door or partition is gnawed asunder; and so eager is he in this work of demolition, and so regardless of bodily pain, that he not unfrequently breaks one or all of his tushes. If he effects his escape, he wanders about, sometimes merely attacking those dogs which fall in his way; and at other times he diligently and perseveringly hunts out his prey: he overcomes every obstacle to

effect his purpose; and, unless he has been stopped in his march of death, he returns in about four and twenty hours, completely exhausted, to the habitation of his master. He frequently utters a short and peculiar howl, which, if once heard, can rarely be forgotten; or if he barks, it is with a short, hoarse, inward sound, altogether dissimilar from his usual tone. In the latter stages of the disease, a viscid saliva flows from his mouth, with which the surface of the water that may be placed before him, is covered in a few minutes; and his breathing is attended with a harsh, grating sound, as if impeded by the accumulation of phlegm in the respiratory passages. The loss of power over the voluntary muscles extends, after the third day, throughout his whole frame, and is particularly evident in the loins; he staggers in his gait; there is an uncertainty in all his motions; and he frequently falls, not only when he attempts to walk, but when he stands, balancing himself as well as he can. On the fourth or fifth day of the disease, he dies, sometimes in convulsions, but more frequently without a struggle. After death, there will invariably be found more or less inflammation of the mucous coat of the stomach; sometimes confined to the rugæ, at other times in patches, generally with spots of extravasated blood, and occasionally intense, and occupying the whole of that viscus. The stomach will likewise contain some portion of indigestible matter (hair, straw, dung), and, occasionally, it will be completely filled and distended by an incongruous mass. The lungs will usually present appearances of inflammation, more intense in one, and generally the left lung, than in the other. Some particular points and patches will be of a deep colour, while the neighbouring portions are unaffected. The sublingual and parotid glands will be invariably enlarged, and there will also be a certain portion of inflammation, sometimes intense, and at other times assuming only a faint blush, on the edge of the epiglottis, or on the rima glottidis, or in the angle of the larynx at the back of it.

The hydrophobia seems to be spontaneous, and capable of being communicated only in certain animals—the dog, the wolf, the fox, and the cat. All animals which have become rabid by a bite, do not appear to be able to transmit it to others; as the hog, cow, sheep. In regard to man, it is not certain whether the disease is communicable from the human subject. The hydrophobia is not commonly manifested in the time of greatest cold or greatest heat, but usually in March and April in wolves, and in May and September in dogs. It is rare in very warm or very cold climates. No particular cause of the rabies is known; it is a mistake to attribute it to a total privation of food, as a great number of experiments prove that this is not the effect of such a treatment. All observations seem to prove the existence of a rabid virus, which is more violent when it proceeds from wolves than from dogs; as, out of a given number of persons bitten by a rabid wolf, a greater number will die than out of the same number bitten by a dog. The communication of the virulent hydrophobia by inoculation cannot be denied, and is the best proof of the existence of the virus. The virus appears to be contained solely in the saliva, and does not produce any effect on the healthy skin. But if the skin is deprived of the epidermis, or if the virus is applied to a wound, the inoculation will take effect. The development of the rabid symptoms is rarely immediate; it seldom takes place before the fortieth or after the sixtieth day. It begins with a slight pain in the scar of the bite, sometimes attended with a chill; the pain extends and reaches the base of the breast, if the bite was on the lower limbs, or the

throat, if on the upper extremities. The patient becomes silent; frightful dreams disturb his sleep; the eyes become brilliant; pains in the neck and throat ensue. These symptoms precede the rabid symptoms two or three days. They are followed by a general shuddering at the approach of any liquid or smooth body, attended with a sensation of oppression, deep sighs and convulsive starts, in which the muscular strength is much increased. After the rabid fit, the patient is able to drink. The disposition to bite does not appear to belong to any animals except those whose teeth are weapons of offence; thus rabid sheep butt furiously. A foamy, viscid slaver is discharged from the mouth; the deglutition of solid matters is difficult; the respiration hard; the skin warm, burning, and afterwards covered with sweat; the pulse strong; the fit is often followed by a syncope; the fits return at first every few hours, then at shorter intervals, and death takes place generally on the second or third day. A great number of applications have been recommended, but without success. The treatment of the disease is of two sorts; the one consists in preventing its development; the other in checking its progress. The former consists in cauterising the wound with iron heated to a white heat, the pain of the cautery being less, as the temperature is greater. The cautery is preferable to the use of lotions, liniments, &c., but it should be employed within twelve hours after the bite. It has been said that, in patients who were about to become rabid, several little pustules filled with a serous matter appeared under the tongue, the opening of which would prevent the disease; but this is not well established. Various remedies have been prescribed for the cure of a declared hydrophobia. Bleeding, even to syncope, appears to have produced the greatest effect, but without complete success. Preparations of opium administered internally or by injection, mercurial frictions, belladonna, emetics, sudorifics, purgatives, &c., have been tried ineffectually. Yet the physician should not despair, as a remedy which has failed in one case may succeed in another. Above all, the patient should be treated gently, and his sufferings alleviated by consulting his comfort as much as possible; and the attendants should not forget, that there is no instance of the rabies having been communicated from one man to another.

HYERES. See *Hieres*.

HYGIEIA, the sweet, smiling goddess of health, was the daughter of Aesclepias, or Esculapius. Hesiod, Homer, and Pindar, who were unacquainted with any such divinity as Esculapius, of course knew nothing of such a goddess. This fable, probably, had its origin at the time in which the worship of Esculapius began. When the healing art was practised in his temple, the god of medicine and the goddess of health were always in close connexion. Her temple was placed near his, and her statues were even erected in it. She is represented as a maid of slender form, with a long flowing robe. Her distinguishing characteristic is a feminine softness. She has a bowl in her hand, from which a serpent is eating—an emblem of the art of medicine.

HYGROMETER, HYGROSCOPE. It is of the greatest importance for meteorology to ascertain at any time the quantity of water contained in the air. The instruments used for this purpose are called *hygrometers* (measures of moisture). Daily experience shows, that some bodies possess a great capability of absorbing the humidity suspended in the atmosphere, and, according to their respective construction, becoming longer or shorter, in the direction of the fibres of their length or breadth. Thus, for example, coriage and catgut are shortened and

untwisted by moisture. And this observation is the foundation of the hygrometer of Lambert, which, however, on account of the irregularity of the motion produced in the catgut by the humidity, does not altogether answer its purpose, but properly deserves the name of a *hygroscope* (shower of moisture). Saussure and De Luc, therefore, sought for other substances, which are regularly lengthened or shortened by the absorption or loss of humidity. Saussure believed this property might be found in a human hair, freed from all unctuousity by boiling in ley; De Luc, in a very thin piece of whalebone, cut in a direction transverse to the fibre. Saussure stretches the hair, properly prepared, and fastened at one end, over a delicate and easily movable wheel, by a small weight, while De Luc makes use of a small wire of gold to stretch the whalebone. Whenever the hair in Saussure's hygrometer is lengthened or shortened by the action of the moisture or dryness, the wheel, and an index attached to it, must be turned, and thus mark the increase or diminution of the water suspended in the atmosphere. But to find the absolute quantity, it is necessary to fix the points of extreme moisture and dryness. Saussure fixes the point of extreme moisture in his hygrometer by placing it in a glass receiver, which is enclosed in water and moistened with water within; De Luc, on the other hand, by simply immersing his hygrometer in water. The point of extreme dryness Saussure determines by placing his hygrometer under a receiver, which stands on a tin plate, heated to a red heat, and covered with red hot potash; De Luc by suspending the hygrometer in a close vessel, partly filled with hot quicklime.

HYLAS; a beautiful boy, of whose parents different accounts have been given. Hercules, who loved him, took him with him on the Argonautic expedition. But Hylas having landed in the region of Troy to draw water, the nymphs saw him, and were so enraptured with his beauty, that they drew him down into the crystal water. Hercules called him in vain on the shore, and, on this account, delayed his return to the ship *Argo*, which continued her voyage to Colchis without him.

HYMEN, HYMENÆUS; the god of marriage among the later Greeks, by whom the marriage itself and the bridal song were also called *Hymenæus*. But it is probable that the god of marriage derived his name from the nuptial song, since we find it mentioned earlier than the divinity. According to the commonly received opinion, Hymen was so beautiful a youth, that he might easily have been mistaken for a maiden. But he was poor; and therefore his love, though not unrequited, was unfortunate. In order to be near his mistress, he dressed himself like a woman on the festival of the Eleusinian Ceres, and mingled in the ceremony. During the celebration, a band of pirates broke in, and carried him off with the crowd of females. The pirates having landed on a desolate island, and fallen asleep through weariness, he destroyed them all, and hastened back to Athens, where he promised to bring back all the damsels that had been carried off, on condition of being united to his mistress. A joyful consent was given, and, because his marriage was so fortunate, he was commemorated in the nuptial songs, till he was deified. Other traditions also are handed down respecting him, and nothing certain is known about his descent. Sometimes he is called the son of the musician Magnes; sometimes of Bacchus and Venus; and sometimes of Apollo and a muse, but whether of Terpsichore, Urania, Clie, or Calliope, is uncertain. Claudian says that Venus gave the son of the muse authority over marriages; so that, without invoking him, no one dared to solemnise them, or to light the

nuptial torch. He was in the train of Venus, and among the companions of Cupid. No marriage took place without his being invoked to sanction it. He is described as having around his brows the flower of marjoram, in his left hand the flame-coloured nuptial veil, in his right the nuptial torch, and on his feet golden sandals. Song and dance accompany him. At the death of Adonis, Bion describes him as extinguishing his torch, and tearing the nuptial wreath. If we may believe the beautiful hymn of Catullus to this god, Hymen has his seat on Helicon, among the muses.

**HYMETTUS**; a mountain in Attica, now called *Treleovano*, distinguished for the quantity and excellence of its honey, which the bees here collect. This honey is always fluid. Jupiter, who was worshipped on this mountain, received therefrom the name of *Hymettius*.

**HYMN**; a song of praise, which was sung in honour of gods or heroes, on festivals, with the accompaniments of music and dancing. The hymns varied in name and character, according to the gods in whose honour they were sung. They were called *diægrambics*, *peans*, &c. Afterwards, every song of praise, or ode, wherein any thing elevated or sublime was sung, went by this name. In this respect, many of the Hebrew psalms are to be called *hymns*. In consequence of their Oriental character, and the nature of their religion, these breathe a more fervid spirit of devotion than those of the Greeks. These last were anciently almost entirely epic, like those of Homer. They recounted legends of the gods, as well as the deeds of men. Those of later times, of Callimachus and Pindar, for instance, are almost entirely lyric. The early Christian hymns, are, in a great measure, lyric, and express the feelings of one who longs earnestly for invisible things. The English hymns, commonly sung in the churches, are, generally, far from having the original character of a hymn, and devoid of the fervent lyric strain, the glowing feeling, which characterize it. In the Greek and Latin church, certain songs are called *hymns* (in the latter ninety-six in number), which, at certain periods, are sung in the churches standing, the psalms being sung sitting. The first of these hymns are said to have been composed in the Greek church by bishop Hierotheus, in the Latin church by St Hilarius, bishop of Poitiers, and, after him, by St Ambrosius, bishop of Milan. Some of them must be ranked among the first productions of sacred poetry. The popes Gelasius and Gregory also composed hymns, as did also Symasius, Cosmus of Jerusalem, Johannes Damascenus, Theophanes, Prudentius, Beda, Sedulius, Paulinus, Venantius, Fortunatus, Paulus Diaconus, Thomas Aquinas. The fervent hymn, by which the Franciscans greet the first rays of the sun, is celebrated. These old hymns are written in iambs, trochees, &c., often in irregular metre, also in rhymes. In 1629, pope Urban VIII. improved them. The use of hymns was sanctioned by the fourth council, at Toledo, in 633. They are sung in the canonical hours. (q. v.) Several of these hymns have particular names, as *Hymni Epistolici*, sung in the mass before the reading of the epistles; *Hymni Evangelici*, sung before the reading of the gospel; *Hymnus Ambrosianus*, or *Te Deum laudamus*; *Hymnus Angelicus*, the same with *Gloria in Excelsis Deo* (see *Doxology*); *Gloria Patri* (see *Doxology*); *Hymnus Marianus*, the same with the *Magnificate*, &c.

**HYPATIA**; a female philosopher of the eclectic sect, the daughter of Theon, a celebrated mathematician, who governed the Platonic school in Alexandria, towards the close of the fourth century, at which period she was born. As she early exhibited proof of extraordinary genius and judgment, her

father, besides educating her in all the accomplishments of her own sex, made her mistress not only of the different branches of polite learning, but of geometry and astronomy, as then understood. She finally studied philosophy; and such was her reputation, that she became a preceptress in the school in which Ammonius, Hierocles, and other celebrated philosophers, had presided, and the votaries of philosophy crowded to Alexandria. Her ready elocution and graceful address, united with deep erudition and sound judgment, procured her the admiration of all her hearers. She discovered none of the vanity or pride of learning, and, although eminently beautiful, was equally virtuous. Her house became the resort of all the persons of learning and distinction in Alexandria, and, among others, of Orestes the governor. At this time, the patriarch of Alexandria was Cyril, a prelate in the highest degree intolerant and haughty, who was guilty of encouraging the populace to plunder the Jews. Orestes laid the affair before the emperor, who declining to interfere, Alexandria became a frequent scene of tumult between the partisans of the governor and of the bishop. The intimacy of the governor with Hypatia aroused the anger and jealousy of Cyril; and in consequence she was much calumniated by his monkish partisans and the Christian populace. Their blind resentment at length led them to a conspiracy against her life, and a furious band of assassins seized upon her, as she was returning home from the schools, dragged her through the streets of Alexandria, stripped her naked, and finally tore her limb from limb, with circumstances of the greatest barbarity, and committed her mangled members to the flames. This infamous transaction took place in 415, under the reign of Theodosius II.

**HYPERBOREANS** (those who dwelt beyond the domain of Boreas or the north wind); the name given by the ancients to the unknown inhabitants of the North and West, who were reported always to enjoy a delightful climate. In earlier times, the dwelling of Night and the realm of Shades, and the Cimmerians, who lived in perpetual darkness, were placed in the west. Instead of these, the ancients found there a contented and somewhat civilized people, who inhabited a soil rich in gold, and free from the cold north winds of Greece, against which the Alps and Pyrenees appeared to screen them. Hence originated the report of a people enjoying perpetual health and long life; and who, being the especial favourites of Apollo, worshipped him, with music and sacrifices, on plains rich in fruit, and protected from the north wind, and who, for thousands of years, lived in a perpetual succession of pleasures. As the West gradually became better known, the name of *Hyperboreans* was applied exclusively to the North.

**HYPERION**. See *Titans*.

**HYPERMNESTRA**; one of the fifty daughters of Danaus, who married Lynceus, son of Ægyptus. She disobeyed her father's bloody commands, who had ordered her to murder her husband the first night of her nuptials, and suffered Lynceus to escape unhurt from the bridal bed. Her father summoned her to appear and answer for her disobedience, but the people acquitted her, and Danaus was reconciled to her and her husband, to whom he left his kingdom at his death. Some say that Lynceus returned to Argos with an army, and that he conquered and put to death his father-in-law, and usurped his crown.

**HYPERSTHENE**; a mineral principally found, in rolled masses, upon the coast of Labrador, and hence sometimes called *Labrador hornblende*. It has a lamellar structure, parallel with the diagonals and sides of a rhombic prism of 87° and 93°. The cleavage takes place most readily parallel to the short diagonal of the prism, and the planes, produced by

this division, present an eminently metallic lustre, usually of a copper-red colour. Colour, grayish or greenish black; opaque; hardness equal to that of quartz; specific gravity, 3.389. It consists of silice 54.25, magnesia 14.00, alumine 2.25, lime 1.50, oxide of iron 24.50, and water 1.00.

**HYPO**, the Greek *ὑπο*, a preposition which occurs in many compound words used in English, and mostly signifies *under*.

**HYPOCHONDRIASIS** (from the Greek *ὑπο*, under, and *χῆλη*, the cartilage; hence *hypochondrium*, the region of the abdomen, which lies under the short ribs); one of the most troublesome of diseases. Its seat is in the abdomen, particularly under the short ribs; but when it has increased to a certain degree, it manifests itself, in the most various ways, in the whole body, as there are few diseases of which the hypochondriac does not at some time or other complain. He feels a pressure on the right side, and thinks it is owing to a complaint of the liver; he has pains in the breast, and immediately apprehends inflammation of the lungs; his head feels heavy, and nothing is more certain than an approaching apoplexy; he sees specks before his eyes, and a cataract is unavoidable; if the heart beats stronger than usual, a polypus in that organ is probable; and an unimportant pimple becomes the indication of inveterate ulcers; and so on. All these effects of the disease are explicable from its nature, seat, and causes. Hypochondria is a disturbance of the functions of the nervous system of the abdomen. Hence the sensibility of the nervous system is morbidly heightened, but its power of action lessened. At the same time, the separation between the nervous system of the abdomen and that of the brain is rendered less complete, so that certain feelings reach the brain, and thus affect the thoughts much more than in a state of health. The disturbance in the function of the abdominal nervous system produces next a weakness and disturbance in the digestion, which generally produce the first and most numerous attacks of hypochondria, from which all the others originate, in proportion as the morbid sympathy extends over the whole body. Hence, first, is produced spasmodic contractions under the short ribs, sometimes on one side, sometimes on the other, sometimes in the pit of the stomach; torpidity of the bowels, flatulency, inflation of the abdomen, want of appetite, increased pressure, and, generally, disagreeable feelings after eating. In the progress of the disease, a slow and somewhat difficult inspiration comes on, indescribable anxiety, and pain and giddiness in the head. Also, when the stomach is empty, this organ sometimes suffers pain and sickness, and vomiting takes place. For moments, particularly after digestion is finished, the hypochondriac feels easy, well, and serene; but, all at once, the old complaints seize again upon their victim. The disturbance of the nervous system also has, as well may be conceived, a great influence upon the mind and humour of the patient. Sometimes he is melancholy, sometimes gay to an excess. Uninterruptedly occupied with the state of his body, he takes notice of every feeling, and wishes to have every trifling pain explained, considering every one as a symptom of a serious disease. For every thing he wants physic. In the hours of anxiety, hypochondriacs are constantly in dread of death. Sometimes anxiety attacks them so suddenly, that they must jump up, and cannot find quiet any where. Sometimes memory leaves them, so that they cannot think of their name. In the midst of the most serious conversation, nay, even of prayers, the most ludicrous ideas or images strike them. Others, all at once, feel a desire to perform the strangest actions, from which they can restrain

themselves only with great difficulty. This deplorable disease may be occasioned by any circumstances which disturb the functions of the abdominal nervous system, heighten its sensitiveness, debilitate digestion, and lessen the separation of the reproductive nervous system from the sensitive. Among the chief causes are great exertions of the mind in studying, a sedentary or dissipated life, excess in exciting liquors, particularly coffee; also want of exercise of the physical and mental powers, producing *ennui*. Hypochondria is physically considered not a dangerous disease. It is true, the genuine hypochondriac believes, at least for six days of every week, that his hour is come. He passes a wretched existence, and is a real torment to his family and physician. Hypochondria can be cured but slowly. A hypochondriac must abstain from much physic, but the difficulty is to persuade him to do so. He would often rather take ten medicines than one. He ought to avoid sensual indulgences, but his irritated nerves refuse obedience to duty; he ought to master his feelings, but the body has become the governing power; he ought to take much exercise, but his indolence finds continual excuses for omitting it; he ought to observe a strict diet for years, and confidently follow the directions of his physician, but he is impatient to be cured immediately, and his most solemn promises are forgotten in a week; he would have ten physicians at once, not to follow their advice, but to quarrel with all, and to tell them that they know nothing of his case. Thus it happens, that a hypochondriac is seldom entirely cured, but, after having suffered for years, he dies of some additional disease; or, in very advanced age, when the irritability of the nerves is lessened, the disease disappears.

**HYPOGASTRIC** (from *ὑπο*, under, and *γαστήρ*, the abdomen); seated in the lower part of the belly.

**HYPOTHECATION**. See *Bottomry*.

**HYPSIPYLE**; daughter of Thoas, king of Lemnos. When the Lemnian women murdered their husbands, in their sleep, because they had taken Thracian slaves for concubines, she alone preserved her father, and concealed him in the island of Chios. Hypsipyle received the Argonauts, who had landed on Lemnos, with great kindness, and bore Jason two sons, Thoas and Euneus. When the Lemnian women discovered that Hypsipyle had preserved her father, they attempted to murder her, and would have accomplished their purpose, had she not saved herself by a timely flight; but she was seized shortly after by pirates, who sold her to king Lycus (or Lycurgus of Nemea), who intrusted her with the education of his son, Opheltes. When the army of the seven princes passed through the territories of Lycurgus, on their way to Thebes, they found Hypsipyle alone in a wood, with the boy at her breast. To procure them refreshments, she put down the boy; but, while she was gone, a serpent killed him. In remembrance of him, the Greeks instituted the Nemean games. Hypsipyle was thrown into confinement, and would have atoned for her misfortune with her life, had not her sons rescued her.

**HYRCANIA**; a province of ancient Persia, encompassed with mountains, and fertile in wine and fruit. It now contains the northern half of Khurasan, and the southern portion of Masanderan, along the Caspian sea. The inhabitants of Hyrcania were probably descended from the northern Scythians. As early as the first century, Hyrcania possessed independent sovereigns, who were often formidable to the Parthian monarchy.

**HYSON TEA**. See *Tea*.

**HYSTERIC**s are with women nearly the same as

hypochondria with men, the difference which really exists arising from the peculiar character and constitution of women. It arises from a morbid excitement of the nervous system, and manifests itself by great uneasiness, unusual susceptibility, occasioning great trouble, often from imaginary causes, and affecting the sufferer even to tears. To these is added the sensation of a ball mounting from the abdomen, and particularly from the pit of the stomach, where the most important nerves concentrate, and occasioning a feeling of strangulation. From the greater susceptibility in the system of women, these affections are more universal, and appear quicker in other parts of the body, particularly in the muscles, than in men. Hence spasms of various kinds, contractions of the neck, pains in the head, fainting fits, palpitation of the heart, appear very frequently, and are sometimes so severe, that persons afflicted with them seem to be dying. These complaints were once ascribed to vapours arising from the stomach, and were called by that name. They

were once very fashionable among the ladies. Women of a delicate habit, and whose nervous system is extremely sensible, are the most subject to hysterical affections; and the habit which predisposes to these attacks is acquired by inactivity and a sedentary life, grief, anxiety, and various physical disorders. They are readily excited, in those who are subject to them, by strong emotions, especially if sudden. Hysterical complaints are best prevented by a judicious care of the moral and physical education of girls. Men of uncommon nervous sensibility are sometimes subject to disorders not essentially different.

HYSTERON PROTERON; two Greek words, meaning *the last first*; hence it is used for an anachronism, but chiefly to designate, in grammar, the figure in which that word which should follow is used first; for instance, *Valet atque vivet* (he is well and lives). It is often used to produce a comic effect; for instance, *All the world and Cork talked of it*.

## I

I; the ninth letter in the English alphabet, and the third vowel. The English language is the only one known to us, which denotes, by this same character, the two totally different sounds of *i* (as in *pine*) and *i* (as in *pin*). In all other languages of Western Europe, it has the sound of *i* in *pin* and *ee* in *beef*, which is the same vowel, only in the former case short, in the latter, long. Those languages which have the sound *i* in *pine* express it by a diphthong; for instance, the German by *ei* and *ai*; and it is, in fact, a real diphthong. The continental *i*, corresponding to the English *ee*, is produced by breathing out, whilst the lips are slightly parted, the mouth drawn back a little at the corners, and the tongue curved upwards, yet not so as to touch the roof of the mouth. If the tongue touches the roof of the mouth, the lips remaining in the same position, the sound of *j* is produced, which change takes place, particularly if *i* precedes another vowel. This circumstance, and the near affinity of the two sounds, are the reason that, in some languages, particularly in Latin, they have the same character; hence it was said, *i* is a vowel in some cases, and a consonant in others. In all Latin words of Latin origin, *i* preceding a vowel (unless it follows another vowel), is a consonant, as *Ianus* (*Janus*), *coniicio* (*conjectio*); but in words of Greek origin, it is a vowel, as *iambus*, *iaspis*. In words of Hebrew origin, it varies; in *Iacobus* (*Claudian*, *epigr.* 27), it is a vowel: in *Iudeus*, a consonant. With the propagation of Christianity, Latin became, in many respects, the model of other languages, and this peculiarity of *i* was also adopted by most of them; so that, even after two different signs (the *i* and *j*) had been adopted for the vowel and the consonant sound of *i*, they nevertheless were, and still are, mixed together in dictionaries; but the fact that they are distinct in nature (though nearly akin), and have distinct characters, sufficiently authorizes us to separate them. As the position of the mouth required for pronouncing the *i* of the European continent (*ee*) is such, that it can easily be assumed from the position necessary for the pronounciation of other vowels, we find *i*, in many languages, the final vowel

of several diphthongs; as, in German, *ei*, *ai*; in French, *ai*, *oi*, *ui*, &c.; and these sounds at last actually became one. In the Greek, the *i* (*iota*) was always a vowel. As a numeral, it signified *ten*; with a little line under it (*ι*), *ten thousand*. The Romans used *I* to signify *one*, and they continued to count with it up to four (*I*, *II*, *III*, *IIII*). The Roman *I*, put before a *V*, takes away the value of one; hence *IV* is equal to four; and, placed after *V*, it adds one; hence *VI* is equal to six. The dot over the *i* originated in the fourteenth century. *I*, on Roman coins, was the mark of the *as*, in value and weight. As an initial letter, it stands for *idea*, *imperator*, *imperii*, *indulgentia*, *invictus*, &c. It is a French proverb of a person occupied with trifles—*Il met les points sur les i* (he is dotting his i's).

IAMBUS, in prosody; a foot of two syllables, a short and a long one. In Latin, the iambic verse consists of four, six, or (in the comic writers) even of eight feet. The odd feet, i. e., the first, third, and fifth, may be iambs, spondees, anapæsts, dactyles, or tribrachs, (but never trochees). The even feet, however, or the second, fourth, and sixth, must be iambs. The more iambs there are in the verse, the more beautiful it is considered. An iambic verse of four feet is called a *quatrenarius*; one of six, a *senarius*; one of eight, an *octonarius*. The German language, having a prosody, has, of course, the iambus, and makes great use of it in poetry. The iambic metre is also the fundamental rhythm of many English verses.

IAR; a Russian word, signifying *bank*, and appearing in many geographical names; as, *Iaroslaf*, bank of the Slavonians.

IARBAS. See *Dido*.

IBARRA, JOACHIM, printer to the king of Spain, was born at Saragossa, and died Nov. 23, 1785, fifty-nine years old. He raised the art of typography to an excellence before unequalled in Spain. From his press were issued magnificent editions of the Bible, the Mozarabic Missal, Mariana's History of Spain, Don Quixote, and the Spanish translation of Sallust. The latter, which appeared in one folio volume, in 1772,

was made by the Infant don Gabriel, and is very rare, as the prince distributed the whole edition among his friends. Ibarra invented an ink, which, without doing injury to its blackness, he could make thicker or thinner at any moment. He also introduced into Spain the art of smoothing the paper after it was printed. As he never left his country, he invented almost all the improvements which he introduced.

IBERIA, in ancient geography;—1. a very fertile district in Asia, which consisted of a large plain, surrounded on all sides with mountains, a part of the present Russian Georgia. In ancient times, this country probably belonged to the Persian monarchy; at least, this seems to be intimated by the name of the river Cyrus. Alexander and his successors did not penetrate into Iberia. The Iberians, probably, therefore, remained independent till Pompey and Trajan reduced them to the Roman dominion, under which they remained till after the time of the emperor Julian. They were afterwards subject, sometimes to the Turks, sometimes to the Persians, or had their own princes. 2. Spain was anciently called *Iberia*, and the principal river, *Iberus* (Libro). The Iberi or Iberians, probably the most ancient European nation, driven towards the West, formed the basis of the population of Italy, Gaul, Spain, and Lusitania. Their language still lives in the Basque. The Celts, who entered the country later, were intermingled with them, and have been considered as the original inhabitants of Spain. See *Celts*.

IBERUS. See *Ebro*.

IBEX (*capra ibex*). This animal is distinguished by large knotted horns, reclining backwards; a small head; large eyes; a thick, short, strong body; strong legs; very short hoofs; and a short tail. Its body is of a deep brown colour, with a mixture of hoary hairs; its belly is of a tawny white; its legs partly black, partly white; the space under the tail, in some individuals, is tawny, in others white. The hair is harsh, and the male is furnished with a beard. These animals are seldom found, except in the most precipitous and inaccessible heights of lofty mountains, where they assemble in flocks, sometimes consisting of ten or fifteen individuals. During the night, they feed in the highest woods, but, at sunrise, they again ascend the mountains, till they have reached the most perilous heights. They are remarkably swift, and display amazing agility and dexterity in leaping. They are objects of the chase, but, from the inaccessible nature of the places to which they generally resort, their dexterity in leaping, and the danger attendant on a pursuit of them, the ibex hunter must have a head that can bear to look down from the most tremendous precipices without terror, address and sure-footedness in the most difficult passes, and also much strength, vigour, and activity. Another danger attendant on this chase is, that the ibex, when close pressed, will sometimes turn on his pursuer, and tumble him down the precipices, unless he has time to lie down, and permit the animal to pass over him. The ibex will mount an almost perpendicular rock of fifteen feet, at three successive bounds, appearing merely to touch it, to be repelled, like an elastic substance striking against a hard body. The fore legs being considerably shorter than the hinder, enables these animals to ascend with more facility than to descend, and hence, when pursued, they always attempt to gain the summits of the mountains. They inhabit the chain of mountains extending from Mount Taurus, between Eastern Tartary and Siberia. In Europe, they are found on the Carpathian and Pyrenean chains, and in the Grisons and other parts of the Alps. The season for hunting them is during August and September, when they are usually in good condition. The old males have more elevated spots than the females

and younger animals. Their voice is a sharp, short whistle, not unlike that of the chamois, but of shorter duration; sometimes, and especially when irritated, they make a snorting noise. The female seldom has more than one young one at a time: to this she pays great attention, defending it with courage and obstinacy. As to the stories of their throwing themselves down the steepest precipices, and contriving to fall on their horns, when closely pursued, or hanging by these appendages over gulfs by a projecting tree till the danger be passed, we must confess that they appear to us very problematical.

IBIDEM (*Latin*); in the same place (generally contracted, as *ibid.*); used for references.

IBIS; a genus of birds found in all parts of the world except Australia, but more particularly in warm climates. Generic characters:—beak arched, long, slender, thick at the base, and quadrangular, rounded at the tip, which is obtuse; nostrils linear, extending from the root to the tip of the beak, and dividing it into three portions, of which the upper is the broadest, and flattened; head and throat bare; legs longish and four-toed, the front webbed at their base as far as the first joint, the hind toe very long, all provided with claws; that of the middle toe, in some, smooth, in others, serrated on its inner edge. The ibes perform a powerful and elevated flight, extending their neck and legs, and uttering a hoarse croak. The *I. falcinellus* (Tem.) is nearly two feet in length, and varies much in its plumage at different ages. This species builds in Asia, and is found on the streams and lakes, in flocks of thirty or forty. They migrate periodically to Egypt, and, arriving there later than the white ibis, stay also later. In their passage, they are numerous in Poland, Hungary, Turkey, and the Greek Archipelago. They occasionally visit the banks of the Danube, Switzerland, and Italy, and, more rarely, England and Holland. The white ibis (*I. religiosa*, Cuv.) arrives in Egypt about the time that the inundation of the Nile commences, its numbers increasing or diminishing with the increase or diminution of the waters; and it migrates about the end of June, at which time it is first noticed in Ethiopia. This species does not collect in large flocks: Savigny has observed not more than eight or ten together. They are about the size of a fowl; the head and neck bare; the body white: the primaries of the wings tipped with shining, ashy black, among which the white forms oblique patches; the secondaries bright black, glossed with green and violet; the quill-feathers of the tail white. These two species are the birds which were adored by the ancient Egyptians, and of which numerous mummies are found. It is remarkable that, with the excellent description of the white ibis, given by Herodotus, before their eyes, naturalists so long gave the name of that bird to individuals which are totally different. The bird described by Perrault as the *ibis blanc*, by Brisson as the *ibis candida*, and by Linnaeus as the *tanaisius ibis*, and considered by these naturalists to be the present species, differs from it in size, and in having the ridge of the beak rounded, its tip slightly grooved on each side, and the nostrils at the root. Consequently it is not an ibis; for in this bird, the beak is not grooved, and the nostrils extend nearly from the base to the tip of the beak. The ibis feeds upon insects, worms, testaceous animals, and sometimes on small fish, and not, as has been said, on snakes. The scarlet ibis (*I. rubra*) is found in the hottest parts of America in large flocks, and frequently the old are separated from the young birds. They fly rapidly, but rarely, except at morning and evening, in search of food. The plumage is scarlet: beak naked; part of the cheeks, legs, and feet, pale red. Before the scarlet ibis reaches its full age, its

plumage varies remarkably. It is a very splendid bird. It sometimes appears in the Southern States of the Union. Other species are found in India, Madagascar, cape of Good Hope, and Mexico. The Greek and Roman writers contain many fabulous stories relating to the ibis, which it would be superfluous to repeat. Savigny, in his learned work—*Histoire Naturelle et Mythologique de l'Ibis*—examines all the questions connected with this subject. His chief hypothesis is, that the ibis did not, in point of fact, destroy snakes, but that the reverence attached to it by the Egyptians arose from its return into their country with the Etesian winds, at the commencement of the season of abundance. The ibis mummies have been found in great numbers in the excavations in Egypt.

IBRAHIM; the Turkish for *Abraham*, and the name of many sultans and grand viziers distinguished in Ottoman history. Among them was Soliman's grand vizier, born in Genoa, of the family of the Giustiniani, and carried by pirates to Constantinople. He was strangled in 1536, at the instigation of Roxelana. (See *Soliman*.) Ibrahim Pacha, the eldest son of the present pacha of Egypt, was born about 1795, commanded an expedition to Sennaar and Dongola, and, in 1825 led the Egyptian forces against Candia and the Morea. He desolated the Morea, until the battle of Navarino, in 1828, put a stop to his devastations. See *Greece*.

IBYCUS; a Greek lyric poet, contemporary with Anacreon, in the middle of the sixth century before the Christian era, and, according to the general account, a native of Rhegium in Italy. He went to Samos during the reign of Polycrates over that island, and passed the rest of his life there. It is related, that, while on a journey, he was surprised and murdered by robbers. Finding escape impossible, he declared that the cranes, which happened to be flying over their heads, would revenge his death. The robbers afterwards, in Corinth, seeing a flock of cranes, one of them said ironically, "See the avengers of Ibycus." These words were heard by a bystander, who reported them to the magistrates. The robbers were in consequence seized, and, after confessing their crime, were executed. Ibycus is said to have left seven books of lyric poetry, in the Doric dialect, and to have invented the musical instrument called the *sambuca*, with a kind of poetry, in which he sung his own life, and which was called, after him, *Ibycean*. Only a few fragments of his works have come down to us. The death of Ibycus is the subject of Schiller's beautiful ballad *Die Kranich der Ibykus* (the Cranes of Ibycus).

ICARUS. See *Dædalus*.

ICE; every frozen liquid; in a more limited sense, frozen water. As soon as the temperature is raised, the solid state again gives way to the liquid. We see, then, that ice is nothing but water deprived of its caloric. (q. v.). The freezing of water is a phenomenon so remarkable, that the greatest naturalists have thought it worthy of a careful investigation. Expose a glass, filled with water, to a degree of cold producing ice; an extremely thin film of ice is observed first on the surface of the water in contact with the cold air. Slender threads of ice are soon seen to shoot out from the sides of the vessel, generally forming with it obtuse or acute, seldom right angles; from these rays, new ones continually shoot out, till the whole surface is covered with a single coating; while this process is going on, a great number of air-bubbles arise, as in boiling, which pass out of the water when the congelation is slow; but when it is sudden, they are frozen in, and by their expansion cause rents in the ice. Although cold generally produces contraction, ice occupies a larger

space than water; it is hence specifically lighter, and floats upon it. Those persons are in an error, who suppose that *ground-ice*, as it is called, rises from the bottom of the water after freezing. A kind, however, called *anchor-ice*, appears to be formed at the bottom, or, at least, under the surface, of rapid rivers, perhaps owing to the comparative slow motion of the water at the bottom of a stream. It is well known, that stagnant water freezes sooner than flowing water: perfect rest, however, seems to be unfavourable to freezing, for we know by experience, that water perfectly still is not frozen when its temperature is reduced much below the freezing-point; but a little agitation is sufficient to change it into ice. Sea-water, and in general all salt water, freeze with greater difficulty, because the salt and other ingredients retain the caloric longer. Salt is, moreover, separated in the process of freezing, and precipitated to the bottom, so that ice from sea-water sometimes affords potable water. Salts, however, produce a degree of cold beyond the freezing temperature, and, by means of them, we can cool water much below the freezing-point, while it still remains fluid. Most salts have this property; especially nitre, muriate of ammonia, and common salt. A degree of cold sufficient for the freezing of water may be produced by them in summer, or even over a fire. Artificial ice is formed, also, by exposing pure water, in proper vessels, to such freezing mixtures. The more severe the cold, the greater the hardness and firmness of the ice; and the ice of the polar regions can hardly be broken with a hammer. In the severe winter of 1740, a house was built at Petersburg, from the ice of the Neva, 52½ feet long, 16½ wide, and 20 high; and notwithstanding the enormous weight of the roof, which was likewise of ice, the lower parts of the building did not receive the smallest injury. The pieces of ice were hewn to the form and shape required, adorned and arranged according to the rules of architecture. Before the palace stood six cannons of ice, which were turned on a lathe, with the carriages and wheels of ice, and two mortars formed like cast pieces. The cannons were six-pounders, which are commonly loaded with three pounds of powder; these, however, were loaded with only a quarter of a pound, and carried a ball of stuffed hemp, and sometimes of iron. The balls, at a distance of 60 paces, passed through a board two inches in thickness: the ice of the cannons could not have been much more than three or four inches in thickness, and yet it resisted the force of the explosion. The ice which obstructs the navigation of the arctic seas, according to professor Leslie, consists of two kinds; the one produced by the congelation of fresh, and the other by that of salt water. The snow on the islands or continents, being melted in summer, forms collections of fresh water, which soon freezes, and increases yearly, until the mass becomes mountainous, and rises to the elevation of the surrounding cliffs. The melting of the snow, which is afterwards deposited on these enormous blocks, likewise contributes to their growth, and, by filling up the holes and crevices, renders the whole solid. When such a mass has reached the height of 1000 or 2000 feet, the accumulated weight, assisted by the action of the ocean at its base, plunges it into the sea, and it is driven southwards by the winds and currents, and known to mariners under the name of *iceberg*. The icebergs consist of a clear, compact, solid ice, with a bluish-green tint. From the cavities in them, the northern whalers fill their casks with pure fresh water. The other kind is the field-ice, or frozen sea-water, which is porous, incompact, and imperfectly diaphanous. It consists of spicular shoots or thin flakes, which detain within their interstices

the stronger brine. This ice never yields pure water, but if the brine be first drained off, the icy mass will yield a brackish liquid, which may sometimes be drunk. Sea-water usually congeals at about 27° of Fahr. Within the arctic circle, the congelation begins by the first of August, and a sheet of ice, perhaps of an inch thick, is formed in a single night. In a short time, the whole extent of the polar seas is covered with a vault several feet thick. As soon as the summer heat commences, it is softened, and, with the first swell of the ocean, breaks up, and the fields of the saline ice are thus annually formed and destroyed. The whalers call a large expanse of saline ice a *field*; one of smaller dimensions, a *floe*; when a field is much broken up, it is called a *pack*. If the ship can sail freely through the floating pieces of ice, it is called *drift-ice*. A portion of ice rising above the common level is called a *hummock*, being produced by the crowding of one piece over another. The *ice-blink* is a whitish appearance in the horizon, occasioned by fields of ice, which reflect the light obliquely against the atmosphere. Much ice is exported from Boston to the West Indies and the Southern States of the United States. The exportation began in 1805, and has been increasing ever since. In 1819, when ice was scarce in the neighbourhood of Boston, a vessel was sent to the coast of Labrador, in order to take ice from an iceberg, and succeeded, though with some damage, in procuring a cargo, which she carried to Martinique.

*Artificial Ice.* The Greeks and Romans used various means to preserve snow and ice to cool their drinks; still they never carried this art to such perfection as the moderns have done. We are now better acquainted with the means of producing artificial cold. Experience teaches us, that cold arises from the evaporation of liquids. With vitriolic ether, and still better with nitric ether, artificial ice may be produced in this way, in the middle of summer, and on the warmest days. Ice is formed in the East Indies, in Calcutta, and other places, principally by evaporation. In the level countries there, snow and frost are never known; but in order to have cooling materials in the heat of summer, the inhabitants collect snow and ice, during the winter, from the high mountains, and throw portions of it into small earthen pans, unglazed, which at sun-down are filled with water. The pans are inserted in the earth, two feet deep, covered with dry straw, and evaporation is then suffered to go on. In clear weather, so much caloric is absorbed from the remaining water by this evaporation, that, with the help of the snow floating in it, the whole becomes ice; this is then put in deep caves before sunrise, and preserved for summer. About the middle of the sixteenth century, the custom of cooling drink with saltpetre was introduced into Italy. Afterwards, the method of increasing the cold of snow and ice by a mixture of saltpetre became common. The preparation of artificial ice gradually became more usual; and what was at first only an experiment, at length became an object of luxury. In the beginning of the seventeenth century, ice-cups were introduced, and fruits frozen in ice were brought upon the tables. Soon after, the French began to freeze the juices of all savoury fruits for desserts.

ICELAND, an island in the Atlantic ocean, on the confines of the polar circle, between lat. 63° 23' and 66° 33' N., and lon. 13° 15' and 24° 40' W., area about 40,000 square miles, is supposed by many to be the Ultima Thule of the Romans. About A. D. 860, Naddoir, a Norwegian pirate, was driven on the coast. Gardar, a Swede, circumnavigated it in 864. Floke, a Norwegian, remained on it two winters, and gave it its name from the quantities of ice which drifted

into the bays. The first Norwegian colony arrived there in 874. Christianity was introduced in 981, and formally adopted in 1000. In 1261, the islanders submitted to the king of Norway.

Iceland affords the spectacle of a peaceful, religious, and even literary society, existing for centuries under all the disadvantages of soil and climate. In its physical structure, the action of fire is every where evident. No stratified rocks have been seen, nor any of which the igneous origin is generally contested. Lava covers a large portion of the island. The interior of Iceland (not less, perhaps, than 26,000 square miles) is a dreary waste, only partially known to the natives, who are sometimes obliged to explore it in search of lost sheep, for the most part presenting only a dark surface of lava, without any trace of vegetation. In the south are extensive tracts of melted rock, through which rents, 100 feet wide, extend for several miles. Above these wilds are lofty mountains, with volcanic rocks, protruding through eternal snows. The glaciers or *gætlar* cover a great part of the island. The most extensive is that called *Klofa gætlar*, behind the mountains of the east coast, forming, with little interruption, a chain of ice and snow mountains, supposed to fill a space of 3000 square miles. The progressive movement of the glaciers is observed here as well as in Switzerland, and the moraine, or rampart of debris, heaped together by its descent, has been seen, in some places, 60 feet high, and composed of large rocks. The Snæfell, by a late survey of the island, is found to be 6862 feet high, and is supposed to be the loftiest mountain on the island. Most of the high mountains are slumbering volcanoes. Hot springs and boiling fountains are found every where. The volcano of Krabla, between 1724 and 1740, poured forth streams of lava, which covered several square leagues. In 1755, Katlegiaa, on the eastern shore, burst forth with tremendous fury. The eruption was accompanied with earthquakes so violent, that the people thought the destruction of the island at hand. The detonations of the mountain were heard 30 leagues, and showers of ashes fell on the islands of Ferøe, 100 leagues distant. Fifty farms were destroyed, and rocks of pumice-stone and lava, carried down into the sea, formed promontories extending three leagues from the shore. These rocks still project above the sea, where formerly were 40 fathoms of water. In 1783, an eruption from mount Skeidra covered with lava some of the best districts of the island; the clouds of ashes impregnated the air with noxious particles; the waters were corrupted, the fish driven from the coasts, and famine and pestilence ensued. The miseries which succeeded this eruption destroyed, in two years, 9000 people (a fifth part of the population), with 28,000 horses, 190,500 sheep, and more than 11,000 head of cattle. The eruptions of mount Hecla are rather numerous than violent. The last took place in 1823. The height of Hecla is 5210 feet. Some of the low mountains are covered with coarse grass, affording summer pasturage for the cattle; but the only permanently occupied spots are along the shore. The rivers are numerous and of considerable size, especially on the northern side. There are also many lakes in the interior. Springs or jets of boiling water are frequent: those named the *Geyssers* are most famous, perhaps on account of their accessibility. They are about 30 miles N. N. W. of Hecla, in a plain covered with hot springs and steaming apertures. The Great Geyser rises from a tunnel-shaped basin, lined and edged with siliceous depositions. The pipe at the bottom, from which the jet issues, is about 10 feet in diameter, and the basin, at its outer edge, is about 56. The

emissions generally take place at intervals of six hours, preceded by a rumbling noise or loud report, like that of artillery, with an agitation of the ground. The column, as measured by a quadrant, has been seen to rise as high as 212 feet. The hot springs near the inhabited parts are used for economical purposes; food is dressed over them; and, in some places, huts are built over small fountains to form steam-baths. In other parts of the island are seen caldrons of boiling mud, emitting sulphureous exhalations. Pestilential airs have been known to issue from particular spots in the plains, during the volcanic eruptions, which have destroyed all who approached. Mineral springs, of many kinds and every temperature, are found; some, highly impregnated with carbonic acid gas, are called by the people *ale springs*, having, it is said, the power of inebriating. Iron and copper are found, but the mines are not worked, for want of fuel. The only mineral from which the people derive a revenue is sulphur, of which the supply appears to be inexhaustible. Extensive mountains are incrustated with it to the depth of some inches. Fossil-wood, impregnated more or less with bitumen, is found in abundance, and might afford valuable stores of fuel to the people, if they had more activity. It is called *surturbrend*, and is used chiefly in the smithies, and in small quantities. Basaltic columns are seen in many places.

The winter, though unsettled, is perhaps less severe than in Sweden and Denmark. The mercury in the thermometer rarely sinks to zero, and the medium temperature of the winter months is, perhaps, not much below the freezing point; the atmosphere is generally clear, and the long nights are cheered by the *aurore borealis*. The floating ice, from the coast of Greenland, has a great effect in increasing the cold, and brings with it polar bears, which commit great ravages on the flocks and herds. From November to February, the people hardly stir from their houses, which are nearly buried in snow. In July and August, the thermometer often stands at eighty or ninety degrees, but sharp frosts frequently succeed the most sultry days. The vegetable productions are comparatively few. Many varieties, however, of moss and lichens are found. In the forests, the birch trees hardly reach the height of ten feet; with these are mingled several varieties of the willow, and a few solitary individuals of the *pyrus domestica* and mountain ash. The bogs are covered with coarse grass.

The Icelanders may be looked upon as a fair specimen of the ancient Scandinavians, having probably undergone less change, for nearly a thousand years, than any other European nation. They are generally tall, with no peculiar physical characteristic, except, perhaps, the length of the spine. The following cut represents their costume.



Their countenances are open, their complexion fair, their hair light coloured, and rarely curled. Corpulency is rare. The houses differ only in size. An outer wall of turf, about four feet and a half high, often six feet thick, encloses all the apartments. On one side, generally that facing the south, are three or more doors, for the most part painted red. These open into the dwelling-house, the smithy, dairy, cow-house. The door of the house opens into a long, dark, narrow passage, from which apartments branch on each side. Each chamber has a separate roof, and is lighted by a small pane of glass, or, more commonly, of amnium, four or five inches in diameter. The thick turf walls occupy more space than the apartments which they enclose. The damp smell which proceeds from them, with the darkness, the filth, and the stench of fish, renders these dwellings insupportable to strangers. Several families sometimes live in the same mass of turf. All the members of the family sleep in one apartment, which is also the general eating room. The kitchen is the only room in which a fire is kept. The women are unceasingly employed. The servants are generally orphans, or the children of poor farmers, and often marry with the children of their masters. The diet of the people is very simple. They eat great quantities of butter, generally in a rancid state; when this is scarce, tallow is used. They breakfast on sour milk. The flesh of the shark or sun-fish is sometimes eaten, when it has become tender from putrescence. Fresh meat, rye bread, and sago soup are holiday fare. The richer inhabitants, however, are not unacquainted with wine, London porter, and other foreign luxuries. To a stranger, the most palatable and healthful article of Iceland diet is the *lichen Islandicus*, now much in vogue as a specific for the consumption. Turf is general fuel; drift-wood and *surturbrend* are also used.

One of the chief cares of the Icelander is to lay in provisions for winter; and, next to his flocks and herds, the sea is his chief resource. About the beginning of February, the people of the interior and of the northern districts begin to move, and a great part of the male population migrates to the western and south-western coasts. Many travel over 200 miles to the place which they choose for a fishing station. About the beginning of May, they return, leaving the fish, not yet perfectly dried, to the care of some one residing on the spot. The best salmon abound in all the rivers. The cow, the horse, and the sheep are the principal sources of wealth, comfort, and subsistence to the Icelander. The sheep are of a peculiar kind, mostly horned; some have only two, others three, four, and upwards. They are milked, as well as the cows, twice in every twenty-four hours. The wool is not sheared, but left to fall off spontaneously. The women pick, clean, and spin it. The cows give ten, twelve, or even twenty quarts of milk per day. The horses are small, but well formed and active. The poorest peasant has four or five. Every one can shoe his horse; even the bishop and the chief justice are sometimes seen thus employed. In 1770, three reindeer were brought from Norway, and have greatly multiplied. Herds of 50—100 are frequently seen. They are not used for domestic purposes, and are very difficult to kill. Hogs and goats are rare. The dogs resemble those of Greenland. There are two kinds of foxes, the white or arctic (*canis lagopus*), and the blue fox (*C. fuliginosus*). The lower orders of the people have a superstitious reverence, mingled with aversion, for the seal. On the west coast, this animal is taken for the sake of its fat. Aware of its observant and inquisitive disposition, the people kindle fires to attract it to the shore, and nets are spread to take it. Sometimes these animals are met at a considerable distance

up the country, being attracted by the lights in the houses. They are easily tamed, and, if young, are put into ponds and fed daily. They soon become as tractable as a dog. In June, the eider ducks visit the coast to nestle. (See *Eider Duck*.) They are so familiar as to build their nests all round the roofs, and even inside the houses. A severe penalty is inflicted on those who kill them. The down which the bird takes from her breast to cover her eggs is removed twice, and even three times, during the season. Swans are numerous in the lakes and marshes. Their down and feathers bring in a good revenue to the people. The tern, ptarmigan, golden plover, and snipe are common. The shores are frequented by myriads of sea fowl. Cod, haddock, ling, skate, and halibut are taken on the coast. Herrings visit the north coast in extensive shoals, in June and July, and are caught in large quantities. The cod is the principal object of the trade with Denmark. Previous to the discovery of Newfoundland, the British were largely engaged in the Iceland cod-fishery, and had 150 vessels so employed at the beginning of the 17th century. At present it is carried on wholly by the Icelanders. The haddock forms a very large share of the food of the inhabitants. Mechanical industry is much hindered by the want of good timber and fuel. The jaws and ribs of whales are, in some parts of the island, used in the frames of houses and boats. The quantities of drift-wood from the west are amazing. The inhabitants of the fiords, in which it is chiefly collected, are the carpenters, coopers, and boat-builders of the island. The hot springs in the Borgar fiord enable them to give the boards the requisite pliancy. The staple exports are fish, oil, feathers, sulphur, and salt mutton; the imports are wood, salt, tobacco, coffee, iron, and fishing-tackle. During the last war between Great Britain and Denmark, the people of Iceland suffered much, their usual supplies of hooks, cordage, grain, &c., being cut off.

The Icelanders are a remarkably grave and serious people, apparently phlegmatic, but extremely animated on subjects which interest them. Vice and crime are hardly known among them. To their religious and domestic duties they are strictly attentive, and, in their dealings with others, display a scrupulous integrity. There are very few of them who cannot read and write, and many among the better class would be distinguished, by their taste and learning, in the most cultivated society of Europe. Perhaps there is no country in Europe in which the lower orders are so well informed. The traveller is often attended by guides who can converse with him in Latin.

The brilliant period of Icelandic literature was from the eleventh to the fourteenth century. A printing-press was introduced in 1530, by a Swede named Mathieson. The first types were of wood, and rudely formed, but before the end of that century, several valuable publications appeared, displaying remarkable typographical elegance. In 1779, an Icelandic society was instituted at Copenhagen, comprising 130 of the most learned and intelligent men of the island. It was dissolved in 1790. Another was established in the island in 1794, with 1200 members. The society have published two books of Thoriakson's translation of Milton's *Paradise Lost*. The remainder has not been printed. A complete copy of this translation, which is said to be the best version of this great poem in any language, was procured by Mr Henderson. The Icelanders have also translations of Pope, Young, and several other English writers. Several schools appear to have existed in the eleventh century. The only school on the island at present is at Bessetad. But

the instruction of his children is one of the regular occupations of the Icelanders, who find a zealous assistant in the pastor of the parish. The ecclesiastical code of the country allows the clergy to prevent any marriage where the female is unable to read. The amusements of the people are chiefly literary. In all their social meetings, the repetition of poetry, and the reading of the *sagas* or histories, constitute the chief entertainment. The reformation was introduced in 1551, and at present there is no religious dissension among the natives. The inhabited part of the island is divided into 184 parishes. The island forms one bishopric. Every clergyman keeps a register, showing the moral and religious state of his parish. Three thousand copies of the Icelandic Bible were printed by the British and Foreign Bible Society, in 1813, for gratuitous distribution in the island.

The government, as in other Scandinavian nations, was originally aristocratic. When the island became subject to a foreign power, the distinctions of rank gradually disappeared. The governor of Iceland is generally a Dane, appointed by the king of Denmark. The royal authority has not, at present, any constitutional check, but is exercised, nevertheless, in a mild and paternal way. The supreme court of judicature is held annually at Reikiavik. An appeal is permitted, in all cases, to the courts at Copenhagen. The laws are chiefly grounded on the ancient code, called *fonsbok*, compiled in 1280. The civilization of the Icelanders is in nothing so remarkable as in the completeness of their legislation. Trial by combat was abolished in 1001, and punishment for witchcraft in 1690, nearly thirty years before a similar improvement was made in the laws of Great Britain. In case of capital conviction, the criminal is sent to Norway to undergo his sentence, as it is not easy to find an executioner among the Icelanders. The taxes paid are very trifling, but perhaps exceeding 50,000 rix dollars. The laws respecting the maintenance of the poor are very strictly enforced. There are no hospitals except for lepers, who are, unfortunately, common. The sick, aged, and infirm, are, therefore, billeted on the farmers, who are obliged to give relief to their kindred within the fourth degree of consanguinity. Hospitality is a prominent virtue.

Iceland was formerly more populous than at present. The history shows that the climate has been gradually growing more severe and the soil more ungrateful. There is a considerable excess in the female population, and the longevity of the women is greater than that of the men, owing to the greater hardships of the latter. In 1804, the farms amounted to 4751, the horned cattle to 20,325, the sheep to 218,818, the horses to 26,524. Reikiavik, the chief place of the island, is the seat of the governor, the episcopal see, the supreme court, and is the principal mercantile station. It contains about 550 inhabitants. About fifteen miles from the south coast are the Vestmanna islands, fourteen in number. Only one of them, Heimsey or Home island, is inhabited. The inhabitants (only 160) support themselves by fishing and bird-catching. In 1627, some Algerine corsairs carried off the occupants. Those who survived were ransomed in 1636, but only thirteen persons regained their native island.

See the translation of Olafsen and Fovelsen's *Travels in Iceland* (published in Paris, 1802, 5 vols., 8vo); *Letters on Iceland*, by Von Troil (London, 1780); *Travels in Iceland* in 1810, by Sir G. S. Mackenzie (Edinburgh, 1811); *Journal of a Residence in Iceland*, by E. Henderson (Edinburgh, 1815). For the literature, see Mallet's *Introduction to the History of Denmark*; Schlozer's *Fragmenta of*

*Northern History*; Fin Johnson's *Hist. Eccles. Islandica*; and Eichhorn's *Alg. Geschichte der Literatur*.

ICELAND MOSS. See *Lichen*.

ICE PLANT (*mesembryanthemum crystallinum*). This singular plant has received the above appellation from the little transparent vesicles which cover its whole surface. The stems are herbaceous, as large as the little finger, spread upon the ground, and very much ramified; the flowers are white, and, as in the rest of the genus, furnished with a great number of linear petals, which give them the appearance of compound flowers, though belonging to a very different family. It is a native of the sea-coast of South Africa, the Canaries, and is also found in the vicinity of Athens. The other species of *mesembryanthemum*, upwards of 300 in number, forming one of the most numerous and remarkable genera of plants, are, almost without exception, confined to South Africa, and constitute a marked feature in its vegetation.

ICETAS; tyrant of Leontini, who caused the sister and wife of Dion, who had fled to him for protection, to be thrown into the sea. He was called in by the Syracusans against the tyrant Dionysius, whom he defeated. But his ambitious designs induced the Syracusans to have recourse to the Corinthians, under Timoleon (q. v.), who defeated Ictas (346 B. C.), forced him to resign his power, and renounce his league with the Carthaginians. Having again taken arms against Timoleon, he was captured and put to death, with his wife and children.

ICHNEUMON (*Aerpestes*, Illig.) These animals belong to the civet family, and are distinguished from their kindred genera by their narrower and more pointed muzzle; by the shape of their lower lip, and, more especially, by the absence of the double cavity beneath the tail, which is replaced by a single pouch, of considerable size, but destitute of secreting glands. Their hair is long, brittle, and generally variegated in colour. The ordinary colour of its coat is chestnut brown and fawn; nose and paws, deep chestnut or black. It is about eighteen inches from the snout to the root of the tail. The habits of the ichneumon are very similar to those of the ferret. In the countries where they are found, their sanguinary disposition and predatory habits render them a great annoyance to the inhabitants, from the destruction they cause among the poultry. This is, however, compensated, in some degree, by the incessant war they wage against reptiles, the eggs of which they devour with great avidity. The most celebrated species inhabits Egypt and the adjacent countries, where it is called *Pharaoh's rat*. It is very common in the northern parts of Egypt, between the Mediterranean and Sion. It is of a grey colour, and has a long tail, terminated by a black tuft; it is larger than a cat, but formed like the weasel. This species was ranked by the ancient Egyptians amongst their numerous divinities, on account, it is supposed, of the benefits which it confers on man by the destruction of crocodiles, whose eggs it digs out of the sand and sucks. The story of its overcoming these formidable reptiles themselves, by gliding down their throats, is, of course, a mere fable. Many other fabulous stories are related of the ichneumon by the Greek and Roman writers, Herodotus, Elian, Diodorus, Pliny, &c. The ichneumon is exceedingly expert in seizing serpents by the neck, in such a manner as to avoid any injury to themselves. Lucan alludes to this (in lib. iv. 724), in speaking of the asp. The ichneumon is domesticated and kept in the houses in Egypt, and is more useful than a cat in destroying rats and mice. They grow very tame, are exceedingly active, springing on their prey with great agility. They often

squat on their haunches, and feed themselves with their fore-paws, like a squirrel. They are great enemies to poultry, and will often feign themselves dead till their prey comes within reach. Like the cat, they are great lovers of fish. When they sleep, they bring their head and tail under their belly, and appear like a round ball. Their voice is very soft, somewhat like a murmur, and, unless they be struck or irritated, they never exert it. Their great disadvantage, as domestic animals, is their unconquerable predilection for poultry, which they destroy whenever they have an opportunity, for the purpose of sucking their blood. In a wild state, they swim and dive in the manner of an otter, continuing beneath the water for a great length of time, and support themselves by fishing. These animals are short-lived, but grow very rapidly.

ICHNEUMON is also the name of a large genus of insects, belonging to the great order of *hymenoptera*. As the species of this genus are very numerous, so their manners are extremely diversified; but, in the general outlines of their character, they all agree, particularly in their depredations among the insect tribes. In some, the female has a wimble attached to her abdomen, and with this instrument, delicate as it appears, she is capable of perforating the hardest substances. The larvæ of wasps are the devoted prey of these insects, who no sooner discover one of their nests, than they perforate the clay, of which it is constructed, and deposit their eggs within it. Others glue their ova to the skin of a caterpillar, whilst others again penetrate through it, and lay their eggs in its body. In all these cases, the young, as soon as they are hatched, prey on the caterpillar or larvæ, without, however, destroying it at once, as upon the life of its victim that of the spoiler appears to depend. The caterpillar, in fact, seems healthy, until the larvæ of the ichneumon have spun their cocoons, and entered the chrysalis state. We often see caterpillars fixed to a leaf or branch by the threads spun by the ichneumon. These carnivorous insects are of various sizes; some are so small that the *aphis*, or plant-louse, serves as a cradle for their young; others again, from their size and strength, are formidable even to the spider, destroying them with their powerful stings.

ICHTHYOLOGY. This term is derived from *ἰχθυς*, a fish and *λογία*, a discourse. According to the system of Cuvier Ichthyology embraces the Fourth order of vertebrate animals; or all the extensive class of fishes, consisting of oviparous animals with a double circulation.

Fishes have been used as an article of food from the earliest ages. Aristotle was the first writer who formed them into a distinct class; but we are indebted to Pliny for the earliest accounts of their characters and habits. Nothing of any importance appears to have been written on this branch of natural history, for a long series of years after the time of Pliny, until the publication of Below's work, which was printed in 1551, entitled *Histoire des Poissons*, wherein he grouped fishes into four families; namely, cartilaginous flat fishes; flat fishes, which were not cartilaginous; the third was sharks, and their congeners; and the fourth, eels and other fishes with elongated bodies.

In 1554, the work of William Rondelet, professor of medicine at Montpellier, was published, wherein he gave most accurate specific accounts of the animals, but did but little to improve the classification. Shortly after appeared the *Aquatilium Animalium Historia* of Hippolyto Salviani. The taste for the study of Ichthyology seems to have taken its rise at this period. In the year 1638, Aldrovandus published a work on fishes; and Willughby in 1686, pub-

lished the first really scientific work on this subject, which was followed by another by Ray in 1713. Artdi considerably improved this branch of science, but died before the completion of his work, which was adopted by Linneus in his first edition of the *Systema Naturæ*. Passing over various successful writers on Ichthyology, we come to the time of Lacépède, who published five quarto volumes on this subject, from 1798 to 1803; but it is to the celebrated Cuvier that we are indebted for the most perfect arrangement on fishes, and whose method we have adopted.

Fishes have red, cold blood, with cartilages or bones, with fins instead of limbs, and which inspire and expire air, in combination with water, by means of gills, instead of lungs. They can live but a short time out of the water, although eels have been seen on land in fields of pease. At Tranquebar, there are perch which, by means of the sharp points on their fins, climb up the palm trees. (See the article *Fin*.) According as fishes have cartilages, or a bony structure, they are divided into two general classes. The cartilaginous fishes either have or have not a gill-cover. To the latter kind belong the lamprey, the ray, and the shark; to the former, the sturgeon, the porcupine-fish, the sea-needle, the eel, and the sword-fish. The bony fishes are divided into orders, according to the position of the ventral and thoracic or pectoral fins. In the eel-pout, the Baltic dorse and the haddock, the ventral fins are placed before the pectoral; they are directly under them in the bream, the perch, the perch-pike, the mackerel, and the river-perch, and behind them in the salmon, the pike, the herring, and the carp. In the structure of fishes, the fins are remarkable as being the only organs of motion. (See *Fins*.) They consist of bony rays, covered with the epidermis, and attached to certain cartilages or bones which are moved by particular muscles. The tail, with its fin, serves as a rudder, to give the proper direction to the motions of the animal. The first impulse in swimming evidently comes from the tail; the other fins serve to regulate the position of the fish, and to guide him in his different motions. The eel, which has no ventral fins, swims like water-snakes, by moving his whole body in an undulating manner. The muscles of fishes must be distinguished from the fleshy muscles of warm-blooded animals. They consist of white or light coloured layers, with fibres of a thicker texture than those of warm-blooded animals; between these layers there is a white, gelatinous substance, which grows putrid very soon after death. If we look at the organs of sense and the nervous system in fishes, we cannot but remark the extraordinary smallness of the brain in proportion to the size of the body. In man, the brain is 1.23 of the body; in the shark, it is 1.2500, and in the tunny fish, 1.37.400; it is also less solid than in warm-blooded animals, and consists mostly of lumps resembling ganglions. The cerebellum is only a transverse plate, entirely without the structure, which, in higher orders of animals, is called *arbor vitæ*. The nerves of fishes are weaker than those of the higher animals; some of them, however, are such powerful exciters of electricity, that they can give violent shocks; but the power ceases as soon as the nerves are cut. The torpedo, the gymnotus, the electric eel, the Indian-needle, and the electric porcupine fish, are five fishes which appear to be living Voltaic piles; for they have two muscular piles, separated from each other by a membrane resembling a net, and which, at least in the torpedo, lie under the curved cartilages of the large side fins, and are regulated by particular nerves. As to the organs of sense in fishes, those of smelling and seeing appear to be the most perfect. Fishes

smell the bait farther than they can see it, and the shark perceives at an incredible distance the odour of a Negro. Their organs of smell have no connexion with those of respiration; and the water apparently conveys the effluvia affecting the sense of smell much less perfectly than the air; but they have very large olfactory nerves, the ends of which were for a long while taken for the true brain. As to their organs of sight, they have very large eyes, but generally no eyelids; but the epidermis goes directly over the eye, and in the blind-fish appears to have only a slight transparency. The cornea is very flat; immediately behind it usually is the crystalline, which can protrude even through the pupil, so that there is very little room for the aqueous humour. The crystalline of fishes, on the other hand, is nearly spherical, and also of a greater density than that of land animals: it is apparently moved by an organ in the shape of a fan, which proceeds from a knot of several optic nerves. The iris is generally of extraordinary brilliancy, and of a beautiful red or gold colour; the vitreous humour is very small. The organs of hearing are less perfect, although this sense cannot be entirely denied to fishes. Only cartilaginous fishes have an external auditory passage, as the shark and the ray; the fishes with bones are without this external ear. All of them have three winding tubes in their head, which terminate in a bag filled with nervous marrow, and containing three hard bones. This constitutes the whole organ of hearing. That of taste seems to be still more imperfect. Their tongue has not even the *papillæ*, and the nerves are branches of those which go to the gills. The respiration of fishes is carried on by means of their gills; these are well known to be vascular membranes, four on each side, fastened to a curved and flexible cartilage. They are connected with the cartilages of the tongue, and with the cranium. In cartilaginous fishes, the gills are within the body like lungs, and a determinate number of external openings lead to them; the lampreys, and that kind called the *nine eyes*, have seven, rays and sharks five of these openings. Several fishes have also a peculiar covering for the gills, and frequently a membrane over them, which can be contracted or extended. It encloses a number of winding cartilages, which are called its *rays*. The gills, as is very evident, can only receive the air which is mixed with the water. What is called the *air-bladder* is, in most fishes, joined by an air-pipe, to the stomach or throat. This is thought to contain nitrogen; but it is certain that it assists their rising in the water. Several fishes, as the loach and gudgeon, breathe also through the excretory duct, as is fully proved. The lung are even discovered when at the bottom of the sea, by the rising of air bubbles. Fishes commonly have no voice; but the father-lasher, the loach, the trout, and some others, give, when pressed, a murmuring sound, in doing which they seem to make great efforts, and tremble all over their body. It is very probable that this sound is produced by the air, violently pressed out of the bladder. The circulation of the blood in fishes is, as might be expected, different from that of the higher class of animals. The heart consists only of one auricle and one ventricle; it receives the blood from the body, and sends it, by a single artery, directly to the gills; it is here provided with oxygen by contact with water, and the air contained in it, and is again received by a number of small vessels, which flow together into the aorta, which distributes the blood over the whole body. The motion of the heart is, in fishes, much more independent of the brain and spinal marrow than in the higher orders, and, for this reason, can continue several hours after the brain and spinal marrow have

been destroyed. The chyle produced by the digestion of fishes is received by absorbing vessels, which terminate immediately in the veins, without going through glands. Although most fishes lay eggs, which are matured and hatched out of their body, there are cartilaginous fishes which are viviparous. That there are hermaphrodites among fishes has been lately proved; for Home has found in lampreys both spawn and milt. The productive power of fishes is greater than that of any higher animal. In the spawn of the tench there have been counted 38,000 eggs at once; in that of the mackerel, 546,000; and in that of the cod, 1,357,000. The twelfth sign of the Zodiac is called "The Fishes."

# ORDER I.—ACANTHOPTERYGIANS.

This order comprehends by far the most numerous race of fishes. They are distinguished by the spines which supply the place of the first rays of their dorsal fins, or which alone support the first fin of the back, where there are two; in some species, instead of a first dorsal fin, it is represented by a few unconnected spines. The first rays of their anal fins consist of simple spines, and each ventral fin has usually one.

## FAMILY I.—PERCOIDES.

Body oblong, covered with rough and hard scales; operculum or preoperculum, and frequently both, have dentated or spinous margins; jaws, fore-part of vomer, and palatine bones, provided with teeth.

### DIVISION I.—PERCOIDES THORACICI.

Ventral fin inserted under the pectorals. They are all edible, whole, and agreeable to the taste.

*Sub-division 1.*—Branchiæ with seven rays; back with two fins, teeth small and dense, as the pile on velvet.

*Lepomis granulata*, pl. 45, f. 14. Preoperculum dentated; bony operculum ending in two or three points; tongue smooth; sub-orbital and humeral in some, slightly dentated; snout devoid of scales; second dorsal fin hardly longer than the first; ventral fin placed on the thorax.

*Pomoxenus heteropneustes*, pl. 47, f. 22. Two separate dorsal fins; preoperculum simply striated, and the operculum emarginate; eye excessively large; teeth very small, resembling the pile on velvet.

*Sub-division 2.*—Having two dorsal fins; long pointed teeth intermixed with the small densely set teeth, like the pile on velvet.

### DIVISION II.

With seven branchial rays and one dorsal fin.

*Sub-division 1.*—With seven branchial rays and one dorsal fin; teeth dense as the pile on velvet.

### DIVISION III.

With less than seven branchial rays.

*Sub-division 1.*—One dorsal fin; some species with hooked teeth interspersed among the denser ones.

*Sub-division 2.*—Without interspersed hooked teeth.

*Sub-division 3.*—Six branchial rays; and two dorsal fins.

### DIVISION IV.

With more than seven branchial rays.

## SCA-FAMILY I.—PERCOIDES JUGULARES.

With the throat further forward than the pectoral fins.

## DIVISION V.—ABDOMINAL PERCHES.

Ventral fin placed further back than the pectorals.

*Sub-division 1.*—Ventral fin entirely behind; pelvis separated from the shoulder bones.

## FAMILY II.—MAILED CHEEKS.

Head variously mailed, and protected by several bony processes. Suborbital bone more or less extended over the cheeks, articulating behind with the preoperculum.

*Triple pinn*, pl. 46, f. 2. Teeth dense, as the pile on velvet, in the jaws, placed before the vomer; pectoral fins large, but not so much so as to enable them to fly in air.

*Cymbalocanthus spinarolla*, pl. 47, f. 15. Formed nearly like the flying Gurnard, particularly in the head, but destitute of supplementary fins.

*Scorpena Scropha*, pl. 47, f. 30. Head mailed, and roughened and compressed on the sides; body covered with scales; branchiæ with several rays; back provided with a single fin; inferior rays of the pectoral fins, simple, articulated, but not branched.

*Tetranotus triacanthus*, pl. 47, f. 23. Body much compressed; dorsal fin very high, and united to the caudal.

*Apogon macroratus*, pl. 47, f. 19. Palatine teeth and dorsal fin, as in the scorpenids; rays of the pectoral fins branched; they have a suborbital fin inclining from the cheeks. In the first division of the body is scaly, others possess ordinary pectoral fins, without free rays.

*Gymnaes confusus*, pl. 47, f. 12. Body above and beneath studded with protuberant horny cones, four on the back and

ten on the abdomen, arranged in a double series, with several smaller intermediate ones.

Intermediate between this and the next family Cuvier places a small oval fish, whose whole body is thickly beset with hill-like protuberances, four on the back and ten on the abdomen, arranged in double series, with smaller intermediate ones. Inhabits the Atlantic.

## FAMILY III.—SCIENOIDES.

Preoperculum dentated; operculum spinous; vomer and palatines destitute of teeth; cranial and facial bones generally cavernous; muzzle more or less gibbous; ventral fins frequently scaly. Some are provided with two, and others with only one dorsal fin.

*Eques Balteatus*, pl. 47, f. 24. Body elongated and compressed; teeth small and thickly set; first dorsal fin elevated, second long and scaly.

*Helinus frenatus*, pl. 47, f. 31. Teeth and opercular pieces, like those of the *Dascyllus*, the former small and as densely set as the pile on velvet.

*Sub-division 1.*—Two dorsal fins.

*Sciæna aquila*, pl. 46, f. 1. Destitute of canini and cirri; spines of anal fin weak.

*Sub-division 2.*—One dorsal fin; with seven branchial rays; preoperculum dentated.

*Sub-division 3.*—With less than seven branchial rays, and an interrupted lateral line.

## FAMILY IV.—SPAROIDES.

Palate destitute of teeth; covered with scales, but none on the fins; muzzle not gibbous, nor bones of head cavernous, destitute of spines on the operculum, and indentations on the preoperculum; pylorus provided with cæcal appendages; have never more than six branchial rays. Divided according to the form of their teeth.

*Sub-division 1.*—Sides of the jaws provided with round molars in the form of pavement.

*Pagelus centrodontus*, pl. 46, f. 9. Two rows of small rounded molars in each jaw; front conical teeth slender and numerous; muzzle elongated.

*Sub-division 2.*—Conical teeth on the sides of the jaws, usually in a single range; some of the anterior are drawn into large hooks.

*Sub-division 3.*—Teeth dense and short, as the pile on velvet; bent and crowded together like cards around the jaws in some, external row strongest.

*Sub-division 4.*—Teeth trenchant.

## FAMILY V.—MENIDES.

Differing from the former families, in the upper jaw being extremely extensible and retractile, owing to the length of the intermaxillary pedicles, which withdraw between the orbits; body scaly.

*Smaris Vulgaris*. Destitute of teeth in the vomer.

## FAMILY VI.—SQUAMIPENNES.

The soft, and in some instances the spinous parts of their dorsal and anal fins covered with a scaly incrustation. Body usually greatly compressed; teeth long, thin, bristle-shaped, and collected in several close rows like the hairs of a brush.

*Epiplatys Orbis*, pl. 47, f. 25. Dorsal fin deeply emarginated between its spinous and soft portions; spinous part destitute of scales.

*Holacanthus ciliaris*, pl. 46, f. 20. Preoperculum dentated on the edges, and provided with a large spine at its angle; general form, oval or oblong.

## FAMILY VII.—SCOMBEROIDES.

Scales small, body smooth, caeca numerous, and often united in clusters; with a very powerful tail and caudal fin; first dorsal fin entire, last rays of the second, and those of the anal, detached, forming spinous fins spotted.

*Scomber maculatus*, pl. 46, f. 6. Body fusiform, covered with uniform and small scales; tail with two small cutaneous crests on its sides; a void space between the first and second dorsal fins.

*Xiphias gladius*, pl. 46, f. 11. Snout horizontally flattened, and cutting like the blade of a broad-sword. Sides of tail much carinated; one dorsal fin.

*Cybius lineolatus*, pl. 47, f. 38. Destitute of corælet, and body elongated; compressed; cutting teeth resembling lancets; palatine teeth as thickly set as the pile on velvet.

*Xiphias gladius*, pl. 46, f. 11. Scales extremely small, and having carinae on the sides of the tail; provided with a long enaliform beak, which terminates the upper jaw, being an elongation of the vomer and intermaxillaries, supported at its base by the methmoid, frontals, and maxillaries; branchiæ not perforated; each of them being formed of two large parallel laminae, with a reticulated surface.

*Zeus faber*, pl. 47, f. 34. Dorsal fin emarginate, its spines accompanied by long slips of the membrane; both dorsal and anal fins having a series of bifurcated spines along their bases.

## FAMILY VIII.—TERNOIDES.

Body elongated, flattened on the sides; scales very small.

*Sub-division 1.*—Muzzle elongated; mouth cleft, and armed with strong, pointed, cutting teeth; lower jaw advancing beyond the upper one.

*Lepidopterus argenteus*. Ventral fins consist of two small scaly plates, body thin, elongated, provided with a dorsal fin, which

extends its whole length; anal fin low, terminating in a well-formed caudal fin; branchiae eight rayed.

*Sub-division 2.*—Mouth small but slightly cleft.

#### FAMILY IX.—THEUTYTES.

Provided with the same armature as the Scomberoides, such as exists on the sides of the tail in some genera, or the horizontal line which is to be found in others. The body in all the genera, is compressed and oblong; mouth small, slightly, if at all, projectile; each jaw provided with a row of cutting teeth; tongue and palate destitute of teeth; a single dorsal fin.

*Acanthurus Delaisianus*, pl. 47, f. 19. Teeth notched and cutting; tail provided with a strong moveable spine on each side. In some species, the dorsal fin is very high, and others are provided with a brush of stiff hairs before the lateral spine.

*Nasus unicornis*, pl. 47, f. 32. Sides of the tail armed with fixed trepan blades; teeth conical, front protruding in a horn above the muzzle; branchiae having only four rays, and three soft rays in the ventral fins; the external skin resembles leather.

#### FAMILY X.—LABYRINTHIFORM PHARYNGEALS.

Part of the superior pharyngeals divided into small irregular laminae, which intercept minute cells, in which water is retained for the purpose of moistening their gills when they quit the water, which they frequently do.

*Anabas testudineus*, pl. 46, f. 28. Labyrinth complicated; third pharyngeals provided with tessellated teeth; body round, covered with strong scales; head broad; muzzle short and obtuse; mouth small; lateral line interrupted at its posterior third; borders of operculum, suboperculum, and interoperculum deeply dentated; preoperculum plain; branchiae five rayed.

*Polcanthius colias*, pl. 47, f. 33. Rays spinous; opercula free from dentations; body compressed, and with four rays in the branchiae; teeth consisting of a narrow row of short and crowded; no teeth in the palate; pylorus with two caecal appendages.

#### FAMILY XI.—MUGILOIDES.

Body nearly cylindrical, covered with large scales, and provided with two separate dorsal fins, the first of which have only four spinous rays; ventral fins inserted a little behind the pectorals.

*Mugil Cephalus*, pl. 46, f. 25. Head depressed, broad, scaly; mouth having fleshy crenulated lips; lower jaw with a central carination, entering into a corresponding groove in the upper; teeth hardly perceptible; branchial membrane, three rayed.

#### FAMILY XII.—GOBIOIDES.

Dorsal spines thin and flexible.

*Rennius Palmicornis*, pl. 46, f. 18. Ventrals placed before the pectorals, and only two-rayed.

*Gobius lanceolatus*, pl. 47, f. 37. Ventrals united throughout their whole length; body elongated; head of moderate size, rounded; cheeks inflated, and eyes approximated; two dorsal fins, last long.

*Gobioides broussonetii*, pl. 47, f. 27. Differ from the gobius in the union of their dorsals, which form but one; and the body more elongated.

*Callionymus fasciatus*, pl. 47, f. 26. Branchiae with but one aperture, consisting of a hole on each side of the nape; ventral fins placed under the throat and separate, being larger than the pectorals; head oblong, depressed; eyes approximate; teeth directed upwards; intermaxillaries very protracile. Teeth small and crowded, without any in the palate; anterior dorsal fin supported by a few setaceous rays, sometimes very elevated; second dorsal fin elongated as well as the anal.

#### FAMILY XIII.—PEDICULATA PECTORALES.

Pectorals supported by the elongation of the carpal bones. Skin naked; pectorals supported by two arms, each of which are provided with two bones, which correspond to the radius and ulna in the mammalia, but which, in reality, belong to the carpus. Ventrals placed very far before the pectoral fins, opercular and branchiostegous rays enveloped in the skin; only opening in the gills, situated behind the pectorals.

*Lophius piscatorius*. Head disproportionately large, broad, depressed, and spinous; mouth deeply cleft and furnished with acute teeth; lower jaw having numerous cirri; two dorsal fins; branchial membrane forming a large sac, opening in the axilla, and supported by six large rays; operculum small; each side having but three branchiae.

*Chironectes neogadellus*, pl. 47, f. 31. Head with four rays, the first slender and frequently terminating in a tuft; succeeding ones augmented by a membrane, are sometimes greatly enlarged, and at others, united into a fin; head and body compressed; mouth vertically cleft; branchiae with four rays, have only one opening behind the pectoral fin; the dorsal fin occupying nearly the whole range of the back; body entirely covered with cutaneous appendages.

#### FAMILY XIV.—LABROIDES.

Body oblong and scaly; a single dorsal fin supported in front by spines, each having a membranous appendage; jaws covered by fleshy lips; three pharyngeals, two upper ones attached to the cranium, lower one large, all of them provided with tessellated or laminiiform teeth.

*Labrus vitellus*, pl. 46, f. 33. Body oblong; lips double and fleshy, one adhering close to the jaws, and the other to the suborbitals; branchiae crowded with five rays; maxillary teeth

conical, middle and anterior ones longest; pharyngeal teeth arranged as if paved, the upper ones in two plates, the lower in a single one corresponding to the two others.

Opercula and preopercula destitute of spines or dentations, cheek and operculum scaly; lateral line straight or nearly so. *Epibulus indicator*, pl. 47, f. 28. Mouth very protracile, which by a see-saw motion of their maxillaries is produced into a tube form, with which they capture their prey.

*Xenichthys (Xenichthys)*, pl. 47, f. 38. Body weak compressed, front suddenly descending towards the mouth, in nearly a vertical line, formed by the ethmoid bone and the ascending branches of the maxillaries; body covered with large scales. Lateral line interrupted; jaws with conical teeth, ventral ones longest; pharynx having hemispherical teeth.

#### FAMILY XV.—FLUTE-MOUTHS.

Ethmoidal and adjacent bones produced in the shape of a tubular mouth in front of the cranium; the mouth formed by the intermaxillary, maxillary, and mandibular bones.

*Pistulirus Chinenis*, pl. 46, f. 15. A single dorsal fin, which as well as the anal, is composed of simple rays; intermaxillaries and lower jaw provided with small teeth; between two lobes of the caudal fin processes a filament which is frequently as long as the body; snout long and depressed.

*Centropomus undulatus*, pl. 47, f. 6. Anterior dorsal fin, with the spine, strong, placed far back, and supported by an apparatus connected with the head and shoulder; skin covered with small scales, and also some broad and dentated plates.

#### ORDER II.—ABDOMINAL MALACOPTERYGIANS.

The ventral fins are suspended to the under part of the abdomen, and situated behind the pectorals, but not attached to the shoulder bones.

#### FAMILY I.—CYPRINIDÆ.

Mouth but slightly cleft; jaws weak, generally without teeth, and bordered by the intermaxillaries, by strongly toothed pharyngeals; branchial rays small; body scaly; destitute of an adipose dorsal fin.

*Cyprinus auratus*, pl. 47, f. 11. Mouth very small, jaws destitute of teeth, as also of the flat rays of the branchiae; tongue smooth; palate with a highly irritable substance; dorsal fin long, in which, as well as the anal fin, the second ray is formed of a stout spine. Some of the species have cirri at the angle of the upper jaw.

*Cyprinus carpio*, pl. 46, f. 17. Olive green above, and yellowish beneath; with strong dentated dorsal and anal spines.

#### FAMILY II.—ESOCIDÆ.

Destitute of an adipose fin; edge of the upper jaw usually formed by the intermaxillary, and when not so, the maxillary is devoid of teeth, and concealed in the thickness of the lips; with the exception of the *Microstomus* the dorsal and anal fins are opposite each other.

*Esoctus volitans*, pl. 47, f. 8. Pectoral fins excessively large, capable of supporting them in the air: head and body scaly, a saffron line formed by a longitudinal line of carinated scales, on each flank; head depressed and compressed, on the sides dorsal fin placed above the anal; eyes large; intermaxillaries constituting the whole range of the upper jaw, and destitute of pedicles; both jaws are provided with small pointed teeth, pharyngeals with teeth set like pavement.

#### FAMILY III.—SILURIDÆ.

Completely destitute of true scales, skin quite naked, or with large osseous plates; intermaxillaries suspended under the ethmoid, forming the edge of the upper jaw: maxillaries simple vestiges, or extended into cirri. Intestinal canal simple, destitute of caeca, bladder large; first ray of dorsal and pectoral fins, with strong spines; and like the salmon, frequently with an adipose fin behind.

#### FAMILY IV.—SALMONIDÆ.

Body scaly; first dorsal fin having two soft rays, followed by a second adipose, formed of a cuticle filled with fatty matter, and destitute of rays: they have numerous caeca and a natatory bladder. Structure of jaws subject to much variety.

*Salmo salar*, pl. 47, f. 1. Edge of upper jaw principally formed by the maxillaries, which have a series of pointed teeth, as also in the intermaxillaries, palatines and mandibulars, that on the vomer, tongue, and pharyngeals double. Ventrals opposite the first dorsal, and the adipose opposed to that of the anal. Generally ten branchial rays. Body usually spotted. Flesh wholesome in all the species, and second rivers to sea.

#### FAMILY V.—CLUPEIDÆ.

Destitute of an adipose fin; jaws formed by intermaxillaries, having no pedicles in the middle, and by maxillaries on the sides; body scaly; most species have a natatory bladder, and many caeca. Some of the species ascend rivers.

*Clupea pilchardus*, pl. 47, f. 4. Maxillaries arcuated before, and divisible in several longitudinal pieces; opening of the mouth moderate; upper lip not emarginated.

*Engraulis mordax*, pl. 46, f. 3. The mouth cleft considerably behind the eyes; branchial opening large, and surrounded with numerous rays: about somewhat pointed, under a tube are attached the intermaxillaries, protruding in front of the mouth; maxillaries straight and elongated.

ORDER III.—SUB-BRACHIAN MALACOPTERYGIANS.

Ventrals placed under the pectorals; pelvis directly suspended to the shoulder bones.

FAMILY I.—GADITES.

Ventrals pointed and attached to the throat; body slightly compressed; scaly; head scaleless; fins soft; jaws and front of vomer with pointed teeth, set in several rows, resembling a rasp; branchiae large, seven-rayed: most of the species have three fins on the back; one or two situated behind the anal opening and a distinct caudal fin.

FAMILY II.—FLAT-FISHES.

Head devoid of symmetry; both eyes on one side, which is always uppermost: two sides of the mouth unequal; body much compressed; dorsal fin generally extending along the whole back, and the anal occupies the under part, appearing as if a continuation of the ventral, which are often united with it. Some of the species have their head reversed from the ordinary law.

*Pinnassa Carnaria*, pl. 46, f. 12. A range of cutting teeth in each jaw, usually appearing as if paved in the pharyngæ; dorsal fin extending the length of the eye. An interval between the caudal and dorsal, as well as between the anal. Generally rhomboidal, eyes placed on the right side.

*Solea Zebra*, pl. 46, f. 24. Mouth oblique to the opposite side to that in which the eyes are placed, that side only provided with minute thick-set teeth; anal rounded, projecting beyond the mouth; dorsal fin commencing at the mouth, which, with the anal fin extends to the caudal; lateral line straight; general form oblong.

FAMILY III.—DISCOBOLI.

Ventral fins forming a disk.

*Cerapterus lampus*, pl. 47, f. 18. First dorsal fin more or less visible, but very low; rays simple; a second branchial ray opposite the anal fin.

*Echeneis Remora*, pl. 45, f. 16. Head provided with a depressed disk, composed of transverse laminae, directed obliquely backwards, posterior edge dentated; body elongated and scaly; a small soft dorsal opposite the anal; mouth horizontally cleft and rounded; lower jaw projecting beyond the other, intermaxillaries with teeth resembling those of a card; a range of denticulate teeth skirt the maxillaries; anterior edge of the vomer with small teeth like a card.

ORDER IV.—APODAL MALACOPTERYGIANS.

There is but one natural family in this order. The species are of an elongated form; skin thick and soft scales in consequence nearly invisible; jaws few.

FAMILY I.

*Anguilla conger*. With pectoral fins and branchiae opening under them on either side; dorsal and caudal fins continued round the end of the tail.

*Ophidium tetradon*, pl. 46, f. 10. Dorsal and anal fin united with that of the tail, and terminating the body, which is much elongated and compressed, so much so that it resembles a sword in a point; scales very small, and planted in the thickness of the skin.

ORDER V.—LOPHOBANCHIATE FISHES.

Jaws perfect and free; gills in place of being like the teeth of a comb, are divided into small tufts; arranged in pairs along the branchial arches. They are enclosed beneath a large operculum, fixed down on both sides by a membrane, which exhibits only a small orifice for the exit of the water, and showing in its thickness vestiges of rays only; aculeated plates of mail cover their body, which is usually of an angular shape.

*Synbranchia acuta*, pl. 47, f. 3. Snout tubular, formed like the flute-mouth, by an elongation of the ethmoid, vomer, tympanum, preopercula, and other bones, terminated by an ordinary mouth, almost vertically cleft. Respiratory opening near the snout; devoid of ventral fins.

*Hippocampus foliatus*, pl. 47, f. 10. Trunk laterally compressed, and considerably more elevated than the tail. Junctions of scales raised into ridges, and their salient angles into spines. Tail destitute of fins.

*Pagrus Draco*, pl. 47, f. 16. Snout salient; mouth under its base; body mailed, as in the Hippocampus; trunk broad, depressed. Branchial apertures placed on the sides; two distinct ventral fins behind the pectorals, which are frequently large, whence the name of the genus.

ORDER VI.—PLECTOGNATHES.

Maxillary bone permanently attached to the side of the intermaxillary, by which the jaw is alone constituted, and in the manner in which the palatine anal is united by its suture to the cranium, and consequently destitute of power of motion. Opercula and rays concealed under a thick skin, through which only a small branchial fissure is visible. They have no true ventral fins.

FAMILY I.—GYMNODONTES.

In place of teeth a small ivory substance, internally divided into laminae, which, in their aggregate, resemble a parrot's bill. Opercula small, five rays on each side, all nearly con-  
cealed.

*Diadon Histris*, pl. 47, f. 17. Jaws undivided, formed of one piece above, and another below; behind the cutting edges of which, a round transversely furrowed portion, acting as an instrument of mastication; skin provided with pointed spines, resembling, when inflated, the burr of a chestnut tree.

*Tetraodon hispidus*, pl. 46, f. 4. Jaws divided in the middle by a suture, presenting the appearance of four teeth, two above and two below; spines small and low.

*Cephalus brevius*, pl. 46, f. 5. Jaws undivided; body compressed, and destitute of spines; incapable of inflation; tail so short and high, that its posterior termination appears as if cut off: dorsal and anal fins, both high and pointed, and are united to the caudal. Skin with a thick layer of gelatinous substance spread under it.

FAMILY II.—SCLERODERMES.

Mouth conical or pyramidal, projecting from the region of the eyes, and terminating in a small mouth, provided with a few distinct teeth in each jaw. Skin generally rough or provided with hard scales.

*Balistes aculeatus*, pl. 46, f. 22. Body compressed; each jaw containing eight teeth, in a single row, generally cutting; skin scaly, or covered with thickest granulations, but not osseous; first dorsal fin with one or more spines, articulated with a bone which is attached to the cranium; the second dorsal fin long, soft, and placed opposite to an anal one, which is nearly similar.

*Ostracion auritus*, pl. 46, f. 21, and *Ostracion turritus*, pl. 47, f. 13. Head and body covered with bony plates, in place of scales, soldered together, forming an inflexible shield; the only movable parts being the tail, fins, mouth, and a small lip with which the edge of the gills is provided; all of which pass through orifices in the coat of mail by which they are invested. The vertebral column is also soldered together. Each jaw provided with ten or twelve conical teeth; external branchial aperture, a small slit, provided with a cutaneous lobe. Destitute of both pelvis and ventrals; a small single ventral and dorsal fin only.

CHONDROPTERYGIANS.

Several of this division approach in their formations to the reptiles, in the conformation of their auditory and genital organs. In some, the organization is so simple, and the skeleton so greatly reduced, that they hardly deserve a place among vertebral animals. They therefore constitute a series somewhat similar to the first, in the same manner as Marsupial animals, bear a similitude to the hoofed Mammalia.

The skeleton is essentially cartilaginous, containing no osseous fibres, the calcareous matter being deposited in small grains, and not in filaments; consequently they are destitute of sutures in their cranium, which is always formed of a single piece.

ORDER I.—STURIONES.

Gills with a single wide opening, and provided with an operculum, but destitute of rays in the membrane.

*Acipenser huso*, pl. 46, f. 27. Body covered with bony plates, set in a series of longitudinal rows, and mailed on the exterior portion of the head; the mouth is small and toothless, situate under the snout; the palatine is affixed to the maxillaries, and inserted into the upper jaw, the vestiges of the intermaxillaries forming part of the thickness of the lips. The mouth being placed on a pedicle, is more protractile than that of the shark; eyes and nostrils placed on the side of the head, and there are cirri inserted under the snout; no appearance of external ear: a sphericle behind the temple leads to the branchiae. Dorsal fin situated behind the ventrals, and the anal fin under it; the caudal fin surrounds the extremity of the spine, and is provided with a salient lobe beneath.

*Callorhynchus Australis*, pl. 46, f. 26. Snout terminated by a fleshy, hoe-shaped appendage; the second dorsal fin commences over the ventrals and terminates at the front part of the fin attached to the tail.

ORDER II.—FIXED GILLED CHONDROPTERYGIANS.

Organs for the escape of water pierced in the skin, sometimes terminating in a common duct, through which the water is transmitted; little cartilaginous arches are frequently suspended in the muscles opposite to the external edges of the branchiae, and which may be denominated branchial ribs.

FAMILY I.—SELACPII PLAGIOSTOMI.

Palatines and post-mandibulars, only, provided with teeth, and supply the place of jaws, which are represented by mere vestiges of bone; their apparent jaw suspended by a single bone to the cranium, which represents the tympanal, jugal, and temporal bones, and also the preoperculum; a hyoid bone affixed to this pedicle, and supports the branchiostegal rays, as in ordinary fishes, although hardly visible externally; followed by the branchial arches, but neither compose the operculum. Provided with both pectoral and ventral fins, the latter on the abdomen, placed on each side of the anal opening.

*Squalus Zygaena*, pl. 46, f. 8. Snout prominent, with nostrils placed beneath, but neither in a prolonged furrow, nor provided with lobules, having a lobule on the underside of the caudal fin approximating to the bifurcated form.

*Pristi antiquorum*, pl. 46, f. 7. elongated with the body flattened before, and the branchial opening situated below, as in the rays; having a very long, depressed, sword-shaped snout,

armed on each side with strong, bony, cutting, and pointed spines, planted like teeth. The teeth of the mouth resemble small paving stones.

*Torpedo pilosus*, pl. 46, f. 10. Disk of body nearly circular, anterior border formed by two productions of the snout, side-wise inclined, so as to reach the pectoral fins; head and branchial filled with honeycomb-like tubes, subdivided by horizontal diaphragms, into little cells filled with mucus. It is in this apparatus in which the galvanic power resides. Tail short and fleshy.

#### FAMILY II.—SUCTORII CYCLOSTOMI.

The suckers are the most imperfect of all vertebral animals as regards the skeleton: they are destitute of both pectoral and ventral fins; body elongated, terminated before by a fleshy lip and cartilaginous ring. Annular portion of the vertebrae, not cartilaginous throughout its whole circle: destitute of ordinary ribs; branchial ones much developed, and united to each other, but devoid of solid branchial arches: the branchium resembling purse, resulting from the junction of one part of a branchium with the opening of that contiguous: ear enclosed by the cranium; nostrils with a single orifice.

*Petromyzon marinus*, pl. 47, f. 5. With seven branchial openings on each side; skin of tail, above and beneath, turned up into a longitudinal crest, supplying the place of a fin; maxillary ring provided with strong teeth; interior disk of lip very circular, provided with tubercles, and covered with a hard shell. This ring is suspended under a transverse plate, and seems to supply the want of intermaxillaries, vestiges of maxillaries may be seen on the sides of throat. Tongue provided with two longitudinal rows of small teeth, which move backwards and forwards in the manner of a piston; a dorsal fin before the anal opening, and another behind it, which unites with the tail fin. *Gastrobranchus carcus*, pl. 47, f. 2. Intervals of the branchia communicate with a common canal on each side; each of which terminates in a distinct perforation situated under the heart.

**ICHTHYOLITE** (*Greek*), means, in mineralogy, a petrified fish, or a stone with the impression of a fish upon it.

**ICHTHYS** (*ἰχθυς*, *Greek* for fish); a word found on many seals, rings, lamps, urns, and tombstones, belonging to the earliest Christian times. Each character forms an initial letter of the following words: *Ιησους, Χριστος Ουις Της Ζωης*; that is, *Jesus Christ, the Son of God, the Saviour*. The picture of a fish is also sometimes engraved in similar works, having a mystical meaning. The latter may have merely originated from the word *ἰχθυς*, and this again from the initials of the above-mentioned words; but it is much more probable that the ancient Christians gave to the image of the fish, (so much revered as a religious symbol among most ancient nations) a mystical meaning. It was natural enough that nations who expressed all their religious and scientific conceptions symbolically, should adopt a fish as an emblem. On account of its immense fertility, the fish was emblematical of the great fructifying power of nature; and, as many kinds of fish indicate, by certain motions, the changes of weather, it became an object from which the priests prophesied; hence it readily became sacred to them. The fish was worshipped by the Syrians, Assyrians, Phœnicians, and the Western Asiatics in general.

**ICOLMKILL**, or **I-COLUMB-KILL**; one of the Hebrides, called by the Monkish writers **IONA**. Its original name, by which it is still known in its vicinity, was *I*, signifying *island*; but, St Columb having founded a monastery there, it came to be called **ICOLUMB-KILL** (the island, Columba's Cell.). It is two and a half miles in length by one in breadth, and is separated from Mull by a channel about half a mile wide. Icolmkill is chiefly interesting to the antiquarian from the views of its ancient religious edifices. These were established about the year 565, by St Columb, who left Ireland, his native country, with the intention of preaching Christianity to the Picts. The remains of these edifices, almost all constructed of sienite, together with crosses and sepulchral monuments, are the antiquities now extant. The exact date of none of the former is known, but the church is said to have been built by queen Margaret, towards the latter end of the eleventh century. It is built in the form of a cross, 164 feet long without,

and 34 broad; the body of the church is 60 feet in length, and the two aisles of the transept, or cross, are each 30 feet long, and 18 broad within the walls. The east window is a beautiful specimen of Gothic workmanship. In the middle of the cathedral rises a tower, 22 feet square, and between 70 and 80 feet high, supported by four arches, and ornamented with bass-reliefs. Here are the tombs of forty-eight Scottish kings, four kings of Ireland, eight Norwegian monarchs, and one king of France. The cell of Icolmkill became the mother of 100 monasteries; the princes and nobles of Scotland were sent thither for education, and it was the favourite sepulchre of the Scotch and Irish kings. The island is described by Mr Pennant, doctor Johnson, and other travellers. See *Hebrides*.

**ICON** (*ἰκον*), an image.—*Iconolatry*; adoration of images.—*Iconoclasts* (q. v.); breakers of images.—*Iconography*; the representation of statues, busts, household gods, mosaic works, and pictures in various colours. Michael Angelo and Ursinus were the restorers of this art, which was carried farther by John Angelus Canini and Bernard de Montfaucon. Canini published his *Iconography* at Rome, in 1699 (1 vol., 4to), and Montfaucon the *Antiquités Expliquées*. The latest work of this kind is Visconti's *Iconographie Ancienne* (Paris, 1808—17, 4 vols., 4to); it contains the portraits of the princes and celebrated men of antiquity. Three volumes form the *Iconographie Grecque*, the following the *Iconographie Romaine*; the fifth volume was published, in 1821, by A. Monges; the sixth volume concludes the whole. Also the *Iconographie des Contemporains, depuis 1789, jusqu'à 1820*, by Delpech (Paris, 1824, thirty numbers, each with four portraits and a fac simile), has met with great success. The *Iconographie du Règne animal*, by Guérin, was published at Paris (1829).

**ICONOCLASTS**; that Christian party which would not tolerate images in the churches, much less the adoration of them. This dispute began in Greece, and extended from thence over Europe; it was most violent in the eighth and ninth centuries. In the three first centuries after Christ, the Christians had no paintings or images in the churches. The first cause of the Christian worship of images was partly, the custom of erecting columns in honour of the emperors, with their statues, partly the attempt to preserve the memory of the bishops and the martyrs by images. In the fourth, and still more in the fifth century, they were placed in the churches, yet without receiving any adoration; but in the sixth century, people began to kiss the images, in token of respect, to burn lights before them, to offer incense in honour of them, and to ascribe to them miraculous power. Some bishops endeavoured to dissuade Christians from this worship of images; others tolerated them as becoming decorations of the church; while others, in their reverence for them, approximated to complete idolatry. The Eastern emperor Leo III., the enemy of superstition and the worship of images, issued an edict, in 726, ordering the people to remove from the churches all the images, except that of Christ, and to abstain entirely from the worship of them. This order occasioned commotions, first in the islands of the Archipelago; and, as the popes Gregory II. and III. admitted of the worship of images, and the emperor Leo refused to recall his edict on their command, they excommunicated him, and his subjects in Italy threw off their allegiance. Thence arose two parties in the Christian church, namely, the *Iconolatre* and the *Iconoclasts*, who have mutually persecuted each other, even to death. Leo's son and successor, Constantine, proceeded with less rigour. He convened a council at Con-

stantinople (754), in which the use, as well as the worship of images, was condemned. Constantine's son, Leo IV., who ascended the throne 773, followed the same course; but his wife, Irene, caused him to be poisoned, in 780, and a council at Nice, in Bithynia, restored the worship of images (786), and inflicted punishment upon those who maintained that nothing but God ought to be worshipped. Although the Greeks and Italians were addicted to the worship of images, yet most Christians of the West, as the Britons, Germans, Gauls, did not follow their example; on the contrary, they asserted that it was lawful to retain images, and expose them in the churches, but that they could not be worshipped without offending God. Charlemagne, probably assisted by Alcuin, wrote against the worship of images, and a council which he caused to be held at Frankfurt on the Maine (794) confirmed his opinion, notwithstanding the opposition of pope Adrian. Among the Greeks, the controversy concerning images broke out anew after the banishment of Irene (802), and lasted almost half a century. Her successor, Nicephorus, did not, indeed, remove the images from the churches, but he forbade the adherents of the images from persecuting their adversaries. Finally, the empress Theodora, by a council held at Constantinople, 840, restored the worship of images among the Greeks, which was confirmed by a second council, held, 879, in the same place. In the Western Empire, images were at first retained only to preserve the memory of pious men, but the worship of them was forbidden. This use of them was confirmed by a council summoned by Louis the Debonnaire, in 824; but this opinion was gradually abandoned, and the decision of the pope, which allowed the worship of images, finally prevailed in the Western church. See the following article.

ICONOLATRY (from the Greek *ikon*, image, and *laotria*, worship); the worship or adoration of images. The preceding article shows what dissensions the worship of images has produced in Christendom. To Protestants, the respect (whatever it may be called) which the Catholics pay to images is an object of great dislike: they consider it the breach of one of the first commandments of Christianity—to worship in the spirit and in truth—whilst, on the other hand, the Catholics say that malice or ignorance only can ascribe to them the heathen custom of adoring images. Every thing, say they, depends upon the meaning given to the word *adore*. "In vain," says the Catholic writer in the *Dictionnaire de Théologie*, article *Adoration*, "do they (the Protestants) maintain that God alone shall be adored: if they mean by it, *honoured as the Supreme Being*, it is true; if they understand by it, that he is the only being to be honoured, it is a falsehood." He thus continues: "We respect their (the saints') images, because they represent them, and their relics, because they belonged to them; but we do not adore them, if by *adoring* is understood worshipping them like the Supreme." If some Catholic authors, from a careless use of language, have improperly applied the expression *adoration*, this proves nothing, as our creed is clearly exposed in all our catechisms." The Protestants maintain, first, that "none is holy but the Father;" and no gradation in worship can exist; that the mass of men, always being inclined to take the form or sign for the essence, do so also among the Catholics (if we are to suppose the images were not intended for real worship by the church), as all Catholic countries sufficiently prove, by the unrestrained worship and miraculous powers ascribed to images; and, thirdly, that there is a vast difference between the "respect" paid by Catholics to images, and that shown to them by Lutherans, who un-

doubtedly respect the religious paintings in their churches, on account of the subjects represented, but neither pray before them, nor kiss them, nor ascribe miraculous power to them, nor think them essential to religious service. The Calvinists are still more rigid than the Lutherans in regard to paintings and similar ornaments in churches.

ICONONZO; the name of two natural bridges in Colombia, province of Cundinamarca (New Granada), on the road from Santa Fe de Bogota to Ibaque south-east of the village of Pandi. They traverse the river of Somma Paz, which runs in a narrow, deep valley, that would be inaccessible, if it were not for these bridges, which stand one above the other. The most elevated is 325 feet above the river, 2870 feet above the level of the sea, over forty feet wide, and is composed of a solid rock, in the form of an arch; its thickness in the centre is seven or eight feet. The second bridge is more than fifty feet below the other. It appears to be the result of the fall of a part of the rock which formed the first. In the centre is an opening, through which is seen the abyss, and innumerable night-birds hovering above the water, which falls into a cavern so dark that its sides are not distinguishable.

ID., IBID.; abbreviations of *idem*, *ibidem*, the same (author), or at the same place.

IDA in ancient geography;

1. A mountain in the Troad, at the foot of which lay the city of Troy, and whose declivity towards the sea forms the scene of the famous events during the siege of Troy. Its southern part was called *Gargarus*, and one of its highest peaks, *Cotylius*. On mount Ida was a temple to Cybele, who was called the Idæan mother (*Idæa mater*). Here Paris ended the strife between the three goddesses, and gave to Venus the prize of beauty; here Ganymede was seized and carried to Olympus; and in general, mount Ida was the scene of many Grecian fables. It produced a great number of pines, and was famous for its pitch.

2. A mountain in the island of Crete, or, more properly, the middle and highest summit of the chain which divides the island from east to west. The eastern part was called *Dicte*, the western *Leuci* (*albi montes*). This highest peak, particularly called *Ida* (now *Pailorit*), has at its foot a circumference of 600 stadia. This peak terminates in two rocky summits, almost always covered with snow and ice. It affords, from its height, a fine prospect, and is covered with woods of pine, maple, and cedar, but it is not very fertile. Among the few plants which grow upon this mountain is the *tragacantha* (goat's thorn). Copious streams flow down its sides, and enrich the neighbouring summits. The first inhabitants of Crete dwelt in its caves, and iron is said to have been first found there. Mount Ida is famous as the birth-place of Jupiter. See *Candia*.

IDEAL; an imaginary model of perfection. In the fine arts, the ideal is distinguished from the exact imitation of reality by avoiding the imperfections which always disfigure the individual, and giving to each excellence its highest perfection. Imagination creates ideals, in the fine arts, by abstractions from individual forms, separating the individual and casual from the general and the essential, and thus produces ideals of a particular kind. If it performs the same process on these, again abstracting the general and essential, it creates new ideals of a still higher kind; and, if this abstraction be carried on further, we arrive at last at the pure ideal, which is incapable of any further separation and generalization—the ideal form of the whole genus. Thus man creates forms elevated above the real forms of nature: we do not say above nature itself, because we under-

stand by nature not only the actual appearances of the sensible world, but also the laws and prototypes which lie at their foundation, and at which imagination arrives in the way indicated. As in thousands of crystals we do not find one which forms a perfect mathematical figure, while the effort of nature to produce such a figure is obvious in all, so is it with the beautiful. All the individual instances may be regarded as the imperfect attempts of nature to produce a faultless model. In creating the ideal of beauty, man does not follow, as some suppose, the arbitrary suggestions of fancy, but strives to discover and present the prototypes of nature. Imagination finds the materials of the ideal in reality, but she unites the separate traits of the grand and the beautiful, dispersed through nature in one perfect ideal. So, too, there may be ideals of the hateful, the horrid, the malignant; for the ideal aims merely at completeness, whether in the good or the bad, the grand or the mean, the graceful or the ugly, the heroic or the ridiculous. Dante often gives us the ideal of physical suffering, whilst the Koran aims to present the ideal of sensual enjoyment. The caricature is, under a certain point of view, an ideal. The characteristic, which is founded on the deviation of the individual form from the generic, is therefore opposed to the ideal, which loses by any deviation from the generic form; but, on the other hand, the representation gains in character, and thus satisfies the claims of the fine arts, which require, not only the beautiful but the true. Truth must in no case be sacrificed to beauty. A medium must therefore be employed, by which the truth may be represented as beautiful. This medium is the true ideal of the imitative arts. Genius only can decide how far the characteristic and the generic are to be mingled. See the article *Copy*.

IDEALISM is the name usually given to that system of philosophy, according to which, what we call external objects are mere phenomena of our own minds. It originated with Descartes. Malebranche went a step further; but bishop Berkeley was the first who sought to prove the non-existence of matter, and is therefore regarded as the founder of modern idealism. See *Berkeley*.

IDENTITY, SYSTEM OF. See *Schelling*.

IDEOGRAPHIC; that way of writing which expresses the ideas and not the sound. Part of the Chinese characters are ideographic; as, for instance, when the sign which signifies *hand*, and some other sign, expressing a material, designate the trade in which this material is made or used: this is *ideographic* writing. See *Chinese Language*, and *Hieroglyphics*.

IDES, or IDUS; with the Romans, the fifteenth day of March, May, July, and October. In the other months, it was the thirteenth, owing to the variation of the nones. (q.v.) These days were sacred to Jupiter, to whom the *flamen dialis* sacrificed a sheep. The *ides* were also sacred to different deities. The *ides* of March, on account of Cæsar's death, was an *ater dies*, and was called *paricidium*. The senate was not allowed to sit on that day. See *Calendar*.

IDIOSYNCRASY (*Greek*) means the peculiar effect produced by certain agents upon the bodily frame; or the peculiar, and, frequently, morbid feeling of liking or dislike which a person has, with regard to certain objects, whether physical or intellectual.

IDIOT (from the Greek *idiotes*, which signified a private citizen); one who took no interest in the general welfare. The modern meaning therefore deviates much from the old one.

IDIOTICON; a dictionary confined to a particular dialect or containing words and phrases peculiar to

a part of a country. There exist in Germany several very valuable *Idiotica*.

IDOCRASE is found most usually in distinct crystals, with the general form of short, square prisms. Their primary form is a right prism, with square bases; and the crystals yield to cleavage parallel to all its planes, with sufficient brilliancy to obtain incidences of 90° by the reflective goniometer in every direction. Lustre, vitreous, inclining to resinous, sometimes very distinctly the latter; colour, various shades of brown, passing into leek-green, pistachio-green, olive-green, and oil-green; streak, white, semi-transparent, or only translucent on the edges. If viewed in the direction of the axis, the colours incline more to yellow; perpendicular to it, more to green; hardness between that of feldspar and quartz; specific gravity, 3.399. It also occurs massive and granular. Idocrase was first found among the lavas of mount Vesuvius, and hence its old name, *Vesuvian*. It was afterwards discovered at Eger, in Bohemia, and being taken for a new mineral, was called *Egeran*. A variety, resembling egeran, has been called *loboite* and *fragardite*. Another, from Telemarken, in Norway, of a blue colour, and containing copper, has been called *cyprine*. Idocrase has yielded by analysis the following results (the two first were obtained by Klaproth, the third by count Dunin Borkowsky):

	Vesuvian from Vesuvius.	Vesuvian from Siberia.	Egeran from Bohemia.
Silica.	35.50	42.00	41.00
Alumina,	33.00	16.25	22.00
Lime,	22.25	34.00	22.00
Magnesia,	0.00	0.00	3.00
Oxide of iron,	7.50	5.50	6.00
Oxide of man- ganese,	0.25	a trace	2.00
Potash,	0.00	0.00	1.00

The varieties from Vesuvius and from Fassa in the Tyrol, easily melt into a dark-coloured globule. The localities of idocrase in Europe are numerous. In the United States, it has been met with, handsomely crystalline, at Worcester, in Massachusetts, of a reddish brown colour, like the egeran of Bohemia; in Newton, New Jersey, also in white limestone, with blue corundum, in large yellowish-brown crystals; and at Amity, Orange county, New York, in white limestone, with augite, spinelle, and brucite.

IDOLATRY. Reason commands us to adore a supreme, infinite, perfect being, whom we call God. Idolatry, however, reveres a false god, an idol, a being which is not God—a finite being instead of the infinite. We learn from history, that the pure idea of the inexpressible Godhead spreads but slowly; for man always seizes the form instead of the substance, and is long in acquiring a purely spiritual conception. This is the case with individuals as well as with whole nations. History teaches us also, that the fear of misfortunes and the desire of happiness have been the chief sources of idolatry. At first, natural causes were unknown to men. They could not explain the growth of fruit, the origin of heat, of light, of the winds, &c. Without the labour of profound investigation, their imaginations created rulers of either sex, to whom they ascribed the direction of all outward events. Thus, some revered stars, trees, stones, springs, &c. Others gave their gods human shapes, and, at the same time, human passions, desires, and wants. Thus anthropomorphism (the representation of the Deity with human qualities, either actual or symbolical) took its origin. Men endeavoured to gain the favour of God, as they did that of their fellow men, by offerings and prayers. Each nation had its particular god, who was not the

common father of all men, but his own tutelar divinity, and so had every tribe, family, and even individual. The image of this tutelar god had its place in the house, and became the god of a house, of a man, or of a family. His presence and power were limited to the place of his residence: he became the protector and counsellor of him by whom he was chosen. The god of the hunter and of the warrior became the god of hunting and of war. The god of the shepherd took care of the herds, and the god of the husbandman became the patron of agriculture and the bestower of fruitful seasons. Those divinities required particular ministers, whose duty it was to regulate their worship, to bring before them the wishes of men, and return their answers to the suppliants. This office, selfish cunning turned to its own advantage. Individuals pretended to a familiar intercourse with the gods: thus originated prophecies and oracles. Many sensible men, even in the most ancient times, were, however, convinced of the folly of all this, and were led to the idea of one God.

**IDOMENEUS**; son of Deucalion, and grandson of Minos, king of Crete. He was remarkable for his beauty, and was one of the suitors of Helen; he, however, continued a friend of Menelaus, and often visited him in Lacedæmon. With Merion, he led the Cretans, in eighty ships, to Troy, and distinguished himself by his valour. At the funeral games of Patroclus, he quarrelled with Ajax Oiléus, maintaining that Idomeneus had won the prize in the chariot race, while Ajax claimed it for Eumelus. Achilles ordered them both to be silent, and Idomeneus asserted that Idomeneus had feeble eyesight, through age, whence it appears that he must then have been very old. After the conquest of Troy, he embarked with Nestor, among the first of the Greeks, and, during the voyage, was assailed by a violent tempest. To escape from it, he made to Neptune the rash vow, that he would sacrifice to him the first person whom he should meet. The storm abated, and he arrived happily at the port; but the first person he met was his only son, who had heard of the arrival of his father, and came to welcome him. Nevertheless, Idomeneus sacrificed him. His subjects, who feared the vengeance of the gods upon their land for such a deed, rebelled, and drove him from the island. He went to Italy, and founded the city of Salernum, where he introduced the laws of Minos, and was honoured as a god after his death. According to other historians, he was driven from Crete by Leucus, and went to Colophon, where he died; and was buried on mount Cercaphus. Others, and especially Diodorus, say nothing of the vow, but relate that he returned safely to Crete, where he died quietly, after a long and peaceful reign; that he was buried near Geosus, and received divine honours.

**IDRIA**, a town in Carniola, in the Austrian kingdom of Illyria, so celebrated for its quicksilver mines, lies in a valley surrounded on every side by lofty mountains, covered by thick woods; population, 4129, who are mostly engaged in mining, or in occupations connected therewith. The valley being extremely narrow, the houses stand on the sides of the hill, each with a garden annexed to it, in which the miners raise a few vegetables, notwithstanding the inclemency of the climate and the sterility of the soil. The little river Idrizza, in winter a formidable torrent, runs through the midst. The number of labourers, above and below ground, is stated at 900, exclusive of upwards of 300 wood-cutters, who fell timber in the forests, which they float down the rivers, or prepare in various ways. The annual produce of these mines amounted formerly, for a considerable period, to from 500 to 600 tons of quick-

silver. The greatest part of it used to be exported to Spain, whence it was sent to America for the amalgamation of silver ores; but the revolutions, terminating in the independence of the Spanish colonies, effectually interrupted those dealings, and, as the market for the produce was diminished, the mines of Idria were wrought with less vigour, and the amount now produced is not more than half that above-mentioned. A great part of the quicksilver is conveyed to Vienna, and sold on the account of the emperor. England, it is said, takes the largest share. The mines of Idria have the reputation of being the most magnificent in the world. The galleries and adits are so neat and spacious, that no disagreeable exhalation is perceptible. The entrance is by a lofty, vaulted cavern, conducting to the descents: these are formed by clean stone steps, which are kept in excellent order. The steps have several landing places, paved with broad flags, and provided with benches to rest on. As the miners proceed deeper into the pit, the passages continue to be arched over, and provided with steps. In a very few places, the vault is supported with wood, and occasionally the solid rock is cut through, which, of course, needs no support. The ore is not of uniform richness; some specimens furnish 80 per cent, but the average does not exceed 50. The small quantity of virgin quicksilver that is occasionally found, is shown as a rarity. The principal shaft is 90 fathoms in depth. In the beginning of the present century, the wood-work in the galleries of these mines took fire, and the conflagration raged so obstinately as to threaten the destruction of the whole. The heated, sulphurous exhalations prevented the workmen from approaching the scene of danger, and the flames could not be extinguished until the river was led, by an artificial channel, to discharge itself into the mines. The mines belong to the government, and are wrought entirely at its expense. The district of Idria contains sixty-three square miles, and 10,000 inhabitants, who manufacture linen and laces.

**IDUNA**. See *Northern Mythology*.

**I. E.**; abbreviation of *id est*, Latin for *that is*.

**IFERTEN**. See *Yuerdun*.

**IFFLAND**, **AUGUSTUS WILLIAM**; a celebrated German actor and dramatic writer, born at Hanover, April 19, 1759. His taste for the theatre manifested itself in his infancy, and he was so much affected by the representation of the *Rhodogune* of Corneille, that his parents would suffer him to be taken to the theatre but very rarely. Nothing, however, could prevent him from indulging his natural inclination; and his father having declared that he would never permit him to be an actor, he left home privately, and made his debut at Gotha, in 1777. The poet Gotter, who then resided in that city, assisted young Iffland with his advice. When this theatre was dissolved, he went to Mannheim, in 1779, and, in 1796, was invited to Berlin, to take the direction of the theatre there, and, in 1811, was appointed general director of all the royal plays. He died Sept. 22, 1814. His autobiography is in volume first of his works. He was no less famous as a writer than as an actor. His first production was a tragedy, called *Albert of Thurneisen*, which was well received by the public, and was followed by a number of dramatic pieces for the theatre of Mannheim, among which may be mentioned, *the Neighbours*; *Daughters to be married*; *the Act of Birth*; *the Idlers*; *Mr Musard*; besides translations from the French of Picard and Duval, and from the Italian of Goldoni. The works of Iffland are very numerous. An edition of them was published under his own direction, at Leipsic, in 1798 (17 vols., 8vo). It comprises, besides forty-seven plays, memoirs of his theatrical career, and reflections on

the theory of his art. Madame de Stael said of him, that there was not an accent or a gesture, for which Iffland could not account as a philosopher and an artist.

**IGNATIUS LOYOLA.** See *Loyola*, and *Jesuits*.

**IGNATIUS, SAINT**; one of the fathers of the church, who suffered martyrdom at Rome, during the third persecution of the Christians. He was a Syrian, and is said to have been an immediate disciple of St John the Evangelist, who, in the sixty-seventh year of the Christian era, committed the church at Antioch to his pastoral superintendence. There he presided for upwards of forty years, when the emperor Trajan, after his triumph over the Dacians, entering the city, exercised many severities towards the Christians, and summoned the prelate himself before him. Ignatius conducted himself with such boldness in the imperial presence, that he was forthwith sent to Rome, and ordered to be exposed in the amphitheatre to the fury of wild beasts. This dreadful death he underwent with much fortitude, having availed himself of the interval between his sentence and its execution to strengthen, by his exhortations, the faith of the Roman converts. Of his works, there remain seven epistles, edited, in 1645, by archbishop Usher, republished by Cotelierus, in 1672, in his collection of the writings of the apostolical fathers, and again printed, in 1697, at Amsterdam, with notes, and the commentaries of Usher and Pearson. An English translation of them, from the pen of archbishop Wake, is to be found among the works of that prelate. There are some other letters, of minor importance, which are generally considered to have been attributed to him on insufficient authority.

**IGNITION** (glowing heat) denotes that state of certain bodies, in which, from being exposed to a high temperature, they appear luminous. Two kinds of ignitable bodies are distinguished; namely, such as become entirely changed by ignition, as charcoal, sponge, &c., and such as retain their former state, as iron, for example. The first is a regular combustion, in which, however, no gas rises from the bodies in the form of flame. The second is a mere heat. Of the metals, many liquefy before they become ignited; for example, lead and tin. Iron, on the other hand, becomes ignited long before it melts. Three stages of ignition may easily be distinguished. Iron, at about 770 degrees of Fahrenheit, becomes brownish red, which is the commencement of ignition. At a higher temperature, it becomes red hot; at about 1000 degrees of Fahrenheit, it becomes white hot, and emits a very white, brilliant light. If gradually cooled, ignition diminishes in the same inverse order. In this gradual transition, we perceive all the different colours of light. Hence the Dynamists conclude that caloric, in ignition, actually combines with bodies, and does not merely penetrate their pores, as the Atomists teach.

**IGNIS FATUUS.** See *Meteor*.

**IGUANA.** These reptiles are thus characterized by Cuvier: body and tail covered with small imbricated scales; the ridge of the back garnished with a row of spines, or rather of elevated, compressed and pointed scales; under the throat, a compressed and depending dewlap, the edge of which is attached to a cartilaginous appendage of the hyoid bone. Their thighs are provided with a similar arrangement of porous tubercles with the true lizards, and their head is covered with scaly plates. Each jaw is furnished with a row of compressed triangular teeth, having their cutting edges serrated; there are also two small rows on the posterior part of the palate. There are many species described by naturalists, most of which are natives of tropical America. They live for the

most part on trees, but sometimes go into the water. They feed on fruits, seeds, and leaves. The female deposits her eggs, which are about the size of a pigeon's egg, in the sand. Many of the species are considered as great culinary delicacies by the natives of the countries in which they are found. The common iguanas (*I. tuberculata*, Laur.) are eagerly sought, especially in the spring. They are caught by means of a noose attached to the end of a stick. The iguana, although formidable in appearance, is timid and defenceless. It is very active, though, when it has taken refuge in a tree, it appears to depend on the security of its situation, and permits itself to be taken by its pursuers. Where the noose cannot be conveniently used, it is struck on the head with a stick and stunned. They attain a great size, being sometimes found five feet in length. The word *iguana* is said, by some authors, to be derived from the Indian *Aisana*, and, by others, to have originated in the Javanese word *leguan*.

**ILDEFONSO, St**; a village containing La Granja, a royal palace of the king of Spain, in Old Castile, built in a mountainous country, by Philip V., in imitation of Versailles; six miles N. E. Segovia, forty N. by W. Madrid. Population, 4887. The exterior of the palace is not very magnificent, but the interior contains a great number of valuable paintings, statues, &c. The gardens are very magnificent, being the chief ornament. The elevation of the palace above the sea is 3789 feet, the highest royal residence in Europe. The castle and gardens of St Ildefonso cost about 45,000,000 of piastres. At this place a peace was signed between the king of Spain and the French republic, August 4, 1795.

**ILI** (Turkish for country); a word appearing in geographical names, as *Roumili* (country of the Romans).

**ILIAD.** See *Homer*.

**ILISSUS**; a rivulet which watered the plain of Attica, and flowed down from the Hymettus (q. v.), laved Athens, and was lost with the Cephissus in the morasses.

**ILITHYIA**; among the Greeks, the goddess who assisted women in childbirth. The name, which some have derived from the Oriental languages, appears to be purely Greek, and to signify *she who comes*. This goddess, when her assistance is required, comes at the third call, and the female is saved. Pausanias says that, not far from the chapel of Serapis, at Athens, a temple was built to Ilithyia, who, coming from the Hyperboreans, had assisted Latona, when seized with the pangs of childbirth, in Delos. The Cretans, on the contrary, believed that Ilithyia was born at Amnisus, in the country of Gnosus, and was a daughter of Juno. Thus there were two Ilithyias, who are to be distinguished from each other. According to Grecian mythology, Juno, the institutress and protectress of marriage, had two daughters—Hebe, or the pure virgin, and Ilithyia, or she who bears. Juno therefore could send or refuse the assistance of her daughter Ilithyia, and is often represented herself as the bringer into light (Lucina), as is evident from the passage in Terence, *Juno, Lucina, fer opem*. According to Horace, in his secular ode, Ilithyia and Lucina were the same. The second goddess of the name was a divinity regarded, in Asia Minor, as the emblem of the creative and all-nourishing power of nature, and her worship spread from Media along the shores of the Black sea to Asia Minor. The image of this goddess, in heaven, was the moon; on the earth, a cow. Her principal shrine was Ephesus, and her worship being confounded with that of the children of Latona in later times, she became the Artemis of the Greeks, and the Diana of the Romans. The number of

*Lithyas* afterwards increased to three, of which two were good, and one evil. All three were, at a later period, called *genetlides*, or *goddesses of childbirth*.

ILLIUM, in ancient geography; the name of two cities, which are distinct from each other:

1. New ILLIUM, now known under the ancient name of *Troy*, or the modern name of *Trojahi*, in the territory of *Troas*, near the influx of the *Hellespont* into the *Egean sea*.

2. Old ILLIUM, or the celebrated city of *Troy*, so called from *Ilus*, son of *Tros*, was situated farther from the coast. See *Troy*.

ILLINOIS; one of the United States of America; bounded north by the territory of *Huron*, east by lake *Michigan* and the state of *Indiana*, south by the *Ohio river*, which separates it from *Kentucky*, and west by the *Mississippi*, which separates it from the state and territory of *Missouri*. Lat.  $37^{\circ}$  to  $42^{\circ}$   $30'$  N.; lon.  $81^{\circ} 20'$  to  $91^{\circ} 20'$  W.; 380 miles long, from north to south, and 210 miles wide, from east to west; square miles, 58,000. Population, according to the United States' census of 1830, 157,575, and according to the state census of the same year, 161,055. There are, besides, about 5900 Indians, chiefs of the tribes of the *Sacks* and *Foxes*, and the *Pottawatomies*. The state is divided into forty-eight counties. The capital of the state is named *Vandalia*. It is situated on the *Kaskaskia river*, a little south of the centre of the state. The other principal towns are *Kaskaskia*, *Cahokia*, *Edwardsville*, and *Shawaretown*. The principal rivers, besides the *Mississippi*, *Ohio*, and *Wabash*, which bound the state on the west, south, and east, are the *Illinois*, *Kaskaskia*, *Little Wabash*, *Big Muddy*, and *Rocky rivers*. The sources of the *Illinois* and *Rocky rivers* are near those of the streams which empty into lake *Michigan*, and the country is so flat that, in the wet seasons, the waters of the rivers unite, so that boats pass through them from the *Mississippi* to the lake. It is proposed to construct a canal, which shall unite the permanently navigable parts of the *Illinois* with lake *Michigan*, and, to promote this object, a large grant of land, lying upon the route of the proposed canal, has been made by congress. The southern and middle parts of the state are for the most part level. The banks of the *Illinois* and *Kaskaskia*, in some places, present a sublime and picturesque scenery. Several of their tributary streams have excavated for themselves deep and frightful gulfs, particularly those of the *Kaskaskia*, whose banks, near the junction of *Big Hill creek*, present a perpendicular front of solid limestone 140 feet high. The north-western part of the territory is a hilly, broken country, though there are no high mountains. The climate is not materially different from that of the same latitudes in the *Atlantic states*. The low and wet lands, in the southern part, are unhealthy. The cold of winter is sometimes extremely severe. The soil has been divided into six distinct kinds:—1. Bottom lands, bearing a heavy growth of honey locust, pecan, black walnut, beech, sugar maple, buckeye, pawpaw, grape vines, &c. This land is of the first quality, and is found, in greater or less quantities, on all the considerable rivers. It is of inexhaustible fertility, and is annually cultivated without manure. 2. Newly-formed land, found at the mouths and confluences of rivers. It produces sycamore, cotton wood, water maple, water ash, elm, willow, oak, &c. There are many thousand acres of this land at the mouth of the *Wabash*, and at the confluence of the *Ohio* with the *Mississippi*. It is annually inundated, and is unhealthy. 3. Dry prairies, approaching the rivers and bordering on the bottom land, from thirty to one hundred feet higher, and from one to ten miles wide. These

prairies are destitute of trees, except where they are intercepted by streams of water and occasional tracts of woodland. It has been estimated that as much as two-thirds of the whole state consists of open prairie. The dry prairie has a black rich soil, well adapted to the purposes of agriculture, and is covered with rank grass. 4. Wet prairie, found remote from streams, or at their sources. This is generally cold and unproductive, abounding with swamps and ponds, covered with tall grass. 5. Land covered with timber, moderately hilly, well watered, and of a rich soil. 6. Hills of a sterile soil, and destitute of timber, or covered with stunted oaks and pines. The prevailing forest tree in *Illinois* is oak, of which as many as thirteen or fourteen different species have been enumerated. Honey locust, black walnut, mulberry, plum, sugar maple, black locust, elm, bass wood, beech, buckeye, hackberry, coffee nut, sycamore, spice wood, sassafras, black and white haws, crab apple, wild cherry, cucumber, and pawpaw, are found in their congenial soils throughout the territory. White pine is found on the head branches of the *Illinois*. On the *Saline river*, a branch of the *Ohio*, are salt springs, from which salt is manufactured at a cheap rate. About 300,000 bushels of salt are made here annually. At *Galena*, on *Fever river*, near the north-western corner of the state, are very rich lead mines, from which great quantities of that metal are obtained at a very trifling expense. The working of these mines was begun in the year 1821. In 1824, there were made 175,220 lbs of lead; in 1825, 664,530 lbs.; in 1826, 958,842 lbs.; in 1827, 5,182,180 lbs.; in 1828, 11,105,810 lbs.; in 1829, 13,343,150 lbs.; and in 1830, 8,323,998 lbs. The diminution in the quantity made in 1830, compared with the produce of the preceding year, was occasioned by the great reduction in the price of lead. The quantity of lead received by the United States, in 1830, from the miners, for rents, was 504,214 lbs. The chief produce of the state is Indian corn, wheat, and the other agricultural productions of the Northern States. A few families emigrated from Canada about the year 1780, and settled at *Kaskaskia* and *Cahokia*, where their descendants still remain. In 1800, the whole population of the territory, which now forms the state, exclusive of Indians, was 215. In 1810, the population was 12,282; in 1820, 55,211; and in 1830, as we have already stated, 157,575, of whom, at the last named date, 1653 were free blacks, and 746 slaves.

The territory of *Illinois* was formed into a state, and admitted into the Union, in 1818. The constitution provides, that no more slaves shall be admitted into the state. The legislative power is vested in a general assembly, consisting of a senate and a house of representatives. The senators are chosen for periods of four years, and the representatives for two years. The executive power is vested in a governor, who is chosen for four years, and is ineligible for the next succeeding four years. There is a supreme court established by the constitution, and there are inferior courts established by the general assembly. The judges are appointed by the assembly, and hold their offices during good behaviour, or till removed by the governor, on the address of two-thirds of each branch of the general assembly. One section of land, in each township, amounting to a thirty-sixth part of the township, is granted for the support of schools; and three per cent. of the net proceeds of the United States' lands sold within the state, is appropriated for the encouragement of learning, of which a sixth part is required to be bestowed on a college or university. A further provision has been made for a university by the grant of two townships of land by the United States. A col-

lege has been established at Jacksonville, which is yet in its infancy.

**ILLINOIS**; a river formed by the junction of the Theakiki and Plein, in the north-west part of Indiana, in latitude  $41^{\circ} 48' N.$  It passes into Illinois, pursues generally a south-westerly direction, and flows into the Mississippi, twenty-one miles above the Missouri. It is upwards of 400 yards wide at its mouth, and is about 400 miles long from its junction to the Mississippi, and is of easy navigation. It has a very gentle current, unbroken by falls or rapids, and passes through a fine country. The Plein, its northern head branch, interlocks with the Chicago, which flows into lake Michigan. A canal has been projected to unite the head waters of the Illinois with lake Michigan, and thus connect the Mississippi and the great lakes.

**ILLUMINATI** (via. the *enlightened*); a secret society, founded in 1776, by Adam Weishaupt, professor of law at Ingolstadt, for mutual assistance in attaining a higher degree of morality and virtue. It contained, in its most flourishing condition, 2000 members, among whom were individuals of distinguished talents and high rank. The constitution and organization were taken partly from the Jesuits, and partly from the masons. By order of the Bavarian government (1784) the society was dissolved. The society had no influence whatever on the French revolution, as has often been said.

**ILLYRIA.** The Illyrians, a nation of kindred origin with the ancient Thracians (mingled with Greeks, Phœnicians, Sicilians, and Celts), were spread over the whole coast on the east of the Adriatic, the neighbouring islands, and Western Macedonia, as far as Epirus. Philip, king of Macedonia, took from them the part of their country extending from Macedonia to the river Drinius (now Drino), and Illyria (Illyricum, Illyrica) was divided into Illyrica Græca and Barbara. The former (modern Albania) was incorporated with Macedonia. It contained Dyrrachium (Durazzo), formerly Epidamnus, where the Romans commonly embarked for Italy, and Apollonia, a Greek commercial city of some importance, with an academy. The latter division extended from the river Arsia (now Arsa), in Istria, to the Drinius, and was divided into Japydia, Liburnia, and Dalmatia. This province obtained distinction in the history of the Roman emperors, several of whom were born here. Piracy was one of the principal means of subsistence of the Illyrians, whose kings, therefore, were frequently embroiled in quarrels with the Romans, which, at last, ended in the subjection of the Illyrians, under their king Teuta, 228 B. C. The savage race sought, indeed, from time to time, to shake off their chains; but being beaten by Cæsar, and greatly enfeebled by Augustus, Germanicus, and Tiberius, the country at last became a Roman province, and, as such, held a high rank. The name, to which, in the fourth century, was added the epithet of *magnum* (great), included almost all the Roman provinces situated in the East. At the division of the Roman empire, Illyria fell to the empire of the West, but, upon its overthrow, in 476, it came to the emperor of the East. In the middle of the sixth century, Slavonian colonists from Russia and Poland settled there, and soon succeeded in rendering themselves independent of the weak Byzantine government. Thus arose the small kingdoms of Dalmatia and Croatia. In 1020, the emperors did, indeed, reconquer these provinces, but twenty years afterwards, they regained their independence. In 1090, the Venetians and Hungarians also made themselves masters of a small part of Illyria. In 1170 arose the Rascian kingdom, from which, 200 years later, that of Bosnia was formed. Dalmatia, at first, was

taken by Venice, but, in 1270, the greater part of it was conquered by the Hungarians, who penetrated to the Black sea. Both they and the Venetians lost nearly all these conquests to the Turks; for the Venetians retained only a small part of Dalmatia, while Hungary kept possession only of Slavonia, and a part of Croatia. The peace of Campo-Formio, October 17, 1797, brought Venetian Dalmatia, and its islands as far as Cattaro, under the dominion of Austria. Twelve years later, Old Illyricum was again restored. "The circle of Villach, Carinthia, what was formerly Austrian Istria, Fiume, and Trieste, the lands known by the name of the *Littorale*, and all that remains to us on the right bank of the Save, Dalmatia, and its islands, shall bear the name of the *Illyrian provinces*." Such was the decree of the emperor of the French, October 14, 1809. This state of things lasted fifteen months, during which Illyria received an addition of 650 square miles, by the junction of a part of Italian Tyrol, ceded by Bavaria; when, April 15, 1811, appeared a decree of the French emperor, definitively organising the Illyrian provinces in their military and financial concerns. The country, independently of its great commercial cities and seaports, which were very important to the navy of an empire such as that of France was to be, had great internal resources. Since 1815, Illyria has been an Austrian kingdom, and, together with the separate kingdom of Dalmatia (q. v.), the chief support of the Austrian navy. In 1825, the circle of Clagenfurt, the territory of Carinthia, together with the province of Laybach, were incorporated with Illyria. The Illyrian Littorale, since 1825, includes, together with the commercial district of Trieste, two circles—those of Goris and Istria. The Istrian government has its seat in Mitterburg. The kingdom of Illyria contains 9,137 square miles, with thirty-five cities, fifty-nine market towns, 7891 villages, and 897,000 inhabitants, mostly Slavonians, Morlachians, and Germans. The people are mostly rude and warlike. (See *Austria*.) The government is divided into two branches, one of which has its seat at Laybach, capital of the kingdom, the other at Trieste. See Russell's *Travels in Germany*.

**IMAGINATION**; the faculty of the mind which forms images or representations of things. It acts either in presenting images to the mind of things without, or by producing those whose originals are not, at the moment, present to the mind or the sense. We therefore distinguish—(1.) original imagination, or the faculty of forming images of things in the mind—that is, the faculty which produces the picture of an object which the mind perceives by the actual impression of the object—from the (2.) reproductive imagination, or the faculty which recalls the image of an object in the mind without the presence of the object. Besides the power of forming, preserving, and recalling such conceptions, the imagination has also the power (3.) to combine different conceptions, and thus create new images. In this case, it operates involuntarily, according to the laws of the association of ideas, when the mind is abandoned to the current of ideas, as in waking dreams or reveries. The association of ideas is either directed to a definite object by the understanding, or it operates only in subjection to the general laws of the understanding. In the former case, the imagination is confined; in the latter, its operations are free, but not lawless, the general law of tendency to a definite end fixing limits to its action, within which it may have free play, but which must not be overstepped. The free and yet regulated action of the imagination alone can give birth to the productions of the fine arts. In this case, it forms images according to ideas. It composes, creates, and is called the *poetical faculty*.

From the twofold action of the imagination, we may distinguish two spheres, within which it moves—the promic and the poetical. In the former, it presents subjects on which the understanding operates for the common purposes of life. Here it is restricted by the definite object for which we put it in action. In the latter, it gives life to the soul, by a free, yet regulated action, elevates the mind by ideal creations, and representations above common realities, and thus ennobles existence. Imagination operates in all classes, all ages, all situations, all climates, in the most exalted hero, the profound thinker, the passionate lover, in joy and grief, in hope and fear, and makes man truly man.

IMAN, IMAMODE, IMAM; a class of Turkish priests. It is necessary that they should have studied in Turkish schools, but their acquisitions are generally limited to the power of reading the Koran, and an enthusiastic gesticulation. They attend in the *dachamis* and mosques, call the people to prayer from the minarets, perform circumcision, &c. They are chosen by the people, and confirmed by the secular authority, under whose jurisdiction they also are in criminal and civil affairs. In ecclesiastical affairs, they are independent, and are not subject to the mufti, though he is the supreme priest. They may quit their office and re-enter the lay order. They are distinguished by a wider turban, of a different form from the common ones, and by their sleeves. They enjoy some privileges, and cannot be put to death, without being stripped of their ecclesiastical dignity. A Turk loses his hand, and a Christian his life, if he beats an iman. The sultan, as chief of all ecclesiastical affairs, has the title of *iman*.

IMARETHI, in Turkey; houses where boys at schools, and students of the colleges, and the poor, receive their dinner. The Mohammedan government have spent large sums for the establishment of the imarethi. In Constantinople, 30,000 people are said to dine in them daily.

IMACS; the ancient name of the Himalaya mountains. (q. v.)

IMBERT, BARTHOLOMEW, an ingenious French writer, was born in 1747, at Nismes. He was the author of several compositions of merit, both in prose and verse, which obtained a high degree of popularity. Of these the one most favourably received was a poem which has for its subject the judgment of Paris. His fables, written in the manner of Fontaine, are less esteemed. He was also the author of some successful dramatic pieces, and of a novel entitled *Les Egaremens de l'Amour*. He died of an attack of fever, in 1790.

IMMERSION. See *Occultation*.

IMMORTALITY; the condition of that which is not subject to death. Immortality has a beginning, and thus differs from eternity, which has neither beginning nor end. Eternity is an attribute of God; immortality of some of his creatures, as, for instance, of the soul. The dogma of the immortality of the soul is very ancient. It is connected with almost all religions, though under an infinite variety of conceptions. By the immortality of the soul, we understand the endless continuation of our personality, our consciousness and will. Philosophers have endeavoured, in different ways, to prove the immortality of the soul—the anchor of man's hope amid the storms of life—in modern times, particularly, from the immateriality of the soul. But this immateriality is not susceptible of rigorous proof, and, if it were, it would only follow that the soul need not perish with the death of the body. It might still pass into a state of unconsciousness, as in a deep sleep and a swoon, a state little better than annihilation; yet the idea, that the dissolution of the body

involves the annihilation of existence, is so cheerless, so saddening, that the wisest and best of men, of all ages, have rejected it, and all civilized nations have adopted the belief of its continuation after death, as one of the main points of their religious faith. There are so many reasons to render it probable, which are as convincing to most men as any strict proof could be, that, with most nations, the belief in the immortality of the soul is as clear and firm as the belief in a God; in fact, the two dogmas are intimately connected in the minds of most men. The hope of immortality must be considered a religious conviction. Reason commands man to strive for continued perfection. This duty man cannot relinquish, without abandoning, at the same time, his whole dignity as a reasonable being and a free agent. He must, therefore, expect that a continuation of his better part, as the necessary condition for his progress in perfection, will not be denied to him. Hence the belief in immortality becomes intimately connected with our belief in the existence and goodness of God. The perfection at which man aspires, depends on the continuance of his individuality; and, therefore, he is hardly more startled by the doctrine of the materialist, who denies all difference between the mind and the body, than by the opinion which maintains that after death the soul of man loses its individuality, and is absorbed in the universal spirit. The noblest feelings are called into exercise by objects which affect man as an individual. Love cannot exist without individual objects of affection; and man trembles at the idea, that the purest enjoyments of which he can conceive, shall perish by the extinction of his individual nature. The proofs of immortality which the Scriptures afford, are familiar to our readers.

The views of man, in regard to the nature of his future existence, are chiefly influenced by his ideas of the relation of the body to the soul. As soon as man begins to observe the peculiar operation of the soul, the idea of its existence after death arises, and is supported by the emotions of hope and fear, by many inexplicable phenomena of nature, and even by illusions. At first, this continuation of its existence is conceived of in connexion with that of the body, and with a state of being not essentially different from the present, in which the hunter shall renew his chase, and his corporeal senses shall have their accustomed gratifications. This perhaps is the reason of the careful preservation of dead bodies at an early period. Subsequently, a new and more finely organized body is conceived of, or the soul is represented as of a more aerial substance (hence the name of *spirit*, *air*, or *breath*, is commonly used, in the more ancient languages, to denote the soul); or as a shadow, which, being separated from the body by death, continues its existence by itself. In this case, the life after death is also considered as a shadow of the present, as in the Greek mythology. Whilst the life of the soul was conceived of as connected with the earthly body, or with a new and ethereal body, it became necessary to assign a distinct place, different from that in which we live, for its habitation. The invisible world is conceived of by most nations, at first, as subterranean. In a more advanced stage of the progress of mankind, the imagination attributes changes of condition to the future life, and the doctrine of the metempsychosis, or the progress of the mind, in different stages, is now formed. See *Transmigration of Souls*.

The belief in apparitions, in conjurations of the dead, and the influence of the dead upon the living, is intimately connected with the belief in immortality. The conception of the state of the departed depended, of course, upon the state of civilization, and what was considered as perfection here, was be-

lieved to be enjoyed in the after life, whether this perfection were skill in hunting, or the intellectual enjoyment of knowledge. It was also natural, that the after life should be considered as standing in connexion with this; and thus morality, as well as the belief in the justice of the Ruler of man's destiny, created the belief of a retribution after death, which has also been considered, according to the state of civilization, in all possible gradations, from the coarsest bodily pain to the intellectual pain of exclusion from the presence of God; hence naturally arose the idea of places where this retribution was accomplished—hell and heaven. This idea of a state of retribution, seems to have given rise to the notion of the resurrection of the body. Connected with the belief in the immortality of the soul, is the belief in a state where souls are purified after death, as existing among the Egyptians and the Catholics. (See *Purgatory*.) No religion teaches so pure a state of the soul after this life, as the Christian, according to the gospel.

Of the many works which have treated of this important subject, we may mention one by an eminent German naturalist, J. H. F. von Autenrieth, *Über den Menschen und seine Hoffnung einer Fortdauer vom Standpunkte des Naturforschers* (On Man and his Hope of Immortality, as deduced from the Light of Nature) (Tübingen, 1815).

The Pentateuch, as many theologians believe, contains nothing relative to a future life. The rewards and punishments which Moses proposed, are all temporal, and the latter, he threatens, will be extended even to the third and fourth generations, but not to a future state. The writings of the Old Testament seem to show that the Jews had no belief in the immortality of the soul, until after they had become acquainted with the doctrines of the East in the Babylonish captivity, previous to which they seem either not to have believed in it at all, or to have held the return of the soul to the Supreme Spirit, as Solomon, for instance, teaches. The Pythagoreans and Stoics held this doctrine, as likewise several fathers of the church. In Maccabees, written long after the Babylonish captivity, the belief in the immortality of the soul, and a state of retribution, is expressed in positive terms. The transmigration of the soul, believed by the Pythagoreans, was not adopted by the Stoics. Epictetus says, "You do not go to a place of pain: you return to the source from which you came—to a delightful reunion with your primitive elements: there is no Acheron, no Tartarus, no Cocytus, no Phlegethon." Seneca, Epicurus, and Democritus, also teach the same. The Peripatetics adopted the same doctrine, but their founder considered death in a less consoling light. "Death," says Aristotle, "is the most terrible of all things: it is the end of our existence, and after it, man has neither to expect good nor to fear evil." In 1794, the French people passed a decree, acknowledging the immortality of the soul, and the existence of a Supreme Being.

IMPALEMENT (from *patius*, Latin, a stake); the putting to death by thrusting a stake through the body, the victim being left to perish by lingering torments, which sometimes last for days, and are aggravated by a feverish thirst. This manner of inflicting death was known to the Romans, though not practised by them. It is used by the Turks, as a punishment for Christians who say any thing against the law of the prophet, who intrigue with a Mohammedan woman, or who enter a mosque. Suleyman, a young Mussulman, the assassin of general Kleber, in Egypt, was impaled in the presence of the French army. He died, after several days of the most horrible torments, and not until after the birds of prey

had already torn the flesh from his body. The horrors of this scene exceeded even the fearful description of impalement in the Corsair.

IMPANEL. See *Jury*.

IMPEACHMENT. An impeachment is an accusation and prosecution for a crime or misdemeanor; but is distinguished from other criminal prosecutions, either by the tribunal before which the proceedings take place, the rank or office of the party accused, or the offence alleged, or by all these circumstances; for the constitutions and usages vary in different states in regard to the offences which are the subjects of an impeachment, as well as in regard to the descriptions of persons who are subject to this kind of prosecution, and the constitution of the tribunal having this jurisdiction. The term *impeachment* is usually applied to prosecutions of judicial and executive officers for misdemeanors involving an abuse of their official functions, or immediately connected with those functions. The necessity of some tribunal, distinct from the ordinary courts, for the trial of certain offences, or for any high misdemeanor in certain officers, is apparent, since the judges of the highest courts cannot, in all cases, safely be intrusted with the trial of each other; and if they could be so trusted, the duty of persons, who are, in the ordinary course of administration, associated together in the exercise of their public functions, to try their fellows for offences involving not only reputation, but life, would be most ungrateful, and too painful to impose, even if it could be supposed that justice would always be strictly administered; and, besides, the ordinary judicial tribunals are not so constituted, in all states, as effectually to secure them against the influence and power of the officers of the state. The first object, then, in trials of this description, is to bring them before a tribunal sufficient in authority to overawe any individual, however high or powerful. In countries governed by absolute monarchs, or those whose prerogatives overbear all other powers in the state, the practice is, either for the sovereign himself to give decisions in those cases which are usually the subjects of impeachment, or to constitute tribunals for this purpose by special commission, which is, in effect, equivalent to the direct exercise of those judicial functions by the sovereign himself; for if he has any strong bias in the particular case, he will be influenced by it in the appointment of the judges, as much as he would be in the decision, were he to act as judge himself. But in every free government, that is, in every government under which each citizen knows no absolute sovereign but the law itself, and every one, whether ruler or ruled, is constrained to an unqualified submission to its sovereignty, there must be a permanent tribunal established by the fundamental constitution, for the application of the sovereign law to try the judicial and executive officers, in respect to acts done by them in their respective branches of the administration of the government. This is one of the indispensable parts of a well constituted government, since it guarantees the sovereignty, and the faithful administration of the laws. It is therefore a part of the government in which the whole people are as directly interested as in the establishment of the ordinary tribunals.

The charter of the French government, granted at the restoration of the Bourbons, follows the British constitution in lodging this judicial power in the house of peers. The powers and jurisdiction of the British house of peers are very extensive in respect to impeachments, and, at the same time, not very precisely defined. It does not appear distinctly what persons or what misdemeanors are exempted from this jurisdiction; but it is, in practice, usually exercised in respect to misdemeanors of an important

character, alleged against judicial or executive officers. These prosecutions are instituted by the house of commons, and are usually commenced by sending an oral message from the house of commons to the lords, announcing the intended impeachment; and afterwards articles of impeachment are drawn up much in the form of an indictment, and the house of commons attends the prosecution as a committee of the whole, or appoints managers to conduct the prosecution, and demand judgment. As the crimes triable by impeachment are not limited, so the severest punishments may be inflicted in pursuance of the judgments rendered.

In the United States of America the constitutional provisions, on the subject of impeachment, are derived from the British constitution, but not without important modifications. By the constitution of the United States, the senate is the high court for the trial of impeachments, which are instituted by the house of representatives, as in England by the commons, and all executive and judicial officers are amenable in this mode of trial. In case of the impeachment of the president of the United States, the chief justice of the supreme court of the United States presides, but in no other case. The constitution of the United States does not require any particular number of the senators to be present, in order to constitute a court of impeachment. The members of the senate and house of representatives are not liable to impeachment, each house having jurisdiction over its own members. Managers are appointed, on the part of the house of representatives, to conduct the prosecution. The party impeached is heard by counsel, if he choose. The arguments having been heard, the senate deliberates with closed doors, but the judgment is given publicly. No person is convicted without the concurrence of two-thirds of the members present. The judgment extends only to removal from office, and disqualification to hold any office of honour, trust, or emolument, under the government. In the several states, most of the constitutions contain provisions similar to those of the constitution of the United States, the senate, or upper house, being the court of impeachment, and the house of representatives, or lower house, being the prosecutors.

**IMPERATIVE.** In grammar, the imperative mood of a verb is that which expresses command, entreaty, advice, exhortation; as, *go, attend, &c.*

**IMPERATOR** was the name given by the Romans to the commander-in-chief of an army, and *imperium* signified *military command*. *Imperator* was a title of different import in different times. The consuls originally bore the title of *imperator*, before they were called *consuls*. The name was afterwards given by the soldiers and senate to a general, after a great victory, and he retained it till after his triumph. In later times, no one received this title who had not defeated a hostile force of at least 10,000 men. After the overthrow of the republic, *imperator* became the highest title of the supreme ruler. The successors of Augustus used it, and expressed the same thing as the hated title of *king*. In still later times, it had the signification which we attach to the word *emperor*. It was still given, however, to triumphant generals, and, in this case, had its old signification. The emperors appear to have used it, because they were considered as superior to all the generals. In the times of the republic, this title was placed after the name; for instance, *Cicero imperator*: as the title of an emperor, it stood before the name. *Imperator* was a surname given by the inhabitants of Preneste to Jupiter, whose statue was carried to Rome, and placed in the capitol, by Titus Quinctius, when he captured Preneste. See *Emperor*.

**IMPERIAL CHAMBER.** See *Chamber Imperial*.

**IMPERIALI-LERCARI**, FRANCIS MARIA; doge of Genoa. Louis XIV. bombarded Genoa during his dogeship, in revenge for her adherence to Spain for fifty years. The doge was obliged to ask the pardon of Louis in person, and attended by four senators. Imperiali conducted himself with great dignity in this humiliating affair, and when asked what he found most remarkable at Versailles, gave that celebrated answer, "To see myself here."

**IMPRESSION**, in the arts, is used to signify the transfer of certain figures by pressure from a hard to a soft substance. This transfer affords the means of multiplying copies, and takes place in typography, copper-plate printing, lithography, &c. Engravers in copper and wood work in plane surfaces; the gem and stamp engravers, however, produce elevated or sunk figures; consequently, the impressions appear in relief, and the substances which receive them must be susceptible of being raised or depressed. In order to obtain impressions from copper-plates, a colouring substance must be put in the incisions of the plate. In the case of wood-cuts, the colouring matter is applied to the elevations. In both cases, the copy is procured by pressure. There are two kinds of impressions:—

1. That executed upon plane surfaces, as in lithography, copper-plate printing, and copies from wood-cuts. The instruments for it are the printing, rolling, and lithographic press. (See article *Copper-Plate Printing*.) The goodness of the copies depend partly on the care and skill of the printer; partly also on the degree in which the plate has been used. The best copies are always among the first hundred, and are called, with us, the *proof impressions*; on the continent, *avant la lettre*, i. e., those struck off before the name of the engraving is inscribed on the plate. These are sold at a higher price than the subsequent impressions. An engraved plate affords more good copies than an etched one, and this more than one in aqua tinta. Copies are taken from wood-cuts in the same way as from copper-plates. The same degree of care, however, is not necessary in conducting the process.

2. Copies in relief. These are impressions of medals and gems, or stamps, so as to leave raised or sunken figures (*empreinte*). Medals and engraved gems are valuable, as historical monuments and works of art, and the mode in which copies of them are made is a matter of importance. Representations of them in copper-plate engravings, cannot properly express their character as works of art. Impressions are therefore taken immediately from them, by means of fine sealing-wax, sulphur, wax, glass, &c. Copies in vitreous substances are called *pastes*. See *Casting*, and *Pastes*.

**IMPRESSMENT OF SEAMEN.** See *Seamen*.

**IMPRIMATUR** (*Latin*, let it be printed); the word by which the licenser allows a book to be printed, in countries where the censorship of books is exercised in its rigour. An account of this worst species of tyranny has already been given under the head of *Books, Censorship of*, (see also *Index*). Milton, in his eloquent speech for unlicensed printing or *Areopagitica*, humorously describes this practice of licensing books, exhibiting a specimen of what he calls a quadruple exorcism, approved and licensed under the hands of two or three monks—"Let the chancellor Cini see if this work may be printed;" (signed) V. R., vicar of Florence. Then comes the chancellor—"I have seen this work, and find nothing against the Catholic faith and good morals;" (signed) N. C., chancellor of Florence. Then the vicar reappears—"Considering, &c., this work may be

printed;" (signed) V. R.; and, finally, *Imprimatur*, signed by the chancellor of the holy office, in Florence.

**IMPRISONMENT FOR DEBT.** See *Debtor and Creditor*; also *Capias*.

**IMPROMPTU** (from the Latin phrase *in promptu habere*, to have in readiness); properly, something which is done or said without preparation, on the spur of the moment. It is used particularly to signify extemporaneous poetical effusions.

**IMPROPRIATIONS**, in the English church; benefices in the possession of laymen, those annexed to ecclesiastical corporations being called *appropriations*, though they are sometimes identified. Blackstone gives the following account of them. Benefices are sometimes appropriated, that is, perpetually annexed to some spiritual corporation, either sole or aggregate, which the law esteems as capable of providing for the service of the church as any single clergyman. This contrivance sprang from the policy of the monastic orders, who begged or bought all the advowsons within their reach, and then appropriated the benefices for the use of their own corporation. Such appropriations could not be completed without the king's license, and the consent of the bishop. When it was once made, the appropriators and their successors became the perpetual parsons of the church. Blackstone is of opinion that appropriations may still be made in this way. Those formerly made, were originally annexed to bishoprics, prebends, religious houses, manorries, and certain military orders; but on the dissolution of the monasteries in the reign of Henry VIII., the appropriations of the several parsonages belonging to them were given to the king, and were afterwards granted out, from time to time, by the crown. The appropriator deputed some person to perform divine service in such parish, who, being merely his deputy or vicegerent, was called *vicar*, whose stipend was at the discretion of the appropriator. The distinction, therefore, of a parson and vicar, is that the former is entitled to all the ecclesiastical dues of his parish, while the vicar is, in effect, only the curate of the real parson (the appropriator), and receives but a part of the profits. It is computed that there are 3845 improprations in England.

**IMPROVVISATORI**; the name given, in Italy, to poets who compose and declaim, extemporaneously, a poem on any given subject, or sing it, accompanying their voice with an instrument. Among barbarous nations, where fancy is strong, lively, and unrestrained, the gift of extemporaneous poetry, especially when assisted by music, is not uncommon (for instance, among several of the African and American tribes); and, from several passages in the ancients, we may infer that the oldest Greek poets extemporized. In modern Europe, this talent appears a natural production of the Italian soil. Spain too, and especially, Minorca and Valencia, appear not to be without traces of a similar poetic character. After this art had been introduced into Italy, with the Provencal poetry, in the twelfth century, Petrarch appears to have practised it; at least, he is known to have introduced the custom of the *improvvisatori* accompanying their song with the lute. Since the revival of letters, there have been, in Italy, persons of both sexes who have composed, in this manner, poems of considerable length. The Latin language was at first used, which, until the end of the fifteenth century, was the language of the learned. The love of this poetry was quite a passion under Leo X., at the courts of Urbino, Ferrara, Mantua, Milan, and Naples. One of the oldest poets was Serafino d'Aquila (born in 1466, died in 1500), a poet now forgotten, but, in his own time, the rival of Petrarch. He was sur-

passed by his contemporary Bernardo Accolti, called *l'unico Aretino*. It is said that, when he repeated his verses in a public place, every thing was in motion, the shops were shut, occupation ceased, and learned and ignorant all rushed towards him. Of nearly equal fame was the Florentine *improvvisatore* Cristoforo, surnamed the Highest (*Altissimo*). Among the *improvvisatori*, towards the end of the fifteenth and at the beginning of the sixteenth century, were Nicolo Leonicensi, Giammario Filelso, Pamfilo Sassi, Ippolito di Ferrara, Battista Stromi, Piero, Nuccio Franciotti, Cesare da Fano. Three poets of this time were blind—Cristoforo Sordi, Aurelio Brandolini, and his brother Rafello.

The learned Greeks, who, at the beginning of the sixteenth century, fled from Constantinople to Italy, there spread their customs, together with a taste for their language and literature. In different cities of Italy, they introduced the *symposia*, in which were united the pleasures of the table and the pleasures of the mind. Leo X. was very fond of them, and willingly invited learned men to his table. Among them was his favourite Andrea Marone, a great *improvvisatore*. The contemporary authors relate wonderful things of his talent. Adrian VI., who looked upon poets as a sort of idolaters, banished him from the Vatican, where Leo had assigned him a lodging; but Clement VII. recalled him. Another poet, Querno by name, was a sort of court fool to Leo. Being very fond of wine, he obtained permission to drink from the pope's own glass at table, on condition that he would make at least two Latin verses on every subject proposed to him, and, if they were bad, his wine was mixed with at least an equal quantity of water. Leo called him, in jest, the *arch poet*.

After the death of Leo, learned men wrote in the *lingua volgare*, and the *improvvisatori* followed their example. We may suppose from this that their numbers increased. We will mention only a few of the most famous. The first is Silvio Antoniano, born at Rome in 1540, of an obscure family, and raised by his talents to the dignity of cardinal. He was well acquainted with the ancient languages, and skilled in all the sciences. On account of his power of improvisation, he was surnamed *Poetino*. On a fine evening in the spring, he once began to recite to a numerous circle, in a little grove in the country, when a nightingale, apparently attracted by his song, perched upon a neighbouring tree, and, emulating him, as it were, began to sing with extraordinary vivacity. The astonishment of the hearers at this unexpected contest, gave a new impulse to the spirit of the poet, and, excited by these circumstances, he left his former subject, addressed the nightingale, and praised the melody of her voice and the beauty of her song, in verses so full of harmony and feeling, as to draw tears from those around him.

One of the most celebrated of the *improvvisatori*, was Perpetti, born in 1680, at Siena, died 1747, at Rome. We have from Fabroni a biography of this poet: two volumes of his extemporaneous poetry appeared in 1748. He could throw a peculiar charm over every subject, and possessed such a wonderful memory, that in his last verses he recapitulated all that he had said before. He had the appearance of an inspired man, and when he had finished, he was generally exhausted and overcome with fatigue. He recited his verses singing, that he might gain time to think, and might better follow the metre, and was very willing to be accompanied by the guitar. His favourite metre was the octosyllabic. The most glorious day of his life was that upon which (during the papacy of Benedict XIII.),

he received, through the interest of the princess Violante of Bavaria, the crown of laurel at the capital—an honour which was then the more flattering, because it had not yet lost its value by being frequently given, since Petrarch and Tasso had alone been judged worthy of it. The rights of a Roman citizen, and the privilege of adding a laurel crown to his arms, were new honours given to him.

Metastasio, also, at a very early period, showed an extraordinary talent for this kind of poetry; but the exercise of it cost him much effort. After having declaimed for some time, he felt all his strength exhausted; it was necessary to carry him to bed, and to revive him by medical means; but his strength did not return for twenty-four hours. He was obliged, therefore, from regard to his health, to give up so dangerous an art.

Females, also, have been highly distinguished for this power. Quadrio mentions three celebrated *improvvisatrici*—Cecilia Micheli of Venice, Giovanna de' Santi, and a nun, Barbara of Correggio. No one of these obtained greater fame than Maddalena Morelli Fernandez, under Pius VI., among the Arcadians, called *Corilla Olimpica*, who lived in Tuscany, and excited the admiration of all travellers. She was born at Pistoia, where her talents, carefully formed by diligent study, were early developed. The applause which she obtained in Italy, induced the emperor Francis I. to invite her to Vienna, where she was received with distinction, and loaded with favours. The empress Catharine invited her to Petersburg, but the fear of a cold climate prevented her from going thither. The academy of the Arcadians chose her a member, and, in 1776, she was publicly crowned in Rome, and received from the Roman senate the title of *nobile cittadina*. She left Rome, and afterwards lived at Florence, where she died in 1800. Several females gifted with similar talents, have appeared in later times—Bandettini (q. v.), Fantastici at Florence, Mazzei, by birth Lanti; the last of whom, perhaps, surpassed all the others by the fertility of her imagination, by the richness and the purity of her language, and by the harmony and regularity of her verse. She also attempted tragedies. In 1764, there died at Verona the celebrated *improvvisatore* Zucco, who left behind him a worthy scholar and successor, in the abbé Lorenzi. The advocate Bernardi also attained to some celebrity in Rome.

Among the *improvvisatori* of our times, Francisco Giannì, of whose extemporaneous poems a collection appeared in 1795, has obtained great reputation; and also Sestini. Tommaso Sgricci of Arezzo is still more famous, who, in 1816, produced, in Florence, an extemporaneous tragedy, of which the subject and the characters were given by the spectators. In Paris, he likewise produced, with great applause, the tragedy of Missolonghi, in 1826. In Turin, he declaimed, extempore, the tragedy of Hector, which the stenographer Delpino printed (Turin, 1823), and in Florence, a tragedy on the death of Mary Stuart. (See *Rome in the 19th Century*.) He received, in reward, letters of nobility.

The printed works of the *improvvisatori* who have been most admired, have never passed mediocrity. Perfecti was therefore wise enough not to allow any thing of his to be printed, and it is probable we should not have had such beautiful poems from Metastasio, if he had not been obliged to renounce extemporaneous poetry. The cause is very evident, without its being necessary, however, for us to suspect the taste and penetration of its admirers. The real or apparent inspiration of the poet, his lively feeling, his striking action, the sound of his instrument, and, in general, the whole effect of a living

actor, cannot fail to produce powerful effects, and leave no time for criticism, even if the poetry is of an ordinary character. Bouterwek justly says, in his *Geschichte der Ital. Poesie* (History of Italian Poetry), "Among the poetical curiosities of modern Italy, the art of the *improvvisatori* has higher claims on our attention, than most printed collections of modern Italian poetry. Their art shows with what flexibility and power an Italian fancy, when once excited, can string together words and images in verse. It thus becomes manifest, how an Italian, even with a moderate cultivation of mind, is able to increase, by a little volume of pretty good verses, the number of those which he already finds, when he has once by heart the poetry of his predecessors. The artificial and yet happy enthusiasm of modern *improvvisatori*, is a living monument of the former achievements of Italian intellect." It is surprising that almost all the *improvvisatori* are born in Tuscany or Venice, principally at Sienna or at Verona, and that their art has been transmitted in uninterrupted succession.

The German Karschin, daughter of a peasant, whose cows she tended, would have been much admired as an *improvvisatrice* in Italy. The first poet who made public exhibitions of this kind, among the Germans, was the talented Wolf of Altona, in 1824 (now professor of modern languages at the gymnasium of Weimar), who appeared with applause in several places. In France, in 1825, Eugene de Pradel gave several successful evening exhibitions of the same talent.

INA; king of the West Saxons, in the seventh and eighth centuries. He succeeded Ceadwalla, about 689, and, after having obtained advantages over the people of Kent, in 694, he turned his arms against the Britons, from whom he wrested Somersetshire, and other parts of the west of England. He then made war on the Mercians; but the contest was terminated, without much advantage to either party, by a bloody battle, which was fought in 715. The latter part of the reign of Ina was spent in works of peace, and he closed his days in a monastery, having resigned his crown in 728. He is celebrated as the principal legislator of the Anglo-Saxons. His laws, some of which are yet extant, served as the foundation of the code formed by Alfred the Great. See Turner's *History of the Anglo-Saxons*.

INACHIUS; a son of Oceanus and Tethys, the founder of the first royal race of Argolis, which ruled 382 years (from B. C. 1800). When Juno and Neptune contended for the dominion of Argos, Inachus, who was the arbiter of the dispute, adjudged it to Juno. He is particularly famous on account of his daughter Io.

INCA, or YNCA; an appellation which the natives of Peru give to their kings and princes of the blood. The Chronicle of Peru thus relates the origin of the incas:—This country had been a long time the theatre of all sorts of wars, horrible crimes, and dissensions, till at length there appeared two brothers, the one of whom was called Manco Capac. Of this person the Indians say he built the city of Cusco, settled laws and policy, and taught them to adore the sun, and he and his descendants took the name of *inca*, which, in the language of Peru, signifies *king*, or *great lord*. These incas grew so powerful, that they made themselves masters of the whole country from Chile to Quito, establishing in every province their peculiar policy and religious institutions, and held it till the dispute between the brothers Huascar and Atahualpa, of which the Spaniards, under Pizarro, availing themselves, obtained possession of Peru, and put an end to the empire of the incas, in 1533. They number only twelve of these incas. It is said that the most cou-

siderable among the nobles of the country still bear the name of *incu*.

**INCARNATION** (from the Latin, the *becoming flesh*); a word used to express the descent of the Deity, or his manifestation in the flesh, under the human form; thus we speak of the *incarnation* of Christ. The Hindoos believe in innumerable incarnations of their deities. The most celebrated are the nine incarnations of Vishnu. See *Avatar*.

**INCEST**; a crime made such by positive laws, in compliance with the directions of religion. The law of nature does not recognise it: on this account, the Code Napoleon does not number it among the carnal crimes, on the ground that the punishment of such crimes leads only to their concealment, and that the punishment of public opinion is sufficient. Nature has, at all times and among all nations, forbidden matrimony and sexual intercourse between descendants and ascendants, not between brothers and sisters, who were allowed to marry among the Persians, Athenians, Egyptians, &c. The cultivation of the moral sentiment extended the forbidden degrees of relationship, and moral and religious pedantry carried the prohibition even to spiritual relationship. Dispensations were, however, granted for money. It is desirable that the crime of incest should be limited to the commerce of parents and children, brothers and sisters.

**INCHBALD, ELIZABETH**; a novelist and dramatic writer of great talent, was the daughter of a farmer named Simpson, and born at Stanningfield, in Suffolk, in the year 1756. Having lost her father at the age of sixteen, she went to London with the view of obtaining an engagement for the stage, where she married Mr Inchbald, then an actor of some celebrity, and accompanied him on several provincial tours, partaking in his engagements. He dying in 1779, she returned to London, and made her debut at Covent-garden, Oct. 3, 1780. She continued on the boards about eight years, and, from her great personal attractions, which she retained to a late period of her life, as well as from her natural talents, was a popular performer. After her retirement from the stage, in 1789, she depended principally on her literary labours for support, publishing several dramatic pieces, most of which had a temporary success, while some are even yet considered as what is technically termed *stock plays*, among the latter of which may be mentioned, *Such Things are*, a play; *Every one has his fault*, a comedy; and *Lover's Vows*. She also wrote two novels, which still hold a high place among works of fiction, and both of which display much original thought and genuine pathos—the one entitled, *A Simple Story*, (1791, 4 vols. 12mo) the other, *Nature and Art*, (1796, 2 vols. 12mo). She besides edited a collection of dramas, entitled the *British Theatre*, with biographical and critical remarks (in 25 vols., 12mo), during the period from 1806 to 1809; a similar collection of the most popular farces (in 7 vols., 12mo); and the *Modern Theatre* (in 10 vols. 1809). Her death took place at Kensington, Aug. 1, 1821, in her 66th year. This ingenious and able woman passed a life attended with many difficulties and temptations with unsullied reputation. Her *Life and Correspondence* was recently published by Bowden, in 2 vols 8vo, and displays in a striking light the noble and self-denying character of her nature. For many of her latter years, she lived in comparatively mean lodgings and in the strictest abstinence, in order that she might uphold in comfort some families dependent on her bounty.

**INCLEDON, BENJAMIN CHARLES**; an English vocalist, born at St Keveran, in Cornwall, about 1764. When only eight years old, he was articled

to Jackson of Exeter, under whose tuition he remained as a chorister in Exeter cathedral until his fifteenth year. In 1779, he entered the navy as a common sailor. His vocal abilities having attracted the notice of his officers, he was advised to try his fortune on the stage. In October, 1790, he made his debut on the London boards, at Covent-garden theatre, with great success, in the character of Dermont, in O'Keefe's musical farce of the *Poor Soldier*, and rose at once into a degree of popularity, which attended him till the infirmities consequent upon advancing years, and an irregular mode of life, compelled him to retire from the active duties of his profession. Of the diminution of his powers, however, he never could be persuaded, but constantly attributed his declining popularity to the caprice of the public. His voice—a rich tenor—combined uncommon power, sweetness and ductility, both in the natural and *falsetto*, and his intonation was singularly correct, taking his imperfect education into consideration. His articulation was, however, far from equal to his other qualities, being coarse, not to say vulgar. The better sort of the old English ballad, of which Steven's Storm, and Gay's Black-eyed Susan are, perhaps, among the finest specimens, was decidedly his forte: in this style of singing, he had no equal. Pecuniary embarrassments, arising from an utter carelessness of money and general improvidence, embittered the latter part of his life, which was closed at Worcester, February, 1826.

**INCLINATION**, in mathematics, means the direction of a line, with regard to a certain point (according to the sense of the ancient mathematicians, Apollonius and Pappus particularly.) In astronomy, this word signifies the angle which the orbits of the planets and comets make with the ecliptic or orbit of the earth. This angle is the smaller, the less the planet or comet is distant from the ecliptic. According to the latest observations of Lalande and Bode, this angle of inclination is, in the different planets, as follows:—Mercury 7°, Venus 3° 23' 20", Mars 1° 51", Pallas about 30°, Ceres 10° 47', Jupiter 1° 19' 10", Saturn 2° 30' 20", Uranus 0° 43' 45". More exact determinations with regard to Ceres, Pallas, Juno, and Vesta may be expected at some future period. The comets make frequently very great angles with the ecliptic, for they traverse the heavens in all directions. The inclination of the moon's path is different, according as the sun affects it differently, but it is between 5° 1' and 5° 17'. For the inclination of the magnetic needle, see *Magnetic Needle*.

**INCLINED PLANE**. The inclined plane is one of the three mechanical powers, or simple machines, formed, as its name imports, by a plane surface, supposed to be perfectly hard and inflexible, and which is always inclined obliquely to the weight or resistance to be overcome. The wedge is a modification of this machine, being formed of two inclined planes placed base to base. The screw is another modification, being, in fact, merely an inclined plane wound round the cylinder. This machine enables us to raise a given weight along the inclined surface to a given elevation, with less expense of force than would be required to raise it perpendicularly to the same elevation. This perpendicular height is called the *elevation of the plane*, and the two lines enclosing the angle which it subtends, are called the *base*, and the *length of the plane*. See *Mechanics*.

**IN CENA DOMINI** (*Bulla in Cena Domini*); the most remarkable of all the papal bulls, as it most strikingly shows the arrogance of the popes, and their pretensions as absolute rulers of the church, and the authority which they claimed over temporal princes. It is founded upon older papal decrees.

which declared all heretics and favourers of heretics, without distinction, and those who imposed taxes upon the clergy, for the purpose of supplying the wants of the state, solemnly excommunicated. After the fourteenth century, it was extended and modified by several popes. Pope Pius V. ordered that it should be read aloud in all the churches on Maunday Thursday, because many Catholic princes tolerated Protestants in their countries, and required contributions from the clergy. Philip II. and the republic of Venice forbade the publication, for the exhausted state of their treasuries would not allow them to spare the clergy, and even the emperor Rodolph II. and the archbishop of Mentz would not acknowledge a bull so prejudicial to the rights of sovereigns. Its authority was never admitted in France; but, in Naples in particular, from 1568, it excited great disturbances; for it was promulgated by the bishops and monks, without the permission of the king, and, according to the ordinance of the pope, the right of government to impose new taxes was denied. Notwithstanding this opposition, the bull received its latest form from pope Urban VIII., in 1627. This pope, in behalf of God, and by virtue of the power committed to the apostles Peter and Paul and himself, excommunicated and anathematized all Hussites, Wickliffites, Lutherans, Zwinglians, Calvinists, Huguenots, Anabaptists, Trinitarians; all who had fallen off from the Christian faith, all heretics, as well as all those who trusted, received, favoured, or defended them; all who read heretical books, without permission from the papal see; all who possessed and printed them, or defended them in any way whatever, whether public or private, or on any pretence whatever; and, finally, all schismatics who obstinately avoided communion with the Romish church. All who appealed from the decision of the pope to a council were threatened with the anathema; and if a university, college, or chapter, with the interdict. Pirates who disturbed the papal sea ("our sea"), from Argentaro to Terracina, and all those who robbed wrecked vessels of the goods of Christians, incurred this anathema. Moreover, those princes were anathematized, who imposed new taxes, or increased those already laid, except in those cases in which they were allowed by law or by the special permission of the papal see; also all forgers of papal letters; all who provided Saracens, Turks, or heretics with horses, arms, money, implements of war, wood, hemp, cordage, or any thing which could be of service to them in making war on Christians and Catholics; all who should prevent the carrying of provisions to the papal court; all who robbed, injured, or murdered travellers to the papal court; all who abused cardinals, papal ambassadors or bishops; all who appealed from the commands of the pope or his ambassadors to temporal courts of justice, or avoided the judicial decision of the pope in spiritual concerns, or compelled the clergy to appear before temporal judges, or made laws against the freedom of the church, or interrupted the bishops in the exercise of their judicial power; all who seized upon the revenue which the pope derived from churches and convents, or imposed taxes upon the clergy, without the consent of the pope, even though the offender were an emperor or king; all officers who interfered with the criminal jurisdiction of the clergy; and, finally, all who should attack or conquer the papal territory, of which Sicily, Sardinia, and Corsica formed a part. None but the pope can remove this anathema, and he only in the hour of death, when the person excommunicated has satisfied the offended church. The bull was ordered to be publicly posted up at Rome, and once a year, or oftener, every bishop was to read it to the assembled people.

This was done at Rome, till the middle of the 18th century, every Maunday Thursday, in the principal churches.

INCOMMENSURABLE, in mathematics; a magnitude which cannot be measured by another, taken as unity. Of this kind are, for instance, all square roots which are not whole numbers, as the square root of 12 = 3.4641 . . . and so on indefinitely.

INCUBATION. Birds, fishes, insects, worms, and reptiles, as is well known, lay eggs, from which the young animals are produced by means of warmth. The four last named classes leave the fecundation of the eggs to the warmth of the sun; birds employ the warmth of their own bodies for this purpose. The process which they use is called *incubation*. All known birds, with the exception of the cuckoo, discharge this office themselves. The cuckoo deposits its eggs in the nest of the hedge-sparrow and other small birds. The ostrich, contrary to the common opinion, sits upon its eggs, the male in company with several females, day and night. Among many sorts of birds, as the common hen, ducks, geese, &c., the business of incubation is confined to the female; among others, especially those which live in pairs, as the dove, lark, sparrow, &c., the male takes part. The female usually leaves the eggs for some hours, about noon, to seek food and bathe herself. In other species of birds, the male remains near the female during the process, protects her from injury, brings her food, &c. This is the case with the canary bird, goldfinch, linnet, &c. The perseverance and devotion of the female during the period of incubation is admirable. She submits to the most inconvenient postures, to avoid injuring her eggs, and forgets her food and her companions. If she is compelled by hunger to quit her post, she covers her eggs with feathers, moss, wool, &c. Birds in general become comparatively tame during this period. Others defend their nests with the greatest courage. The domestic hen boldly encounters the largest dog. Only a few birds living in a state of freedom, allow their nests to be disturbed. Many desert them entirely, if a man has displaced the eggs during their absence; for instance, the canary bird. The gradual development of the young bird in the egg has been observed, particularly in the case of the eggs of the domestic hen. The covering of the young bird, when it first leaves the egg, is a sort of down; this is gradually superseded by feathers. The little creature remains for some hours or longer, in the nest, under its mother, till it has become accustomed to the external air. The old birds, particularly the female, now manifest the greatest care for their young, in protecting them and providing for their wants. They bring them suitable food, which, when necessary, the mother softens first in her crop. The dirt of the young is thrown out of the nest by the old birds as long as the young remain blind. Water and marsh birds, soon after birth, leave the nest, and follow their mother into the water. The old birds teach them where to find their food. The mother protects them, takes them in stormy weather under her wings, and exposes herself to much inconvenience to save them from suffering. The time of incubation generally varies with the size of the birds. The linnet requires but fourteen days, the common hen twenty-one, and the swan forty-two days. In warm climates, the time of incubation is said to be somewhat shorter. In Africa, the hen is said to sit but thirteen days. With us, too, in very cold weather, geese and hens are known to sit much longer than in warm. The warmth required for fecundating the eggs is about 140° Fahr.

The artificial hatching of eggs is practised in Egypt. In Naples, ovens for this purpose were constructed in the fourteenth century. But in Egypt,

this art has been carried to a high degree of perfection. The ovens intended for this purpose are made of brick, and sunk some depth in the earth. They consist of two stories, connected with each other, and divided into several apartments. In a corner of the building is an oven, which is heated daily three to four hours, for ten days in succession, with cow and camel's dung, the usual fuel of the country. The heat is regulated by the feeling of the superintendent. The temperature to be produced is compared with the warmth of baths. When the heat is too great, some passages are opened for the air. The floors of the divisions or apartments are covered with mats, and a layer of straw thereupon, on which the eggs are laid, so, however, as not to touch each other. They are turned twice by day, and as often by night. After eight or ten days, the eggs are examined with a lamp, to ascertain the progress of the process of fecundation. Those which appear to be unfruitful are thrown away; the others, on the fourteenth day, are put in the upper story. On the twentieth or twenty-first day, the young bird issues out. The owner of the oven receives a third part of the eggs for his trouble. The inhabitants of a village called Berme, in the Delta, are the persons who carry on this art throughout the country. In China, also, artificial hatching is practised. The eggs there are put in wooden boxes, which are filled with sand, and placed upon heated iron plates. Of late, a Frenchman has published a work on this subject, in which he seeks to introduce the Egyptian ovens on an improved plan. He heats his ovens with boiling water.

INCUBUS (Latin, *incubus*, one who lies upon); a spirit, to whom was ascribed the oppression known by the vulgar name of *nightmare*, in Greek *ephialtes* (from *ει* and *αλλωμαι*, I leap upon. The English *nightmare* is from *mair*, an old woman or hag, in which form the spirit was generally supposed to appear, pressing upon the breast, and impeding the action of breathing. The French *cauchemar* or *cochemar* (*qui couche sur*) is of the same character and origin. These demons play an important part in the superstitions of the middle ages, having been, perhaps, not unfrequently employed, like the elder gods of Greece, to cloak the advances of earthly lovers. The nuns and other young ladies of the middle ages were not always safe from their violence or their persuasions, as numberless tales and grave histories abundantly prove. Augustin (*De Civit. Dei*) mentions the fact that *Sylveanos, Panes, et Faunos, quos vulgo Incubos vocant, improbos saepe extitisse mulieribus, et carum appetisse ac peregrisse concubitum*. The word is also used for the oppression or feeling of suffocation which sometimes comes on during sleep. The sufferer experiences a short period of intense anxiety, fear, horror, &c.; feels an enormous weight on his breast; is pursued by a phantom, monster, or wild beast, whom he cannot escape; is on the brink of a precipice, from which he cannot remove, or is, perhaps, rolling down it without being able to make any exertion for his safety, and his limbs refuse to do their office, until he suddenly awakens himself by starting from his recumbent posture, or by a loud cry; he is then in a state of great terror, and the body is often covered with sweat. It is generally owing to repletion and indigestion, and is often superinduced by lying on the back. It is most common in those seasons of the year which most increase the volume of the fluids—in spring and autumn. Homer (*Il.* xxii. 200) and Virgil (*Æn.* xii. 908) have given striking pictures of its benumbing power, and Fuseli has represented its agonies. He is said to have eaten an immoderate supper of raw pork, for the purpose of obtaining a vivid conception of his subject.

INCUNABULA (from the Latin, signifying *cradle*) is a term applied to those editions of books which were printed previously to the year 1500. Peignot explains it as signifying editions, *qui touchent au berceau de l'imprimerie*. The term is most properly confined to the period above-mentioned, because the art of printing was completely formed, in all its principal parts, in that period. Panzer's work comes down, indeed, to 1536, and Mattaire's still later; but this forms no objection to our limitation, because these two writers had regard to the history of printing in general, rather than to the history of the incunabula in particular. A knowledge of them is important, as they are the best, and often the only sources, from which a minute history of the early progress of the art of printing can be drawn; but notwithstanding the investigations of bibliographers, much remains to be done in determining the particular characteristics and mutual relations of these works. Many of these works, too, are important and interesting, on account of the illustration which they afford of the history of the art by their ornaments, and on account of the value of the first editions (*editiones principes*), of ancient and modern classics in a critical respect. We shall here treat of them in reference to their value to professed collectors.

1. The first beginnings and attempts at printing will naturally be objects of their search, among which are the xylographic specimens, and the earliest impressions bearing date, which begin with the indulgences of Nicholas V., 1454; although the oldest printed book, whose date is undoubted, is the Psalter of 1457.

2. Next to these are the first impressions of particular countries and places, which are generally not less rare than the preceding.

3. The first books printed in a particular language or with certain types. The oldest impressions are in the Gothic type, as it is called; the round or Roman character, which afterwards became the most common, particularly in Italy, came into use somewhat later. Single Greek words, cut in wood, were first used in 1465, in Cicero's *De Officiis*, and in the edition of Lactantius of the same year. The first book printed entirely in the Greek type, was Laskaris's Greek Grammar, which appeared at Milan, 1476.

4. Editions from those presses which did not do much, and, from the more fertile presses, those editions which are peculiarly rare; e. g., the Mestri editions of the old Roman classics.

5. Editions in which certain typographical improvements were first introduced; as J. Nider's *Præceptorium divinæ Legis* (Cologne, Koelhof, 1472, folio), the first book printed with signatures; *Sermō ad Populum predicabilis* (Cologne, *à la Harma*, 1470, 4to), the first with the pages numbered; Cicero's *De Officiis* (1465), the first in quarto; and the *Officium Beate Mariæ Virg.* (Venice, Jenson, 1473, 32mo), the first in the smallest form. Title pages first appeared after the year 1485.

6. Editions with the first, or with remarkable attempts to apply the arts to the ornamenting of books. The first printed book with copper-plates is Antonia da Siena's *Monte Santo di Dio* (Florence, 1477, fol.). The most remarkable wood-cuts, of which the Strasburg printer, Gruninger, was very fond, are to be found in German and Italian editions. In this division may also be included copies with excellent miniature engravings.

7. Single copies which are celebrated on account of some particular circumstances; e. g., those printed on parchment and with gold letters, of which we have some from the fifteenth century), &c. Of the impressions on parchment, on which whose

editions were at first printed, and the greater part of the copies, even of later editions, (e. g., of the Latin Bible of 1462), those are particularly sought after, which issued from presses that printed but little on parchment; e. g., Schweinhelm and Pannars at Rome, by whom only six parchment editions are known to have been published.

8. Finally, there are some particular collections or series, which collectors pride themselves particularly on possessing; e. g., the six Greek works (*Anthologia, Apollonius, Rhodius, Euripides, Callimachus, Gnomæ, Musæus*), printed in capitals by Alopa at Florence (1404—96), or the Greek works printed at Milan with a very round type, of which Laskaris (1476) is the first, and Suidas (1499) the last.

Editions from celebrated presses of the fifteenth century are also highly valued; e. g., those of Schweinhelm and Pannars, and the English printers Caxton, Pynson, and Wynkyn.

For information concerning the incunabula, see Panzer's *Annales Typographici*, together with his *Annals of German Literature*, which together contain the most complete catalogue, to the year 1536. Matzner's *Annals* are far less complete, but they come lower down, and enter rather more into details. Seron Santander's *Dictionnaire Bibliographique choisi de 15 Siècle* (Brussels, 1805, 3 vols.), is a useful work on the most interesting incunabula. It contains much information on the incunabula of Spain and the Low Countries, which is wanting in Panzer. Besides these works, we may find accounts of particular incunabula, in the local histories of printing (especially in Audiffredi's works on Roman and Italian printing), in the accounts of some particular printers of the fifteenth century (Gutenberg, Jenson, Aldus, Gmunt), and in the works which treat of the incunabula of some single libraries, as those of Fossi, Dihaln, (*Bibliotheca Spenceriana*), &c.

INDEPENDENCE, in politics; the sovereignty of a people or country, as distinguished from a former dependence upon another country. When a successful attempt is made, by a portion of a people subject to a common government, to establish a separate government for itself, the struggle is generally closed by the acknowledgment of its independence on the part of the government from which it has seceded, though, in some cases, a complete separation is effected without any such acknowledgment, when the old government is too weak to undertake anything effective against the revolted provinces or colonies, and yet will not formally renounce its authority over them. In such a case, it cannot be supposed that such an acknowledgment is necessary to entitle the new state to be treated by other powers as independent. This was the case with the United Provinces and Spain, the latter not acknowledging the former for a long series of years. The South American republics, too, have not yet been acknowledged by Spain, but no one can doubt their independence. The just rule would seem to be, that a colony or province is independent whenever it declares itself so, and is able to maintain its independence, or is left in undisturbed enjoyment of it. In a complicated political system, like that of Europe, the acknowledgment of independence on the part of the old government, is diplomatically important; and without it, other European states are averse to enter into political relations with the new state.

INDEPENDENTS; a Protestant sect in England and Holland, which originated towards the end of the sixteenth century, during the reign of queen Elizabeth. The Independents declared the ceremonies of the Anglican church popish abuses, and heathenish. They agreed only in this point, differing among themselves on many points of doctrine. The

most zealous sect were the Brownists, whose founder, Robert Brown (q. v.), in 1580, attacked the discipline and ceremonial of the church of England, as unchristian. The name *Independents* is derived from the circumstance that each congregation formed an independent community, subject neither to bishops nor elders, nor any other ecclesiastical powers; the minister was elected and dismissed by the votes of the congregation, and every member had a right to preach. The principles of church government inculcated by the Independents, spread rapidly, and became a subject of alarm to the government; some were arrested, some executed, and many fled the country. The sect survived in England, under the name of *Congregationalists*; but the principles of Brown were modified. The name of *Brownists* they disclaimed, calling themselves *Congregationalists*, and consider John Robinson (q. v.) their founder. In the civil wars of England during the seventeenth century, the Independents formed a powerful party. See *Cromwell, Britain, and Puritans*. The English Independents now differ from other Protestant sects in rejecting any formula of faith, requiring only a profession of belief in the gospel; and their pastors are not ordained. Among them are several distinguished men.

INDEX. A scientific work becomes doubly valuable by a well arranged and complete index, made under the eyes of the author, which saves the reader an immense expense of time. A scientific work of value is a book of reference, and a book of reference without an index is like a chest with a troublesome lock, which tries our patience whenever we attempt to open it. The plan of some newspapers to issue a general index at the end of each year, deserves much commendation, and ought to be imitated by every editor who considers his journal worth preserving.

By the Roman Catholic church, *index* is used absolutely, to designate the catalogues, or list of books prohibited by ecclesiastical authority, on account of the heretical opinions supposed to be contained in them, or maintained by the authors or editors of them. The catalogue, or list of books absolutely prohibited, is simply called the *Index*, or *Index Librorum prohibitorum*; but when the list, or catalogue, is of books allowed to be read, after correction or alteration, agreeably to the orders of the papal authorities, it is termed *Index expurgatorius*, and, in the later indexes, the words *donec corrigantur* are subjoined to certain works, in order to render a separate expurgatory index unnecessary. (Townley's *Essays on various Subjects of Ecclesiastical History*, page 133.) The beginning of the prohibitory index is to be found in Gratian's Collection, being a prohibition to read pagan books by the council of Carthage, held about 400. The emperors also prohibited the reading of certain books. Constantine, for instance, prohibited the reading of the works of Arius. The popes, too, used to order obnoxious books to be burned. The books of whole sects are sometimes prohibited in a mass. The invention of printing in the middle of the 15th century, caused a rapid multiplication of books, and induced the papal hierarchy to prevent, if possible, the circulation of any which might prove injurious to the interest of the Romish church. Hence originated imprimaturs (q. v.), or official permission to print works; and the promulgation and diffusion of the doctrines of the reformation, in the following century, increased the determination of the powerful adherents of popery to suppress and to destroy all the books tinctured with Lutheranism, or maintaining any of the peculiar opinions held by the reformed churches. In 1546, in pursuance of an edict of the emperor Charles V.,

the university of Louvain published an index, or catalogue of books regarded as dangerous, of which a revised edition was published in 1550. Similar lists of interdicted books appeared, nearly at the same time, at Venice, Paris, Cologne, &c. (for an account of which, see Peignot's *Dictionnaire des Livres condamnés au feu, supprimés, ou censurés*, tom. i., pp. 256—266; and Mendham's *Account of the Indices, both Prohibitory and Expurgatory, of the Church of Rome*, pp. 17 et seq.) Philip II. of Spain having caused a catalogue of all books prohibited by the inquisition to be printed (Venice, 1558), pope Paul IV. followed the example, and ordered an *Index Librorum prohibitorum* to be published by the *Congregatio Sancti Officii* (see *Congregation*), in which not only all heretical books were noted down, but also all which tended to lower the Catholic hierarchy, many even written by Catholic clergymen. The first part contains the names of the authors whose works are altogether prohibited; the second, single prohibited works; the third, anonymous works. A particular part contains the names of forty-two booksellers, whose publications are altogether prohibited. After this, the councils published a number of such *indexes*, and these were followed by some for single countries; for instance, by the Sorbonne for France. The indexes assumed their most systematic form at the council of Trent, which, at its eighteenth session, referred the consideration of works to be prohibited to a select committee; and, in the twenty-fifth session, what had been done by that committee was referred to the pope (*Conc. Trid. Canones*, 177, 362, Paris, edit., 1824), that it might be completed and published with his authority. The work was accordingly published in 1564. Besides the catalogue of prohibited books, it contains general rules relative to such books, drawn up by certain persons deputed for that purpose by the council of Trent, and sanctioned by pope Pius IV. These rules, which are ten in number, are prefixed to the different indexes which have been published since that period. They are also contained in the Paris edition of the canons of the council of Trent, already cited (pp. 433—440), and a translation of them will be found in Townley's *Illustration of Biblical Literature* (vol. ii. pp. 478—485).

The Congregation of the Index, which forms a branch of the inquisition, holds its sitting at Rome, and has the right of examining generally all books which concern faith, morals, ecclesiastical discipline, or civil society, on which it passes judgment for suppressing them absolutely, or directing them to be corrected, or allowing them to be read with precaution, and by certain persons. Pius V. confirmed the establishment of this congregation. Persons specially deputed by it may give permission to Romanists throughout the world to read prohibited books, and the penalty denounced against those who read or keep any books suspected of heresy or false doctrine is the greater excommunication; and those who read or keep works interdicted on any other account, besides the mortal sin committed, are to be severely punished, at the will of the bishops. (Richard and Giraud, *Bibliothèque Sacrée*, tom. viii. p. 78.) The latest *Index Librorum prohibitorum* appeared at Rome, in 1819. For the preceding indexes published in Spain, Portugal, and at Rome, between the years 1564 and 1806, see Mendham's *Account of the Indices*, &c., pp. 31—123.

INDIA; THE INDIES. This name has been very vaguely applied, at different periods, to different extents of country, and is still used in different applications. The name is derived by us from the Greeks, who seem to have borrowed it from the Persians, as it is unknown to the natives. It was

at first used by the Grecian writers to signify an indefinite extent of country lying beyond the Indus, with which they were acquainted only through vague and vague accounts obtained from the Persians. Darius crossed the Indus (B. C. 520), and conquered Cashmere and a part of the Penjab. Alexander, 200 years later, pushed his conquests a little farther, and the narratives given by his officers supplied Eratosthenes, Strabo, and Pliny with the materials which they arranged and abridged. Ptolemy, who flourished at a later period (A. D. 150), when commerce had made his countrymen acquainted with the southern parts of India, has given a more accurate account of it. He divides India into *India within* and *India beyond the Ganges*. The former was bounded on the west by the people of Paropamisus, Arachosia, and Gedrosia; on the north by the mount Imams, the Sogdians and Sacæ; on the east by the Ganges, and on the south by the Indian ocean. Other writers, as Arrian and Pliny, make the Indus its western limit. Strabo calls the southern and eastern boundary the Atlantic ocean. Of the two great rivers, the Indus and Ganges, the latter was not reached by Alexander, and was seen by very few of his followers. The Indus and its five great tributaries were known to all of them. A more accurate acquaintance with Upper India, obtained within the last thirty years, has proved the general correctness of the ancient accounts, and settled many doubtful points. Of the Deccan they knew nothing but the coasts, and of India beyond the Ganges they knew very little. The decline of the Roman empire, the rise of the Parthian empire, and particularly the extension of the Mohammedan power over Western Asia, broke off all direct intercourse between Europe and India. Religious hatred and commercial jealousy contributed to shut up the road to India against Europeans. Caravans were then the medium of Indian commerce, and through them the productions of the East were brought to the Mediterranean shores. Not until the Portuguese had doubled the cape of Good Hope (1498) were the Europeans able to visit that region of wealth. The islands of Java, Sumatra, Borneo, Celebes, the Philippines, the Moluccas, &c., were discovered, and have often been included under the general name of *India*, which comprised, on the continent, all that vast tract of country lying south of China, Thibet, and Persia. These regions have been divided by modern geographers into three parts—the islands, or the Indian Archipelago; India this side the Ganges, or Hindoostan; and India beyond the Ganges, or, as some writers call it, Chin-India, or Indo-China, including the Birman empire, Cambodia, Tonquin, Cochinchina, Laos, Siam, and the peninsula of Malacca. (See the separate articles.) The islands above-mentioned are Ceylon, the Laccadives, the Maldives, Andaman, the Nicobar isles, the Sunda isles, including Borneo, Sumatra, Celebes, Java, &c., the Moluccas, the Philippines. (See the articles.) When America was discovered, it is well known that Columbus supposed it to be the eastern coast of Asia, of which he was in search. These regions were, therefore, at first called *India*, and when the error was discovered, the name was retained, with the distinctive appellation of *West*, the proper India being called the *East Indies*. The Spanish kings assumed the title of *king of the Indies*, and the council for the colonies was styled the *supreme council of the Indies*. The name of West Indies was afterwards restricted to the islands, now so called, lying between North and South America.

*European Commercial Colonies in India.* In ancient times, India was the principal source of the commerce of the Phenicians, Carthaginians, and Egyptians. (See Heeren's *Ideas*, 1st vol., 3d part,

4th edition, 1824.) Until the end of the fifteenth century, the Europeans obtained the precious merchandise of India only second hand, partly through Egypt, where it came by the way of the Arabian sea, and partly from the long journeys of the caravans through the interior of Asia. This commerce was in the hands of the Venetians and Genoese, who furnished the European markets with the productions of Asia, and thereby became rich and powerful.

*Portuguese India.* The doubling the cape of Good Hope, which, in 1498, showed the way by sea to the riches of India, led the Portuguese to the possession of a kingdom in Asia. A few years after Vasco de Gama (q. v.) had landed on the coast of India, they were already the most favoured merchants upon the whole coast, and in spite of the active jealousy of the Mohammedans, who had hitherto monopolized the lucrative commerce of India, they formed settlements, and made commercial treaties with the Indian princes, in which the latter acknowledged the king of Portugal for their lord. Francis of Almeida, the first Portuguese viceroy in India (from 1505 to 1509), increased the fame of his nation in the Indian seas. Wherever he landed, he formed commercial establishments, and even took possession of Ceylon in 1506. His more famous successor, Alphonso of Albuquerque, who held the chief command between 1510 and 1515, confirmed the proud edifice of Portuguese power in the Indies. He built fortresses for the protection of the factories, and conquered Malacca, to which merchant ships from Japan, China, the Moluccas, the Philippines, Bengal, Persia, Arabia, and Africa, resorted; and the terror of his arms, which this conquest inspired, induced the most powerful princes of farther India to seek the alliance of the Portuguese. He afterwards acquired possession of the Moluccas, and with them of the rich spice commerce, and ended his triumphant career by the conquest of Ormuz, the richest and most powerful city on the Persian gulf, the possession of which he secured by a castle. Soon after his death, the Portuguese ruled from the Arabian to the Persian gulf; nearly all the ports and islands on the coasts of Persia and India soon fell into their power; they possessed the whole coast of Malabar to cape Comorin, and had settlements on the coast of Coromandel and the bay of Bengal; Ceylon was tributary to them; they had factories in China; and the ports of Japan, to which a tempest had shown them the way, were open to their merchant ships. Their power had attained this extent in 1542; and, for sixty years, they carried on their lucrative commerce without any considerable rivals. They determined the price of merchandise in all the European and Asiatic markets. No foreign vessel could take a cargo in the Indian ports, before the Portuguese ships were freighted; no ship was safe in the Indian seas without Portuguese passports; and even those which carried on commerce by their permission, could not trade in cinnamon, ginger, pepper, steel, iron, lead, and arms, because these articles were included in their monopolies. The central point of the Portuguese dominion, after the time of Albuquerque, was Goa, where the royal Portuguese governor, under the title of *viceroy* or *governor*, had his seat. By bold and often revolting acts of power, they secured their dominion in Asia. They bombarded the most powerful cities on the Indian coasts; they burnt the ships of their enemies in their own harbours; they instigated the inferior native princes to rebel against their sovereigns, that they might take advantage of internal dissensions to extend their own power; and they granted peace and their alliance to no prince who did not do homage to the king of Portugal, and confirm his submission by permission to build a castle in his capital. Even on the coasts

where they merely trafficked without governing, and where the natives were subject to the native princes, they ruled indirectly by the terror of their name. Portugal owed this power to a few able men, whose adventurous spirit led them to this distant scene of action. The inclination to knightly adventures, which, after the overthrow of the Moors, had no object of enterprise at home, found here a field for action. But the successors of the men who established the commercial greatness of their nation, were not endowed with the same talents. Avarice and love of plunder soon became the only motives of enterprise; the honour of the Portuguese name was sullied; a revolting abuse of power excited the resistance of the natives, who had been before armed against each other by the artful policy of the strangers, but now became united by the sight of their common danger. After the powerful John II., and the magnanimous Emanuel, weak princes succeeded to the throne of Portugal; under Sebastian, the disciple of the Jesuits, when the kingdom was fast approaching to its ruin, the Portuguese dominion in Asia was also lost. The union of Portugal with Spain, in 1580, decided the fall of their commercial power in India. The Spanish kings neglected the Asiatic settlements. Robbery, pillage, and insubordination prevailed there. Some commanders in India made themselves independent; others joined the Indian princes; and others became pirates. The Portuguese were treated as Spaniards by the Dutch and English.

*Dutch India.* The Dutch had previously gone to the great commercial market of Lisbon for Indian merchandise, but Philip II. closed the harbour of the Portuguese capital to the Dutch ships, on account of the revolt of the United Provinces, and thus obliged that industrious people to go to the sources of this commerce. They were engaged in fruitless attempts to find a passage to India by the Northern seas, where they might avoid their enemies, when Cornelius Houtmann (q. v.), a Dutchman who had made several voyages to India in Portuguese ships, offered his services to his countrymen. In 1595, he was sent, with four ships, to India, to explore the coasts, and gain information concerning the inhabitants and the commercial relations in that place, and he returned with favourable accounts; for, in this very first voyage, treaties of commerce were made with the princes of the island of Java. The company of merchants who had begun the undertaking, sent out admiral Van Steck, with orders to enter into treaties with the native princes, and to establish factories on the island, which was at a distance from the centre of the Portuguese commerce, but was near enough to the Spice islands to favour a contraband trade, and was very well situated for trade with China and Japan. The hatred of the natives against the Portuguese, who had at times landed here, assisted in the accomplishment of this enterprise. Several societies were now formed in Holland to prosecute the commerce with India; but the markets, both of India and of Europe, were soon overstocked. To avoid this inconvenience, and to be able to oppose a firmer resistance to the jealous Portuguese than they could do separately, the small commercial societies united in 1602, and formed the great East India company, which had power to make peace or war with the princes of Asia, to build forts, to maintain garrisons, and to choose a governor. Now, that they had formed settlements at Java and upon other points, and had made commercial treaties with several princes of Bengal, began the long struggle between the rivals. The Portuguese had the advantage of a better knowledge of the Indian sea, but the Dutch could rely on more powerful support from

Europe; for Philip II. and his successors often left their Asiatic settlements unprotected. Time and experience gave the advantage of knowledge to the Dutch, and their stronger and better served navy enabled them to take one place after another from the Portuguese. In 1621, the latter were stripped, by their victorious rivals, of the Moluccas; in 1633, of Japan; in 1641, of Malacca; in 1658, of Ceylon; in 1660, of Celebes, where the Portuguese had settled after the loss of the Moluccas, to retain by smuggling some part of the spice trade; and, after 1663, the most important places on the coast of Malabar, where they had longest maintained themselves, fell into the power of the Dutch. At the same time that the Portuguese were contending with the Dutch, the English also entered the lists.

*English India.* In 1600, queen Elizabeth gave to the merchants of London an exclusive right to the commerce of India for fifteen years; and, soon after, the four first merchant ships of the East India company sailed from Lancaster to the Moluccas. The profits upon this first voyage induced the associated merchants to use every exertion to overcome the obstacles which the new settlements of the Dutch, and those of the Portuguese, upon the Indian coast, placed in their way; and they soon succeeded in forming establishments and building forts in Java, Amboyna, and Banda, and shared the spice trade with the Dutch. This privilege, indeed, was soon after lost, the Dutch having obtained sole possession of the Moluccas; but the English were more successful in their settlements on the coasts of Malabar and Coromandel, and always repelled the attacks of the Portuguese. They obtained yet more important advantages in 1623, when the Persians requested their assistance to drive the Portuguese from Ormuz; for, independently of their share of the rich booty of merchandise which they gained, they formed a settlement at the entrance of the Persian gulf (Gambroon) and obtained possession of the commerce in silks, carpets, gold stuffs, and other Persian commodities. Thus, in the middle of the seventeenth century, the commercial power of the Dutch and British rose upon the ruins of the Portuguese. But the friendly reception which the natives had given to the Dutch, when they freed them from the hated power of the Portuguese, was soon followed by discontents. They saw that they had exchanged a hard yoke for one still harder; that avarice and a commercial spirit produced, under their new masters, the same effects, which, ever since the first arrival of the Europeans, had disturbed their peace and destroyed their freedom. The Dutch, as well as the Portuguese, were almost continually at war with the natives on the islands and on the continent, wherever they formed settlements. After the expulsion of the Portuguese from the Spice islands, the Dutch government became so oppressive as to compel the destruction of the spice trees upon all the islands except Amboyna. At Banda, the natives were massacred, because they would not submit to become slaves, and the whole island was divided among the whites, who used slaves from the neighbouring islands to cultivate their lands. The magnificent city of Batavia, upon the northern coast of Java, became, after 1619, the seat of the Dutch government in India, and the principal seat of the Asiatic trade of the East India company. From this place the governor-general, during the five years of his power, ruled with regal sway over the princes of the interior. Until modern times, when the whole European colonial system was shaken, and almost all the commercial establishments in Asia fell into the hands of the British, who ruled the sea, the Dutch, notwithstanding the struggles of the natives, remained in possession of their

settlements, among the most important of which were Surat, on the coast of Hindoostan; the government of Malabar, with Cochin, its fortress; that of Coromandel, with the fortified Negapatam; Chinsura, in Bengal; the government of Malacca, the farthest Dutch settlement at the southern point of the peninsula beyond the Ganges; Celebes, the only place where they formally ruled after disarming and subduing the native princes; Java, the Moluccas; and the southern coast of Borneo, their last settlement.

*Danish India.* Before we return to the English colonies in India, we must cast a glance at the other commercial establishments, those of the Danes and the French, likewise formed in the seventeenth century. A Dutch factor, Boschower, who had obtained from the king of Ceylon, as a mark of high favour, the title of prince, being coldly received when he returned home, from resentment offered his services to king Christian IV. for forming a colony in Ceylon. An East India company was immediately established in Copenhagen, and, in 1618, Boschower sailed for India with six ships, of which half belonged to the king, and the others to the company. He died on the way. The Danish mariner who commanded the ships was ill received at Ceylon, and immediately turned to the coasts of Coromandel, the nearest part of the Indian main. The native prince of Tanjore, granted him, for a yearly rent, a fertile strip of land, where were laid the foundations of the city of Tranquebar, and where, soon after, the fortress of Dansburg was built for the protection of the new settlements. The other Europeans, who had established themselves in India, at first placed no obstacles in the way of the Danes, who thus were enabled to carry on an extensive trade. But when the Dutch became more powerful and more arrogant, they excluded their new rivals from all the markets. The affairs of the Danish company declined; it ceded its possessions to the government, and, in 1634, was dissolved. After 1643, the Danes ceased to navigate the Indian seas. In 1670, Christian V. formed a new society, which he so generously supplied with ships, that nearly half of their capital came from his hand. This company had the right of making peace and war. It was soon involved in new quarrels with the Dutch and the princes of Tanjore, whom the latter had excited against it. It continued its feeble existence until 1729, when it was given up, as it could no longer maintain its small possessions. Two years after, it was again restored by Christian VI. It received a charter for forty years, with the right of carrying on an exclusive trade from the cape of Good Hope to China. It was so successful that, after the charter had expired, it was renewed for twenty years, but with a proviso taking the exclusive right to trade from the company, and allowing access to India to every Danish subject, on condition of the payment of a tax to the company. In the mean while, several settlements were made on the coasts of Malabar and Coromandel, in Bengal, in Behar, in Orissa, on the straits of Malacca, and they became so important to the navy and the commerce of Denmark, that the king, in 1770, bought them from the company, and took their officers into his service. The commerce to India and to China has, since then, been free to all Danish subjects.

*French India.* The East India companies of England and Holland were already rich, when the French had made only a few unsuccessful attempts, and had no immediate commerce with India. But the French minister of commerce, Colbert, was so loudly called upon to favour the enterprise of the nation, that he resolved, in 1665, to form a company, and to give to it, for sixty years, all the rights and

privileges which those of Holland and of England enjoyed. The company was to have a capital of 15,000,000 of livres. The island of Madagascar, at the entrance of the Indian sea and near the African coast, favourably situated for Trade with Africa, Persia, Arabia, and India, was chosen for the central point of their new establishments. But, in five years, the company was so reduced by bad management, and by the faithlessness of agents, that it ceded its possessions to the government. Things went on no better, and, in two years, all the French who had remained at Madagascar were massacred. In the mean while, instead of Surat in Guzerat, where the French had first deposited their goods, they chose the then unimportant village of Pondicherry, which soon after became a considerable city. During the seventeenth century, the commerce of the French did not flourish in India. The defects of the system of administration, military disasters, and the encroachments of the government, prevented the extension of the colonies, and some but just begun were immediately abandoned. The company finally gave up its privileges (which had been renewed in 1714), to the merchants of St. Malo. Under the administration of cardinal Fleury, order and activity were first introduced into these commercial enterprises, when the brothers Orri and Fulvy took the direction of them. Pondicherry soon recovered from its decline, and the Isle de France, which the French had possessed since 1720, admirably situated as a station for Indian commerce, soon became flourishing (1735) under the wise government of Bourdonnaye. The colony of Chandernagore, on the Ganges, prospered under the management of Dupleix. French ships navigated all the Eastern seas, where a lucrative commerce could be expected. In the naval war between the English and French (1745—47), the latter maintained their possessions in India with great valour, although they received but little support from Europe; but, after the peace of 1748, their power rose to its height by their influence on the wars of the Indian princes. They obtained large possessions on the coasts of Golconda, Orissa, and Coromandel, which were, however, too much separated to give each other mutual support. During the war with England (1753—63), the French gradually lost every thing in India. The peace restored to them only Pondicherry and Mahé, and gave them three small factories in Bengal, with weak garrisons. Since this time, they have lost and regained Pondicherry several times, and hold it by the peace of Paris, of May 30, 1814. The British are now the ruling commercial nation in India. Upon the foundation laid there, as we have related, in the seventeenth century, has arisen the proud edifice of their power; and, since 1702, the funds of all the smaller companies which before had been formed, were united with those of the East India company. See *East India Companies*.

*Indian Languages.* If the religious systems of the natives of India, and the high antiquity of their traditions, were not a sufficient proof that India is truly *Medyama*, *Medhya-Deha* (the central land), and its inhabitants a primitive people, a survey of the languages of the country would render it evident. Although the missionary Henry Roth, in 1844, and the Jesuit Hanzelben, in 1699, engaged in this study, it is only since 1790 that it has been more thoroughly investigated by Paulino, Sir W. Jones, Wilkins, Forster, Carey, Marshman, Wilson, Colebrooke, Ward, Marsden, Bopp, and others. According to an Indian treatise on rhetoric, given by Colebrooke, there are four leading languages: Sanscrit, Pracrit, Paisachi or Apadhransa and Marathi or Misra. As those double appellations are founded on different passages of that treatise, Cole-

brooke considers the Apadhransa the same as the Magadhi, and the Paisachi and Misra as one; so that, in reality, the Sanscrit, the Pracrit, and the Magadhi are the only leading languages. But, as even English critics have remarked, the passage quoted does not seem to have justice done it, because Apadhransa, like Misra, must be, even according to his explanation, a kind of mixed language or jargon.

1. The Sanscrit, called also *Gronthon*, from *Grandha*, book, is the holy language of the Bramins and of books. It is a dead language, but was probably once spoken; it is wonderfully perfect in its construction, and extremely copious. Its alphabet is called *Devanagari*, divine alphabet, because it is said to have had its origin from the gods, whose language it is; it consists of fifty letters. It has three genders, a dual like the Greek, conjugations numbered according to the vowel or consonant endings, seven cases, instead of pronouns, after nouns, and abundance of particles. Its flourishing period was at the court of Vicramaditya, rajah of Benares, in the last century before the Christian era, where the celebrated poet Calydas lived, the author of *Sacontala*, or the Fatal Ring, and of the *Megha Duta*, or the Cloud of Message. In this language are also written the old sacred books, the Vedas. The father of Sanscrit grammar is Panini, whose name occurs in the Indian theogony, and to whom are attributed the *Sutras*, or short grammatical precepts; although he himself refers to predecessors, as Samkyn, Gargyn, Casyapa, Galava, Sacatayana, &c. But his system is very artificial. His work was improved by another ancient philosopher, Catugayana, in his *Varticas*, explained by Patanjali, a mythological personage in the form of a serpent, in a work entitled *Mahabhashia*, which again received additions from Caiyata, and from an unknown person in the work entitled *Asica Vritti*. This last work is highly esteemed, and gave rise to the commentary *Padamanjari*, by Haradatta Misra. A second grammar is Ramachandra's *Pracriyacaumudi*. Modern ones have been written by Wilkins and Colebrooke. The *Amara cosha*, or the Treasure of Amara Singa, who lived before the Christian era, is a dictionary of the Sanscrit. A supplement has been given by Medicinar, in his work *Medini*. *Vistrapracasa* by Malleswara, is a second dictionary: *Haravali*, by Purushottama, a third. There are many others, as by Ilagudhu, *Vachespatis* the *Dharanicosha*, Bhattoj's *Siddhanta caumudi*, *Praeriga caumudi*. A Sanscrit press was established at Calcutta in 1808. Sir William Jones, the learned president at Calcutta, to whom the cultivation of Oriental literature is so much indebted, was well acquainted with the Sanscrit. It may be called the fundamental language, as it contains the original and fundamental sounds of all the European languages, and not merely in a superficial resemblance; so that by means of it are manifested that great fellowship and affinity, by virtue of which all languages form one great growth of the mind.

11. The Pracrit, as the common language, comprehends the various dialects used in writing and social intercourse. Ten are named by Colebrooke, to which, however, should be added the Penjabi and Brijja Bhasha. They are spoken in the fertile provinces of Hindoostan and Deccan, by the—1. Sareswata, a people on the banks of the river of this name, which flows through Penjap. This dialect is especially used in dramas and poems. 2. The Kanayacubjas, whose capital was Canoge. It seems to be the present Hindi or Hindoostanee, except that the latter contains Persian and Arabic words. These two dialects are written with the Devanagari alphabet. 3. The Gauras of Bengal, whose capital was

Gaur. This is the Bengalee or Bengal dialect, which is spoken chiefly in the eastern parts of Hindoostan. Many Sanscrit poems have been translated into this dialect; the learned Hindoos speak it almost exclusively. Its characters are the Devanagari, somewhat altered, for convenience. 4. The Mitilaw, or Tirhoot, is the prevalent dialect in Mitilaw, or the Circar (Circle) of Tirhoot and some neighbouring districts, bounded by the rivers Cusi and Gandhac and the Nepal mountains. It is not adapted to poetry. 5. The dialect of Utcala or Odradesa (Orissa) is called *Uriya*, and has Sanscrit words. The five above-named dialects are the languages of the five Gaur, or of Northern Hindoostan. The five following are those of the five Dravids, and are called *Tamul*. They are—6. the Dravida, the southern extremity of the Deccan, where the *Tamul*, called also by the Europeans *Malabar* (though the former is rather the eastern dialect, the latter the western) is spoken; the former is spoken from cape Comorin under the Eastern Ghats northwardly as far as Pullicate, the latter from cape Comorin, as far as Goa; they meet at the cape of Coimbatore. The gospel is preached by Christian missionaries at Madras, Tranquebar, and Tanjore, in the *Tamul*. Ziegenbalg translated the Bible into it. The name *Tamul*, as the natives pronounce it, is probably connected with the river *Tamraparni*. 7. The Maharashtra, or Maharratta, is spoken on the northern part of the plateau of the Deccan, eastward of the highlands of Omercuntuk. *Murnu*, as this country, situated between the Nerbudda and the Krishna, was formerly called, was the centre of the Dravids, whose capital, Dwara Summadra, was destroyed in 1326. This dialect is written with the Devanagari, and has, likewise, many Sanscrit words. A grammar and dictionary were published by Carey, in 1809. 8. Carnata, or Carnara, by corruption Canara, in the middle of the plateau of Mysore, consequently in the middle of the Deccan. It is still spoken in the mountainous regions, but on the eastern coast has been supplanted by other dialects. 9. Tailanga, Telinga, or Tilanga, also the Andray, the language of a people in the north-east of the peninsula, between the Krishna river and Godavery, as far as the northern Circars, and reaching southward to Pullicate. It has much resemblance to the Sanscrit, and has a separate alphabet, called *Calanga*. 10. The dialect of Gurjara or Guserat, Gesira, a peninsula in the west, is the last dialect of the Pracrit. A dictionary of it has been compiled by Drummond.

III. The Paisachi, or Apadhransa, probably the language of the mountaineers, in dramatic poetry is the language of demons, a jargon mixed with Sanscrit, and therefore the language of ridicule.

IV. The Magadhi, or Misra, probably the Pali and Magadhi of the island of Ceylon, used by the priests of Buddha. It is called *Misra*, because it is intermingled with Sanscrit words. It also generally designates the foreign languages, introduced by the conquerors of the countries on the Indus and Ganges, especially those of the Indo-Chinese. Doctor Leyden thought to have discovered in it many original languages, which might, indeed, have had a common foundation (according to Vater, the Chinese). The foundation of this system of languages is monosyllabic, and, as in the Chinese, the different intonations determine the meaning. Those of the islanders are polysyllabic, those of the mainland monosyllabic. The monosyllabic disappears near Bengal. To the east, it is more common, and prevails exclusively in Cochin-China and Tonquin. They are given in the following order:—1. Polysyllabic; a. Malay; b. Javanese; c. Bugis; d. Bima; e. Batta; f. Gala, or Tagala. 2. The monosyllabic; g. Rukheng; A.

Barma; i. Mon; k. Thay; l. Khoemen; m. Law; n. Aman. Sir W. Jones first perceived the Sanscrit in the language of the Malays, though it is not the only basis, but is joined with a foreign element. In it are written the tales of the Pandus, taken from the old Sanscrit epic Mahabharat. A grammar and dictionary of it were published by W. Marsden. There is another dictionary by James Howson. The Javanese resembles the Malay very much. Doctor Leyden considered the Pali or Bali a dialect of it, which may be, perhaps, a language common to all the countries between the eastern and western boundaries, the language of their holy books, of their priests, scholars, and poets. The Rukheng in Arracan, to the west, is said to bear much resemblance to the Devanagari in its characters, and to the Sanscrit in its structure and mythology. The Barma is softer but less articulate than the Rukheng, but it is very perfect, and has a rich literature. The Mon is still prevalent among the inhabitants of Pegu, who style themselves *Mon*, but are called by the Barmas, *Taleing*, and by the Siamese, *Ming-Mon*. Their alphabet is the Barma-Bali alphabet a little altered. Thay is the language of the Siamese. The Barmas call the country *Syan*, whence, probably, the Portuguese Siam. The Khoemen is the language of a nation on the Mecon or the Cambodia, which is regarded as very learned, and was formerly subjected by the Siamese tribe. The Law is the language of the people called by the Portuguese *Laos*. According to Leyden, it stands in the same relation to the Thay, that the Barma does to the Rukheng, though it bears a closer affinity to the common Bali. In this central country of Laos are the most remarkable monuments of Buddaism; and probably it will hereafter afford, on this point, much information. As the Sanscrit is the common centre of the Hindoo languages, so is the Bali of the Indo-Chinese. In the country between India and China, it is the language of religion, of the law, of science and literature, and appears in all the languages of the people. It is also called *Lankabasa*, i. e. the language (in Greek *Βαλ*) of Lanka, or Ceylon and Megata, or *Mungata*, perhaps analogous to the Sanscrit Magadhi. The Bali alphabet had its rise in the Devanagari, but differs essentially from it. The form of the Bali character among the Barmas, is quadrangular, very much as in Lanka, but different from the Siamese, which is called *Nungun-Khom*. It has all the Sanscrit inflexions of verbs and nouns, though it more rarely uses them in connexion, and more frequently uses the past participle and impersonal verbs. Then the Pracrit, Bali, and Zend, as Sir W. Jones very acutely observed, again come into affinity, as three dialects of the Sanscrit. They have had very much the same fate. Pracrit is the language of most of the holy books of the Jaina sect; Bali is the sacred language of the Buddhists; Zend of the Parsees, or fire worshippers. A wide and deep survey of the whole variety of Indian language, primitive, mother, and mixed, would afford the most interesting information respecting the philosophy of language and religion.

*Indian Literature.* Europe still lay in the deepest slumber, when Hindoostan was already in possession of art and science. A thousand years before Christ, a tender and imaginative poetry existed there, and the immense rock on which her mythology is sculptured, is a work, in comparison with which the pyramids of Egypt seem young. The astronomical knowledge of India, existing before the period to which history extends, the antiquity ascribed to the alphabet, the language, the religious traditions, handed down by means of pictures and writings—all point to a development of the human intellect.

from its first germ. Mental culture begins before literature. The latter, in India, appears first in theology; afterwards, when the occupations of life became more distinct, it became also a profane art, a vehicle for historical or natural knowledge, down to the time when poetry was written, which naturally returned to mythology. This general division into sacred and profane literature we intend to observe.—We first remark, in respect to the arts of writing among the Hindoos, that they are acquainted with paper, though it is not made of cotton, but from the bark of a shrub whose fibres are carefully separated. The former discovery is of later date, being first made after the invasion of the country by the Mongols. When this coarse paper cannot be had, a white crayon is used, with black tablets. The usual material, however, is the leaf of the fan-palm, which, being about three fingers broad and two feet long, contains seven or eight lines; and, as it is thicker, stronger, and stiffer than double paper, it admits of writing on both sides. This is done with an iron style, six inches in length, and sharpened at the upper end to make the leaves very smooth. The leaf rests on the middle finger of the left hand, and is held between the thumb and forefinger. The right hand does not move over the leaf, but, after a writing a word or two, the writer presses the style deeper into the last letter, and moves the leaf from the right to the left. The Hindoos are so accustomed to this method, that they write while walking. As these marks are very fine, the leaf is rubbed with fresh cow-dung, in such a manner that only the finest particles of it adhere to the lines, and it is then done over with black. The Hindoos do not write on paper with a quill, but with a reed (*calamus*), which is split like our pen, but is stronger. To form a number of palm leaves into a book, a hole is made through both ends of the leaves, and they are fastened together by a small thread. Two thin pieces of wood, of the size of the leaves, are then placed above and below; a hole is made at each end, and pegs of wood or iron are passed through the whole, to fasten all the parts together. A long string is fastened to the peg, which is wound round the book a number of times. We now proceed to the literature of the Hindoos.

1. *Sacred Literature.* We possess this under the general names of *Shastra*, *Shaster*, *Sistra*, *Shastu* (the different forms of this word are unquestionably merely differences of dialect); i. e., holy, ordinances given by God. They can be read only by the three first, or regenerated castes. The Hindoo has received the sacred writings as religious documents, as the word of God, from God, from Vishnu, the metamorphosed *Vyasa*, and the books themselves are called *Vedas*. Both these words, *vyasa* and *veda*, belong to the same family, the members of which signify *knowledge*, *wit*, *law*, *ordinance*, and are derived from a root whose original signification is *light* and *fire*. *Vyasa*, however, found the word of God already existing, and was, consequently, only a collector of the *Vedas*, which he reduced to four divisions, called *Rig*, *Ritch*, *Jayush*, *Saman*, and *Atharvana*. The first division is metrical, the second in prose, and the third consists of prayers, designed to be sung. The last are prayers to be used with purifications, expiatory sacrifices and maledictions, and differ materially from the others, on which account their genuineness has been doubted. These *Vedas* are properly the original text, which has given rise to several expositions: the latter, in turn, are esteemed holy, like the Talmud among the Jews. Each *Veda* consists of two parts—the *Manttras*, or prayers, and the *Brahmanas*, or commandments. The whole body of hymns, prayers, and invocations in one *Veda* is called *Samhita*. The commandments inculcate religious duties,

moral maxims, and theological doctrines. The proper Hindoo theology is contained in the part which unfolds Upnaishada's revelations (of the same family as the Low German *open*, the Greek *ων*, an opening), and consists of explanations of mysteries. Anquetil du Perron has published these, under the name of *Oupnekhat*, in a Latin translation of a Persian abstract, which was itself corrupted, and which he also misunderstood (Strasburg, 1801, 2 vols., 4to.) The *Vedas* are in Sanscrit, in the Devanagari. (See *Indian Languages*.) A British officer, who lived a long time in India, enriched the British museum with a complete copy of the *Vedas*, in eleven volumes. A second class of sacred books are the *Upavedas*, in four parts (*Ayush*, *Gandharva*, *Dhanush*, and *Shapatya*), treatises on surgery, medicine, music, dancing, war, architecture, and many mechanical arts. The third class are the *Angas*, or *Bedungas*, in six parts (*Sicsha*, *Calpa*, *Vyacarana*, *Ch'handes*, *Iyotiah*, and *Nirukti*), treating of language and grammar, prosody, poetry, astronomy, the ritual, and difficult words in the *Vedas*. The fourth class are the *Upangas*. They are divided into three classes—the *Puranas*, *Dhermashastras*, and *Dersanas*. The *Puranas*, to the number of eighteen, with as many *Upapuranas*, supplements and explanations, treat of mythical philosophical subjects, viz., cosmogony, theogony, &c., a more extensive series of legends, which sometimes, of course, represent the great relations of the world and time, under a contracted view, but cannot be rashly rejected. We will merely enumerate the *Puranas*:—1. *Kalika Purana*, a history of the goddess Kalika Parvadi, Bhavani, the wife of Siva; 2. *Abhiatma Ramayana*, a fragment of the *Brahmanda Purana*, a history of Ramatshandra; 3. *Brahma Vairatika Purana*, the origin of the gods, and the history of Ganesa, Crishna, Durga; 4. *Pedma Purana*, in praise of the lotus (*pedma*), and a history of Lakshmi, the wife of Vishnu, in 55,000 stanzas; 5. *Agru Purana*, a sketch of all Indian science, in 15,500 stanzas; 6. *Vishnu Purana*, in 23,000 stanzas; 7. *Siva Purana*, in 24,000 stanzas; 8. *Linga Purana*, in 11,000 stanzas; 9. *Scanda Purana*, of the god Scanda, the son of Siva and Bhavani; 10. *Haritalika* and *Savriti Bata* relate to religious customs; 11. *Ontkal Khanda* and *Kasi Khanda*, the former a description of Orissa and the old religious rites of the Vishnu worship at Juggernaut, here *Poursatim*; the latter a history of the city of Kasi or Varanasi, now *Benares*, the principal city of the Sivaites; 12. *Nuradeya Purana*, the history of Nareda, god of music, in 25,000 stanzas; 13. *Markandeya Purana*; 14. *Bhavisira Purana*; 15. *Vayu Purana*, the history of Vayu, god of the winds; 16. *Matsya Purana*, the history of Vishnu, as the fish in the first deluge, in 14,000 stanzas; 17. *Narasingha Purana*, Vishnu as a man-lion; 18. *Vhagavata Purana*, the work of Vyasa, the history of Crishna, or rather of Vishnu, in twelve books, containing 18,000 stanzas, which have been published in French and German. The two oldest and most important epic poems are—19. *Ramayana*, the history of Ramatshandra, king of Ayodyia, the seventh great incarnation of Vishnu—a work of Valmiki; 20. *Mahabharata*, the war of the Pandus and Kurus, two lines of descendants of the old Indian king Bharata, in eighteen books, and more than 100,000 stanzas. Wilkins, Parrand, Proben, Herder, Schlegel, and Majer have translated an episode from this work, called *Bhagavat Gita*. Another, entitled *Nalus* (published at Paris and Strasburg, in the original, with a Latin translation), has been translated into German by Bopp and Kosegarten (Jena, 1820). To the *Dherma Shastras*, as the second division of the *Upangas*, belongs the *Minava Dherma-shastra*, or the ordinances of Menou (English, by

Sir William Jones)—a complete code of laws and customs, containing a poetical account of God and the spirits, of the creation of the world and of men (Schlegel's *History of Ancient and Modern Literature*, i. 171). The *Dersana*—the third class of the *Upangas*—are philosophical works, and are of three classes—*Nyaya* (connected with the Greek *Nous*, understanding, mind), which explains the sense of separate passages of the *Veda*, and is divided into two parts—the work of Gotama and Cadana; *Sankhya*, which is twofold, either with or without *Isvara*, and *Sankhya*; the first is also called *Patanjala*; lastly, *Mimansa*, which is again attributed to *Dvapajana*, surnamed *Vyasa*, or the Compiler. Dow has published parts of the *Dersanas*.

2. *Profane Literature*. We shall only touch upon some of the principal works. *Mughabodha*, or the Beauty of Knowledge, by Goswami, surnamed *Vopadeva*, is considered the best Sanscrit grammar. There is another, by Kalapa, called *Katantra Vriti*, with an etymological commentary, called *Katantra Vriti Tika*. Such commentaries are also *Dowrga Singha*, *Tritatshandrasa*. Another grammar, with the title *Sankhipta Sara*, by Radjah Djoumoura Randi, has been commented on by Gopi Tchandra. The best dictionary, *Amarasinha*, has been already mentioned; besides this, there are seventeen others, of great reputation. The Hindoo poetry has, throughout, an elegiac earnestness and sweetness, which owes its origin to their oldest poet, Valmiki, who sang in plaintive strains of the murder of a youth, who lived happily with his mistress in a beautiful wilderness, and was mourned by her in heart-rending lamentations. We have already spoken of Valmiki as the author of the epic *Ramayana*, with which Vyasa's *Mahabharat* alone can be compared. Another poet is Djana Radjah, who has described the meeting of Arjun with Siva. Bhattu Bana, a third poet, is the author of *Kadambari*. Bharti Hera Pandita wrote a popular epic *Bhatti*: Djaga Deva wrote the *Gita Govinda*—a hymn to Govinda (translated by Jones). The dramas, called *Nataka* by the Indians, are numerous. Among the dramatic poets, Calicas, a poet at the court of Vicramaditya, about a century B. C., is mentioned as a star of the first magnitude. He has been called the *Indian Shakespeare*. His best drama is *Sacantala*, or the Fatal Ring, an English translation of which has been made by Jones, and a German by Forster, and of which Herder says—"All the scenes are connected by flowery bands; each grows out of the subject as naturally as a beautiful plant. A multitude of sublime as well as tender ideas are found in it, which we should look for in vain in a Grecian drama." *Koumava Samblava* (the Birth of Kumara, the Physician of the Gods) is one of the productions of this poet, as likewise *Oureasi Vikrama* (the Heroism of Urvasi), in five acts, and *Megha Duta*, or the Cloud of Message, published by Wilkins. Among other Hindoo dramas are *Ketriabali* (the Pearl Necklace), by Hirsadeva; *Prabodha Tchandra Oudaya* (or the Rising Moon of Knowledge), in six acts, by Krishna Misra; *Hasiarnava* (or the Sea of Ridicule)—a satirical drama, in Sanscrit and Pracrit, by Djayadeswara Bhattacharia; *Maha Nataka*, the great drama, also in Sanscrit and Pracrit, by Madhusanada Misra Murari, in seven acts. *Mudra Rakyasana*, and *Malati*, and *Malhera*, dramas in ten acts, are by unknown authors. (See Wilson's *Hindoo Drama*, Calcutta, 1827). The poetical treasures of the literature have been not a little increased of late by the establishment of a printing press at Calcutta, for the purpose of publishing Oriental works. The Hindoos have two kinds of feet (*padam* or *charanam*) in their verses—the simple *ganam* and the *upaganam*. Of the former, there are eight,

called, in general, *majabasanarayala*. They are the following: *maganam* (molossus), *baganam* (dactyle), *iaganam* (amphibrachys), *saganam* (anapest), *naganam* (tribrachys), *raganam* (creticus), *yaganam* (palingbaccius), and *laganam* (baccius). The *upaganams*, called *yarahaganagananala*, are *gaganam* (spondee), *haganam* (trochee), *vaganam* (iambus), *nalam* (proceleusmaticus), *galam* (pyrrichius), *malagu* (epitritus quartus), *nagam* (preon quartus), *latam* (ioniacus minor). The Hindoos have also two kinds of rhyme: the one falls on the first letter or first syllable of the verse, and is called *yety*, or *vadi*; for example, *Am kirti* and *kirtana* makes a rhyme. The other falls on the second letter or the second syllable from the commencement, and is called *prasanam*; for example, *pa* in *Capagay* and *Dipantam*. Of the verse, the *schlocken*, a stanza or strophe, has already been mentioned. But there are also other kinds of verse (*padayama*), as the *caudapadaya*. There are five writers on prosody, which is very difficult. The oldest philosophical sect is considered to be that of Capila. The philosophy called *nyaya* (see above) is a kind of logic containing the doctrine of syllogisms, which, according to a Persian account of Mohammi Fani, is the foundation of that of Aristotle. A third system is the *mimansa* (which reminds us of the monkey and serpent god), invented by Vyasa (see above), and improved by his scholar, Jaimini. Vyasa's doctrine is called *vedanta* (the aim of the Vedas). It teaches the dependence of matter on mind. The disciples of Buddha, on the contrary, are materialists. Thus we have three systems, the *Vedanta*, the *Nyaya*, and the *Mimansa* mythologically developed, as pantheism, in its noblest sense, with the corresponding views of idealism and realism. The Sankhyas, Jains, and other sects, are unquestionably later followers of one or the other of these systems. We will only name some of the philosophical works. Among them are *Gangheswara Fatwa Schirtamani*—a treatise on metaphysics; *Pratikhya Tippani*—a commentary on visible objects, by Gadadhara, who also wrote on moral cases and moral power; *Gouna Bhara*, or concerning qualities of things; *Anumaka Didhati*, or a treatise on memory, by Siromini Battatcharia; *Smriti Tatva*, or an Abstract from the Laws, collected by Ragunanada Bhattacharia (translated into German by Raspe); *Hitopadesa*, Friendly Instructions—a Hindoo book of fables (published by Wilkins), called also the *Fables of Pilpay*. Hindoo literature first began to be extensively cultivated in Europe, at the commencement of the present century, and the study of it can as yet be considered only in its infancy. The first great work published in Europe, in the ancient Indian language, was *Hitopadesa* (1810). In 1806 appeared Wilkins's grammar, published with the types which have been used by Bopp. See the papers of Jones, Wilkins, Wilson, Ellis, Colebrooke, and others, in the *Asiatic Researches* (15 vols., Calcutta, 1788—1826), and in the *Trans. of the Royal Asiatic Society*, London.

*Indian Mythology*. Divine rest, immersion or absorption in the Godhead, is considered by the Hindoos the highest perfection; and the way which leads to it is the sacrifice of the individual self. The religious doctrines of the Hindoos are contained in the four Vedas, of which the six *Angas* are commentaries, by the Brahmins; the second commentary, called the *Angutorrah Bhade Schasta*, in eight books, containing fables and allegories, and a ritual, makes the number of holy books eighteen; there are four *Upavedas* and four *Upangas*, which include the eighteen Puranas, *Nyaya*, *Mimansa*, and *Dharma-shastra*. (See *Indian Literature*.) Thus the Vedas are the Bible, the Puranas, the Mythology, the historical poetry, *Dharma Shastra*, the ethics, and the

other two the orthodox philosophy. These paraphrases introduced dissension, and new religious writings appeared, according to Gorres, probably the Bali writings, the books of Buddha, in Malabar and Comorandel. These books, rejected by the orthodox Brahmins on the Ganges, are the basis of six systems of philosophy, viz., Jogachara, Sandhata, Vaitaschica, Madyamica, Digambara, and Charva. Although a continual change may be thus perceived, and a world of fables, continually growing more and more variegated, was opened, yet the foundation always remained the same, and Bramaism and Buddhism remained essentially unchanged. The Hindoo religion is, therefore, Pantheism, understanding by that word a religion which inculcates the belief in One existing in all things, and all things existing in One—God in the universe, and the universe in God, and regards nature as a revelation of the divine intelligence. Every thing is thus the continual transformation (metamorphosis) of God. This fundamental doctrine is inculcated in various ways by all their writings on religious subjects; and upon this doctrine rests the idea of the reciprocal influence of worlds upon each other, and their central light, and the conception of the universe as a perpetual creation, as does, likewise, the belief in metempsychosis, or the transigrations of souls after death. The sins of the parents are considered to be visited on their children, because the son is the father regenerated. Beginning and end are mingled, and mind and matter are continually striving for predominance in the universe, which therefore exhibits a never-ending struggle between good and evil, light and darkness. The original Hindoo conception of God, the omnipresent Being, in all his purity, eternity, and spirituality, and beatitude, is pure and elevated; he is called *Brahm*, *Atma* (the breathing soul), *Bram-atma*. Before the creation, he reposed in silence, and absorbed in himself. This world, says Menou, was all darkness undiscernible, undistinguishable altogether, as in profound sleep, till the self-evident invisible God, making it manifest with five elements and other glorious forms, perfectly dispelled the gloom. He, desiring to raise up various creatures by an emanation from his own glory, first created the waters, and impressed them with the power of motion; by that power was produced a golden egg, blazing like a thousand suns, in which was born *Brahma*, self-existing, the great parent of all rational beings. The Hindoos, says Sir W. Jones, worship the Supreme Being under three forms—Vishnu, Siva, *Brahma*; for that is the order in which the three are expressed by the letters A, U, M, which coalesce and form the mystical word *Om*, which never escapes the lips of a pious Hindoo, but is meditated on in silence. The learned Indians, as they are instructed by their own books, in truth acknowledge but one Supreme Being, whom they call *Brahm* or the Great One, in the neuter gender; they suppose his essence to be infinitely removed from the comprehension of any mind but his own, and they suppose him to manifest his power by the operation of his Divine Spirit, whom they name *Vishnu*, the Pervader, and *Agayen*, or Moving on the Waters, both in the masculine gender, whence he is often denominated the first male; and by this power they believe that the whole order of nature is preserved and supported; but the Vedantis, unable to form a distinct idea of brute matter independent of mind, or to conceive that the work of Supreme Goodness was left a moment to itself, imagine that the Deity is ever present to his work, and constantly supports a series of perceptions, which, in one sense, they call illusions, though they cannot but admire the reality of all created forms, as far as the happiness of creatures

can be affected by them. When they consider the divine power exerted in creating, they call him *Brahma*, in the masculine gender also; and when they view him as the destroyer, or rather changer of forms, they give him a thousand names—Siva, Iswara, Mahadeva, &c. The first operations of these three powers are described in the Puranas, by a number of allegories, and from them we may deduce the Ionian philosophy of primeval water, the doctrine of the mundane egg, and the veneration paid to the nymphæ or lotos, which was anciently revered in Egypt, as it is at present in Hindoostan, Thibet, and Nepaul. The fundamental idea of the Hindoo religion, that of metamorphoses, or transformations, is exemplified in the Avatars. The Avatars are transformations of Vishnu, and are interesting as an extremely rich cycle of mythology. These transformations fill up the Indian Yugs, which compose a certain series of periods intended to effect a junction with God, and comprising 4,320,000 years. The Yugs have been considered as an allegorical description of the year, divided by the solstices and equinoxes, and of the precession of the equinoxes. The Avatars are generally considered as ten, though others give more, which, however, are of inferior importance. The five first are these:—1. *Mat-yavata*, the transformation into a fish, the deceptive *Maya-fish*. *Brahma* one day fell asleep; the giant *Hayagriva* (the rebellious, faithless human mind) stole the four Vedas (the universal law, given by *Brahma*), swallowed them, and concealed himself in the sea; *Vishnu* recovered them in the shape of a fish, and thus annihilated the empire of the evil one; for that incarnation had for its object and consequence the salvation of the world from the power of evil. 2. *Kurma-avata* is *Vishnu*'s transformation into a tortoise, sustaining the universe, which had been convulsed by the assaults of demons, while the gods churned the sea with the mountain *Mandar*, to force it to disgorge the sacred things and animals, together with the water of life, which it had swallowed. 3. *Varaha-avata*, the transformation into a boar. The giant *Hiranyakshana* (the giant of the earth) had coiled up the earth like a cable, and concealed it in the *Patalas*, seven subterraneous worlds. *Vishnu*, as a boar, rooted up the earth with his tusks of fire. 4. *Narasingha-avata*, the transformation into the man-lion. In a contest with the giant *Hiranyakasha* (also *Eruniakassiben*), *Vishnu* appeared as a man-lion from Siva's pillars of fire, and saved the son of the giant, who, pursued by his father, had taken refuge behind the pillar. This is another version of the earth-forming conflict of water and fire, as the name of the metamorphosis (*Narasingha*), and of the festival of this incarnation (*Neriosengh*), denotes; for *nar* is, in Indian, water; *narasayana*, the movement in water; and the words *seng*, *zenga* (to scorch), imply the idea of fire. 5. *Vamana-avata*, transformation into the Brama, or Lingam dwarf. In the shape of a dwarf, *Vishnu* visited the giant *Bali*, who had done the gods much harm, and requested of him as much land as he could cover with three paces, whereon to sacrifice. The giant having promised it, *Vishnu* immediately resumed his divine form, with one step covered the whole earth, and with another the whole space between heaven and earth, upon which the giant submitted, adored him, and was sent to govern in *Padalon* (the infernal regions). It is unnecessary to describe the remainder of this series of transformations.—Among a people of such exuberant fancy as the Hindoos, it is natural that every thing should receive form and life. But it is remarkable to what a degree their works of imagination are pervaded by the idea of sexuality. Sir William Jones remarks, that "it never seems to have entered into the heads of the

Hindoo legislators, or people, that any thing natural could be offensively obscene—a singularity which pervades all their writings and conversation, but is no proof of the depravity of their morals." Thence the worship of the Lingam by the Sivaites, of the Yoni by the Vishnuvites. Lingam is the symbol of the male nature. The worship is thus historically derived. Siva, by his voluptuousness, gave offence to seven penitents, and by their maledictions lost his virility; but, the punishment having been subsequently deemed out of proportion to the transgression, the penitents resolved to worship what they had previously cursed. It is worshipped in temples, roads, &c. Yoni is the feminine with the masculine, in a figure, which is also written with cow-dung on the forehead. Moreover, like the eye, plants were, in this mythology, symbols of perception and regeneration; and plants and the eye, forming a triangle, were united in the flower called *lotos*. In language, *lotos* is the flower of concealment, of night, of silence. In natural history, it is the *nymphaea nilufer* (Lin.), in India called by various names—*padma*, *panceruha*, *tamarasa*, *nalina*, *aravinda*, *maholpala*, *camala*, *cushaya*, *sahasrapatra*, *sarasa*, *sarasiruha*, *rajiva*, *vinprasuna*, *pushcara ambhanika*, *satrapa*. Its seed is abundant, small, and round; it is either blue or red; the flowers of the former are a beautiful blue, but, if entirely unfolded, somewhat less fragrant than the red rose-coloured species, though of a very fine odour. The leaves spring directly from the roots, deeply indented; on one side dark purple, reticulated; on the other, green and soft; the petals very soft, long, and reed-shaped. There is also a variety with the leaves purple on both sides; dark crimson flowers; the chalice leaves richly coloured within, and broad anthers; less acute and broader than the blue, with little odour. The worship of the *lotos* is still practised, as devoutly as ever, in Hindoostan, Tibet, and Nepal. Temples are decked with it, as are also deities; for a god, immediately after his birth, always floats in the water on a *lotos*. The Hindoos adore it because it is a water plant, and water is the vehicle of creation. It is also sacred among the Egyptians. As every thing in India appears in the glow of life, and is endowed with form, the moon, and sun, and stars have also their gods. All the starry worlds are considered as freeborn spirits and gods, which have become alienated and separated from the original light, the central sun of spirit, the Persian light-water, *Arduisur*; and from this light-water the milky-way has poured forth in streams of stars (*stars*). The adoration of fire, stars, or the sun, is therefore an ancient worship, as is that of water, too, in the above-mentioned idea. For that reason, Ganga (the river Ganges) is sacred to the Indians. It had its origin, according to one fable, from the sweat of Siva's wife, Paroadi, or, according to another, in the water in which the universe swims. The earth also has its goddess, *Prithivi*; the air its god, *Indra*, *Dewandra*, one of the eight placed as guardians of the earth by Vishnu, on his incarnation as a boar, which eight are *Indra*, *Aghni* (fire), *Padurbati* (Judge of the infernal world), *Nirurdi* (king of the infernal world), *Varuna* (water), *Maril* (wind), *Cubera* (riches), and *Eswara*, who in the east is *Indra*, in the south *Aghni*. The number of the *Devetas* (gods) is immense, and by some is rated at 333 millions. Of the inferior gods, or demons, we shall only mention the *Ginaras*, the genii of musical instruments, and the *Gandhuers*, or *Gandharvas*, musicians of the air, who sing on the northern mountain of *Haimakutha* (the cold, the dark), the spirits of singing stars. These are good demons. The bad are called *Asoras*, or *Asors*, at whose head stand *Molmaoor* and *Rhadoon*, and they generally appear in a terrible, gigantic form; they inhabit the *Patala*,

or *Padalon* (the infernal regions). The universe is divided into fifteen districts, or circles, seven above the earth, called *Svega-Surga*, and seven below, called *Patala*. The *Patala* are lighted by eight carbuncles, on the heads of eight serpents. In the midst, between the two divisions, is *Mirtlok*. The ceremonies of Hindoo worship consist of visits to the pagodas, ablutions and purifications, penance and mortifications, good works, sacrifices, &c. Some of their pagodas are of high antiquity and gigantic conception, majestic appearance and tasteful architecture. The entrance is always made in a huge pyramid, which gradually grows narrow as it approaches the top, where it runs out into a half moon. The pyramid faces the east. In large pagodas, there is always a spacious court, and, at its end a gate corresponding to the first, excepting that the pyramid is not so high. Opposite the door, in the middle of the second court, is placed on a pedestal, or in a cavity of the wall, between four pillars, a cow, lying down; sometimes a lingam, Hanuman, serpent, or some other object of adoration. *Sahstangam* is the name of the custom of falling on the face; *samashtaram*, of the folding and raising of the hands to the forehead. The edifice is divided into two or three parts, of which the one is large, the other, for the sacrifices, smaller; the whole is formed of tiles, or unbewn stone. On the Coromandel coast, there are more splendid temples than in Bengal; on the Malabar coast, the style of construction is different. The most celebrated pagodas are those of *Elephanta* and *Salsette*; those of *Illura*, or *Elora* (q. v.); the temples of *Vishnu* at *Tirupadi*, *Schirangam*, *Kangiwaram*, and the temples of *Siva* at *Tirunamalai*, *Tirvatar*, and *Shalembron*, *Kandschipuram*, *Ramonathampuram*, *Ramischwaram*, and *Caschi*. The pagoda at *Elephanta*, or *Kalpuri*, is considered as the oldest, and derives the first name from an elephant hewn on black stone, at the foot of a mountain, on the side of *Bombay*. Several pagodas are there collected together. The cisterns now used for watering could be formerly appropriated to purifications. The temples at *Elora* are hewn out of a chain of hills, in the shape of a horse-shoe, and form a kind of Indian pantheon. All the deities have there a temple, great or small, and some of them a number. Two of the largest are consecrated to the *Trimurti*. It is a colossal hieroglyph, and, like the pyramids, bears witness to the absorbing influence of religion in ancient times. *Jagrenat*'s or *Krishna*'s three pagodas, at *Jagrenat*, whose towers are seen from the sea at twenty miles' distance, and to reach which it is necessary to go through a multitude of small pagodas, with consecrated groves and ponds, are surrounded by an immense, thick, square wall of black stone. The image of the god is placed on the summit. It derives great revenues from pilgrims. For the ablations previous to every act of worship, any water is good, provided it be running, and especially that of the *Ganges*. There are, therefore, ponds at all the temples, unless these are situated on a river. Cow-dung may be substituted for water, in the performance of the ceremony. Passages from the *Vedas*, *Vedangas*, etc., are first read. The idols are also washed with water and with milk, and anointed with butter and costly oils. Penance is either of the *contemplative* kind, in which the penitent must mortify the appetites, in order to devote himself wholly to the contemplation of the divine nature, and be united with God, or of the *expiator* kind. The penitent form, in some degree, monastic orders; and *Fakirs*, *Jogues*, *Atits*, *Vairagis* and *Tapis*, up to *Varaprashna* and *Sanyasi*, are the living images of penance. Good works consist in donations of cattle, or other things, on festivals and solemn occasions. The principal

offerings are the following:—the Jaga, or Jagum, consecrated to the sun and the nine planets, is a burnt-offering, in order to obtain the holy fire, with which the funeral piles of departed Brahmans may be kindled, in order to exempt them from further penance after death, and translate them from the ashes to the courts of Brahma. It requires great preparations. A hundred learned Brahmans select a place, which must be consecrated by prayer and holy water; a large tent is then erected in the middle, and around it several small ones; in the large one is a square floor, from the centre of which rises a wooden pillar, with a cord fastened at the top, the two ends of the cord hanging down; around lie nine kinds of wood, particularly holy, of which also the priests hold each a piece in their hands. Pieces of arasa wood are then rubbed together till they take fire; after which a he-goat, or ram, without blemish, is brought into the circle, and various magic words whispered in his ear; after which he is strangled; his liver is taken out, washed with milk, besmeared with butter, and roasted by the sun and fire, but the animal itself is burned; the liver is divided among the Brahmans, and eaten; the high priest takes the sacred fire home with him. Homa, or Homan, is a sacrifice made to Agni, the god of fire; it is called, in distinction, *Druvayagna* (the divine sacrifice), and is offered on the occasion of all important undertakings. A purified Brahmin, clothed in white, takes a seat on a wooden stool, and repeats some *schloken* (stanzas); before him are placed a bell, a burning torch, and a vessel of liquid butter, or cocoa-nut oil; at his sides large banana leaves, on which the things to be sacrificed are deposited round the altar, e. g. eagle-wood, branches of the camphor tree, red sandal, musk, &c. This wood is set on fire, the bells rung over it, butter is poured into the fire, and then rice, plants, &c., are thrown in and burned, while prayers are repeated; several cocks are killed, and, reeking with blood, thrown into the air; an iron hook is then thrust through the back of some pious man, on which he is swung and borne about, amid acclamations, shouts, and benedictions. *Pidrajagna* is an expiatory offering for the deceased. *Bhudagagna* is an offering rendered to the spirits of evil. *Adithipugia* is the offering of united friends; in this rite, the image of the common deity is placed in the court of the house, strewed with flowers, amid the prayers of the two friends, and the feet of the stranger are washed. *Arika* is an offering of flowers for the happiness of souls. The *Mahabharata* (translated by Wilkins) is said to contain all the great mysteries of the religion of the Brahmans. (See the work of William von Humboldt, *Über die west. d. N. Bhagavad-Gita bekannte Epochen des Mahabharata* (Berlin, 1826) Poliers' *Mythologie des Indous* (1809) has too little credibility to be used as an authority. We refer the reader to the *Mœurs, Institutions et Cérémonies des Peuples de l'Inde*, by the abbé Dubois, who lived upwards of thirty years among the Indian castes (Paris, 1825, 2 vols.). There is a sect among the Hindoos, which styles itself *Saouder* (worshippers of God), rejects the worship of idols, and offers nothing but religious hymns to the Divine Being. These Indian Quakers are required to abstain from luxury, from dancing, wine, tobacco, and are forbidden to offer violence to man or beast; they are enjoined to practise industry, and giving in secret, and prayer; they are regular and obedient citizens, and mostly merchants.

INDIAN CHRONOLOGY. See *Epoch*.

INDIAN CORN. See *Maize*.

INDIAN OCEAN; that great body of water, which has Asia on the north, the Sunda isles and New Holland on the east, Africa on the west, and the Antarctic ocean on the south. The cape of Good

Hope, in 21° 27' E. lon., and the southern extremity of Van Diemen's Land, 147° 26' E. lon., may be considered its extreme limits from east to west. Its length, from north to south, is about 2400 leagues; its breadth varies from 2200 to 1200 leagues. Its principal gulfs are the Red sea, the Arabian sea, and the bay of Bengal. Its islands are Ceylon, Madagascar, the Laccadives, Maldives, Socotra, Andaman, Nicobar, the Isles of France and of Bourbon, Kerguelen's Land, &c. Numerous rocks, and coral reefs, render the navigation dangerous. The Ganges, Burrampooter, Irawaddy, Indus, Euphrates, empty the accumulated waters of Southern Asia into the Indian ocean. The trade-winds prevail here between the tropic of Capricorn and the 10th degree of south latitude; to the north of this region the monsoons are felt.

INDIAN RUBBER. See *Caoutchouc*.

INDIANS; a name common to the aborigines of the American continent. We can give no opinion respecting their origin. The only hypothesis on this subject, founded on any better evidence than conjecture, is that America was peopled by the way of Beering's strait. It is certain that an easy communication has existed between the two continents at this point for several centuries. However, arguing merely from this fact, it is as easy to prove that the old world received its inhabitants from the new, as the contrary. With the exception, perhaps, of the Esquimaux, all the Indians have the same physical characteristics. The bronze or copper colour, the straight, coarse, black hair, the hazel eyes, the high cheek bones and erect form, are common to them all. There is, indeed, some difference in the stature of different tribes. The Osages are very tall, and the Shoshonees are below the middle stature. Each race, and, indeed, each tribe, has its peculiar physiognomy. To a European or Anglo-American, all Indians look alike; but one accustomed to them can distinguish the tribes with almost unerring certainty. Thus a Dahcotah is as readily distinguished from a Chipeway or a Winnebago by his features as his dress. Yet the difference is not so great as to induce a belief that all the tribes are not descended from the same stock. The Esquimaux of Greenland and the eastern part of the continent differ from the red Indians in complexion, stature, and in the position of the eyes, which are set obliquely in their orbits. As we go eastward, along the northern shore of America, we find the Esquimaux as tall as other races of men. After passing the mouth of Mackenzie's river, they are found to blend with the Indians in every particular, so that it is hard to say where the Esquimaux become Indians, or where the Indians become Esquimaux. As low on the coast of the Pacific as Nootka sound, the natives have some characteristics of the Esquimaux race. Whether these people be of the same stock as the Indians or not, it is almost certain they have a common origin with the savages of the northern shores of the old continent. Perhaps the diminutive stature of the eastern Esquimaux is owing to their mode of living, which continually exposes them to every hardship and privation. There is yet another point of difference between this people and other Indians: from cape Farewell to Beering's strait, the Esquimaux speak one language, and derive almost their whole subsistence from the sea; whereas the red Indians never resort to fishing where they can do otherwise, and speak a great variety of dialects, even when the language of the several tribes is radically the same. Considering the Esquimaux as Indians, a brief description of them will not be amiss. The average height of those in Greenland and the eastern part of America is beneath five feet. They are deficient in physical strength, and the muscle of

even the young and strong men is not prominent or well developed. The necks of the men are small and shrivelled; those of the women are well proportioned. Distended abdomen is universal among them, but corpulence is not common. Both sexes dress alike. Their dress consists of a jacket, with a hood, a pair of breeches which reach below the knee, and an enormous pair of boots, all of seal skin. The jacket has one flap before and another behind, both of which hang nearly to the ground. These habiliments, doubled, or even trebled, are their protection in winter and summer. Sometimes these garments are made of other materials. The clothing of the children does not differ from that of adults. Their principal articles of food are train oil and the flesh of seals and walrus. These animals are watched for hours on the ice, and finally despatched with spears. In summer, the Esquimaux kill a few reindeer, and, in districts where they are found, musk oxen. They also attack and destroy the polar bear. Their only arms are spears, and bows and arrows, all or most of which weapons are rudely constructed of pieces of bone and fragments of wood, fastened together and tipped with ivory. As their country produces no wood, they are compelled to resort to such means. In winter, they reside in huts made of snow, which are lighted and warmed by lamps. Their summer habitations are tents of skins, which are supported by the bones of marine animals and reindeer's horns. When they travel in winter, they transport their effects on sledges made of bone, and drawn by dogs. Procuring food is the sole duty of the men, but all other labours devolve on the women. Both sexes are equally expert in the management of canoes, which are made of seal skins, stretched on a frame of wood or bones. One tribe of Esquimaux, discovered by captain Ross in the north-eastern part of Baffin's bay, have no canoes, or any means of floating excepting on pieces of ice. The Esquimaux have the same rambling propensity which distinguishes other Indians, with this difference; they prefer the most desolate and inhospitable regions. They have no settlements or fixed places of habitation, but there are several mustering points, at which they assemble at certain stated times: Igloolik, the mouth of the Coppermine, and the mouth of the Mackenzie, are some of them. There is no marriage ceremony among the Esquimaux. Children are betrothed in infancy. Bigamy is common, but a man seldom has more than one wife at a time. Sometimes they select wives for themselves. Divorces depend on the pleasure of the parties, and are very common. Children are also adopted, and the connexion binds the parties as firmly as the ties of blood. Like other Indians, they are very fond of their children, whom they never chastise or correct. This kindness is not reciprocated by the children, who abandon their parents whenever they become burdensome. The Esquimaux are superstitious, and have priests who pretend to hold intercourse with the invisible world. The gods of their worship are many. Where they have had little or no intercourse with the whites, the Esquimaux are scrupulously honest. They never touch each other's property without permission. Yet they are envious to a degree scarcely credible. The possession of any article draws on a man the ill will of all his neighbours. Gratitude is absolutely unknown to them. In sickness or danger, the husband cares not for the wife, nor the wife for the husband. Parents receive no attention in their old age, and parents deny their children the rites of sepulture. Selfishness is the ruling principle of the Esquimaux. Their hospitality, like that of other savages, is universal. Strangers are received in the kindest manner; every want is removed, every accommodation

supplied. This good quality is balanced by a propensity to falsehood. Their lies are chiefly confined to calumnies against each other, and false accusations. This mostly prevails among the women. They are not quarrelsome nor ferocious, nor are they cowardly. In pain, cold, starvation, disappointment, or when ill treated, their equanimity is admirable. They seldom dispute or quarrel, and revenge is scarcely known among them. Yet they venture to sea on loose cakes of ice, and attack the polar bear without the least hesitation.

The Indians in the northern parts of North America are divided into several great families. The Algonquin or Chippeway race is one of the two most numerous now in existence. All the tribes of New England were Algonquins, if we may take identity of language, manners, and customs, as a proof of the fact. The vocabulary of the Narraganset tongue, recorded by Roger Williams, proves them to have been a branch of the Algonquin stock. The Mohicans, considered the progenitors of the other tribes in New England, spoke the same tongue. The tribes in Maine claimed the same origin. The Delaware, or Lenni Lenape, were of the same family, and their language has been pronounced, by competent judges, the most perfect existing. The Iroquois, or Six Nations, once draded from the Atlantic to the Mississippi, are Algonquins. This tribe did not still does extend from the mouth of the St Lawrence to the Mississippi, and thence northward to Great Slave lake; for so far do the Nayheewawk or Kaskeneaux extend their rambles. On the western side of the Mississippi is another great Indian family, viz., the Sioux or Dahcotah. The Dahcotah proper inhabit the country on the west side of the Mississippi, north of the Wisconsin, to the sources of the Mississippi. Their territory extends westward to the Missouri. This tribe speak a language radically distinct from that of the Algonquin race. Their origin is unknown, and their own traditions are at variance on this point one with another. One account, and the most probable, represents them as having been driven from the confines of Mexico by the Spaniards. The branches of this tribe are the Winnebagoes, the Otoes, the Ioways, the Missouries, the Assiniboins, the Omahaws, the Kanzas and the Osages. All these tribes speak dialects of the Dahcotah tongue. The Assiniboins are known also by the names of Ossinneboins, Ossinneboilles, Stone Indians, and Hohays. This last is the name they give themselves. Their secession from the Dahcotah stock is recent, and its cause is as follows: One Dahcotah had eloped with the wife of another, and taken refuge in the tents of his kindred. The husband, going to reclaim his spouse, was slain by the adulterer. His father and uncles, demanding blood for blood, according to the laws of the tribe, were slain also. The quarrel of the dead was taken up by their relatives, and the kindred of the guilty persons were defeated with loss. A series of bloody encounters ensued, till at last the party of the original aggressors were worsted and separated from the tribe. They were called Hohays, and have been at war with the Dahcotahs till within a few years. They now roam over the plains, from the Saskashawin to the Missouri, where they live by hunting the buffalo. The principal resort is about Devil lake. As well as the Indians farther north-west, they have few guns, and other articles, the manufacture of the whites. The number cannot be ascertained, but it is certain they exceed a thousand fighting men. A tradition of the Winnebagoes says they were driven from the front of Mexico by the Spaniards, towards whom they entertain a hereditary hatred to this day. Within centuries, they were united with the Otoes, Ioways,

and Missouries. They are a fierce, warlike people, and have more national spirit than any other Indians on the frontier. The Otoes and Missouries, now united, are renowned among the tribes of the Missouries for their bravery. They can muster about 300 men. The Ioways still dwell on the Mississippi. They have from 100 to 200 men. The Osages are divided into three tribes, and can boast over 1000 warriors. The Kansas inhabit the plains about the heads of the Arkansas and Red rivers. Their number is unknown. The Omahaws live high up the Missouri. Besides these tribes, there dwell on the Mississippi, between the river Des Moines, the Wisconsin, and the Missouri, the Sacs and Foxes, a branch of the Chippeway tribe. They speak the Chippeway tongue, and number above 1000 men. On the Missouri are the Pawnees, divided into three tribes, of which the Arikarees are a branch. They live by hunting the buffalo, and are said to have a language of their own. The Mintarees or Bigbellies, the Mandans, the Crows, and the Blackfeet, also live on the Missouri, and each is said to have a language of its own. Their numbers are unknown. The Shoshonees live between the head waters of the Missouri and Columbia rivers. They are almost constantly on horseback, and are at war with the lower tribes of the Missouri. On the Columbia river are the Chobmanish, the Skilloots, Echeloots, Multnomahs, Clatsops, and other tribes. Their haunts and numbers are unknown. They live by fishing as well as hunting, and differ in manners and customs from the tribes east of the Rocky mountains. They are neither so well fed or clad. Most of these tribes have the practice of flattening the heads of infants between boards, whence the general name of Flatheads. They have some commerce with ships on the north-west coast. Nothing is known of the languages of any of these people. In the south of the United States, there are four tribes, viz., the Chickasaws, Choctaws, Cherokees, and Creeks. All these have made some progress in civilisation. The Cherokees have a written and printed language, said to be radically different from all others. They number about 15,000 souls. (See *Tullakees*.) The Choctaws and Chickasaws are more numerous. North of Great Slave lake is another family of Indians, among which are the Chippewyans, the Copper Indians, the Dog Ribs, and the Hare Indians. (The subjoined cut represents the usual costume of these tribes.) The three first speak the same language. They all wage war with the Esquimaux. The Dog Ribs are also oppressed and persecuted by the Copper Indians, who rob them, and take from them their women, whenever an opportunity occurs. These tribes live by hunting the reindeer, chiefly, and by fishing in the winter. Their morals and manners are below the standard of their southern neighbours, and their number is very small. There are also the remnants of some tribes residing within the limits of



the United States, viz., the Mohegans, the Delawares, the Shawanoes, the Senecas, the Oneidas, the Fankashaws, and some others. Most of these live by agriculture, as well as the chase. Intercourse with the whites has not been advantageous to them. They have learned all the vices of the civilised state without its virtues. Besides all these, there is a tribe in the interior of Newfound-

land, who have shunned all intercourse with the whites. The Indians have uniformly resisted all attempts to civilize them where they could support themselves by the chase. Some few tribes, such as the Southern Indians and the remnants of the Six Nations, having been hemmed in by the whites, and circumscribed in their limits, so as to be unable to live by hunting, have turned to agriculture for subsistence. But such a departure from the habits of savage life is not to be found where there has been a possibility of supporting life by other means. The hospitality of Indians is among their most striking qualities. In any of the tribes, a stranger is received with the utmost respect and attention. On his arrival, he is served with the best in the wigwam, seated on the best seat, and treated with the utmost respect and attention. His person and property are considered sacred. He may remain as long as he pleases in a wigwam, without any questions being asked, and retire unopposed. Feasts are made for him, and, though his appetite may be satisfied, to refuse any thing set before him gives great offence. With all, or almost all, the Indian tribes, the sole care of the men is to provide food. The labour is the exclusive lot of the women. The use of the axe or hoe is considered beneath the dignity of the male sex. It belongs to the females to plant corn, to make and mend garments and mocassins, to build, to pitch tents, cut wood, bring water, to tend horses and dogs, and, on a march, to carry the baggage. The women do not murmur at this, but consider it a natural and equitable distribution of family cares. But they are regarded as an inferior race, and often transferred as property. Polygamy is general. Every man has as many wives as he can support, and, in marriages, the will of the bride is seldom or never consulted. A man addresses himself, indirectly to the parents of his intended wife, and her fate depends on their will. The custom of dowry is reversed among Indians. The man makes certain presents to the parents of his wife, instead of receiving a portion with her. The marriage ceremony is always very simple, and, in most tribes there is none at all. Adultery is punished by cutting off the nose, or otherwise mutilating the offending female; sometimes, though rarely, with death. In some tribes, this crime is regarded as a venial fault, and, in very many, the husband lends his wife to a friend without opposition on her part. Divorces are frequent, and at the pleasure of the contracting parties. In such cases, the wife is usually left to provide for the children as she may. It is no uncommon thing to see an Indian woman who has been five or six times repudiated before she finally settles in life. In some tribes, especially those of Dahcotah origin, it is held the duty of each man to marry all the sisters of a family, and to have as many wives as he can support. In most tribes, and we believe in all, incest is held in abhorrence. Instances of devoted attachment are not uncommon. All Indians of whom we have any knowledge, believe in one Supreme God and the immortality of the soul. They attribute all good and all power to the Supreme Being. Many tribes also believe in the existence of an intelligent evil principle, whose ill offices they endeavour to avert by prayer and sacrifice. They never ask the Supreme for any thing, but merely return thanks for benefits received, saying that he is the best judge of what is for their advantage. They believe in many subordinate deities, two of whom reside in the sun and moon. They attribute supernatural powers to all serpents, especially rattlesnakes, and will kill no animal of the genus. Even the eel escapes on account of his resemblance. They pay religious honours to rocks and venerable objects. They believe that brutes have immortal souls as well

as men, and, in short, that all animated nature teems with spirits. In their belief, sorcery is blended with the healing art, and their priests are also physicians and jugglers. These priests practise feats of sleight of hand with all their religious ceremonies; but, with a few exceptions, they have no power or influence over the multitude. The future state of the Indians is a material paradise, where they will follow the same occupations, and enjoy the same delights, they have experienced in this world. They have also a vague idea of future punishment for sins committed in the body. Among the superstitions of the Algonquin and Dahcotah tribes, is a very singular one: A man is sometimes devoted, by his parents or himself, to a life of ignominy. In this case, he dresses like a woman, and performs all female avocations. He associates with women only, and sometimes takes a husband. He is held in utter contempt by all, though his condition be not of his own choice. This condition is frequently owing to a dream of his parents, while he is yet unborn. In many tribes, men have what they call their *medicine bags*. These are filled with bones, feathers, and other rubbish. To the preservation of their medicine bags they attach much importance. Besides this, each holds some particular animal in reverence, which he calls his *medicine*, and can by no means be induced to kill, or eat when killed, for fear of some terrible misfortune. Moreover, the Indians leave tobacco, worn out clothing, and other articles, on rocks, as sacrifices to invisible spirits. The above is nearly the sum of their religion. It is, we believe, impossible to estimate the number of the North American Indians with any degree of accuracy. It is, however, very small throughout, in proportion to the extent of territory; for a hunting people cannot be very numerous. Their wars, of which we have heard so much, do not materially affect them. They are carried on in detail, by small parties, and, consequently, are not very destructive. They very seldom give quarter, but when a prisoner is spared, he is sure of being adopted by the conquering tribe. The tribes who inhabit the prairies go to war on horseback, and their weapons are spears and bows and arrows. Those who inhabit the forests are generally armed with guns. Their courage is moral and passive rather than active. They think it cowardice to be affected by calamity, or to give way to passion or feeling. To be always ready and willing to die, and to suffer whatever may befall with constancy, is their idea of the perfection of courage. As to government among them, there is none. They have no laws; but there are customs, which every individual scrupulously observes. In cases of murder, for instance, the rule is, blood for blood, and the homicide rarely shuns the penalty of his deed. They have chiefs, but the power of these is limited to persuasion, and they can command no one. Sometimes a chief becomes such in virtue of his achievements in war, or his wisdom. In some tribes, there is something like hereditary rank; but even then, authority does not descend in a direct line. The son of a chief is often set aside, to make room for one more worthy. But in war, implicit obedience is given to the commands of the leader. The tribes that inhabit the prairies all live by hunting the buffalo, mostly on horseback. Those who dwell in wooded countries hunt deer and smaller animals. The more primitive savages are the poorest, but at the same time the least dependent, for they have few wants, and can supply those few without assistance. Those who live nearer the whites have more of the comforts of life, but are no whit more civilized or happier, for their enjoyments are not multiplied. We may say that, if the Indian trade of the Mississippi were interrupted for five years, all the aborigines of that

quarter would be in danger of perishing, as they depend on the whites for clothing and weapons. The Indians can never be dangerous, as there is no union among them. They have no letters, unless we count a few rude hieroglyphics as such. On the whole, we may speak of them as a brave, reckless, generous, and unfortunate people. The Indians in the southern part of North America have been subject to the Spaniards, and are now dependent on the republics of Mexico and Guatemala, if we except some tribes, such as the Apaches, the Nabajons, and the Mosquitos. The independent tribes of the north of Mexico resemble those of the United States in manners and customs. Living by the chase and plunder, and provided with fleet horses, they harass the frontiers and hunters. On the coasts of Yucatan, the Indians live by hunting, fishing, and the trade in dye-wood. The extensive ruins of cities in Mexico prove the former extent of its population. The natives possess great muscular force, are well formed, and live to a great age. It is difficult to form an opinion of the character of a people which has been so long subjected to the most cruel oppression. At the time of the conquest, the rich inhabitants of Mexico fell a prey to the rapacity of the Spaniards, and the Aztec priests, who were the depositaries of all the historical knowledge of the country, became the victims of fanaticism. The Mexican Indians are grave, melancholy, and silent; their music and dances display the same character. The Indians of South America do not differ materially, in their physical characteristics, from those of the northern half of the continent, and, except those of Peru and Chile, are without civilisation. In the extensive regions formerly belonging to Spain, they may be divided into two classes,—the independent Indians, or *Indios bravos*, and those who have been reduced to submission. The former are entirely strangers to agriculture; support themselves by the chase, and fishing; some of them eat ants, lizards, and even a kind of mud. The natives of Peru, descendants of the ancient inhabitants of the empire of the Incas, have, as well as those of Colombia, been emancipated, since those countries have delivered themselves from the Spanish yoke. Their services were important during the war of the colonies against the mother country. They are, in general, well made and healthy. They are superstitious, wearing amulets on different parts of their bodies. They make bitter, intoxicating drink from a certain plant, and use poisoned arrows. Their villages are fortified, and, in case of necessity, they retire into the mountains. The Indians of Chile are mostly independent. Their features are regular, and their complexion is not very dark. Their principal wealth consists in herds of oxen, horses, and guanacos. They pay little attention to agriculture, being nomadic in their habits. They worship the stars, and recognize a Great First Cause. Astronomy is not unknown to them. (See *Americanism*.) In Buenos Ayres, the missions of the Jesuits succeeded, in some degree, in civilizing the natives. The tribes of Brazil are numerous; many of them are entirely savage, and both sexes go naked. Their manners and habits are very similar to those of the North American tribes. They live by the chase, which, with war, is the only occupation of the men; the women are the labourers, beasts of burden, servants, &c., of these warlike tribes. Their mutual wars are very sanguinary, and many of them are constantly at war with the Portuguese, while others have entered into friendly connexions with them. Some of them have adopted fixed habitations, and practice a rude kind of agriculture; some of them make vases of clay, gather cotton, and make cloth. At the southern extremity of South America are the Pat-

gonians (q. v.), who have large, nervous frames, a dark complexion, a flat nose, high cheek bones, and a large mouth. The stories of their gigantic size have not been confirmed by the later voyagers. (See *Patagonians*.) The principal tribes of South America are the Galibis, Maynas, Omaguas, Maypans, Yaurures, Guajiros, Guajaribes, Carabais, Macas, Otomacs, Quixos, Tamanacs, Chunchos, Piros, Chirenes, Moxos, Chiquitos, Abiponians, Guaranis, Puelches, Guicouros, Araucanians, Toupis, Toupitambas, Mariats, Puris, Patagonians, &c.

LANGUAGES OF AMERICAN INDIANS.\* The aboriginal languages of the continent of America exhibit various phenomena, a knowledge of which will be found indispensable to a just theory of speech. It is true, that we have long had our systems of universal grammar, or, in other words, our theories of language, as deduced from the small number of European and Asiatic tongues, which have been hitherto studied by the learned; but from the rapid advances made, during our own age, in comparative philology, particularly by means of the unwritten dialects of barbarous nations, there is reason to believe that some important modifications are yet to be made in our theories. Of the various unwritten languages, those of the American continent present us with many new and striking facts. We are informed by Mr Du Ponceau, from whose writings we derive nearly all that is known of the general characteristics of these dialects, that there appears to be "a wonderful organization, which distinguishes the languages of the aborigines of this country from all the other idioms of the known world."<sup>†</sup> That eminent philologist was the first to discover, and make known to the world, the remarkable character, which pervades, as far as yet known, the aboriginal languages of America, from Greenland to Cape Horn. In the period which has elapsed since the publication of his Report, by the American Philosophical Society at Philadelphia, in 1819, all the observations which have been made on Indian languages, at that time unknown, have confirmed his theory; or, as he expresses it, his general result of a multitude of facts collected with care. This result has shown, that the astonishing variety of forms of human speech, which exists in the Eastern hemisphere, is not to be found in the Western. There we find no monosyllabic language, like the Chinese and its cognate idioms; no analytical language, like those of the North of Europe, with their numerous prepositional and auxiliary monosyllables; no such contrast is exhibited as that which is so striking to the most superficial observer, between the complication of the forms of the Basque language and the comparative simplicity of its neighbours, the French and Spanish; but a uniform system, with such differences only as constitute varieties in natural objects, seems to pervade them all; and this genus of human languages has been called (by Mr Du Ponceau) *polysynthetic*, from the numerous combinations of ideas which it presents in the form of words. It is also a fact, says the same learned writer, that the American languages are rich in words, and regular in their forms, and that they do not yield, in those respects, to any other idiom. These facts have attracted the attention of the learned in Europe as well as in that country; but they have not been able entirely to remove the prejudices that have been so long enter-

tained against the languages of savage nations. The pride of civilization is reluctant to admit facts like these, because they show how little philosophy and science have to do with the formation of language. A vague idea still prevails, that the idioms of barbarous tribes must be greatly inferior to those of civilized nations, and reasons are industriously sought for, not only to prove that inferiority in point of cultivation, which would readily be admitted, but also to show that their organization is comparatively imperfect. Thus a learned member of the Berlin academy of sciences—baron William von Humboldt—in an ingenious and profound Dissertation on the Forms of Languages (*Ueber das Entstehen der grammatischen Formen und ihren Einfluss auf die Ideen-Entwicklung*, Berlin, 1822), while he admits that those of the American Indians are rich, methodical, and artificial in their structure, yet would not allow them to possess what he there called genuine grammatical forms (*ächte formen*), because, says he, their words are not inflected, like those of the Greek, Latin, and Sanscrit, but are formed by a different process, which he calls *agglutination*; and, on that supposition, he assigned to them an inferior rank in the scale of languages, considered in the point of view of their capacity to aid the development of ideas. We have understood, however, that this very learned writer has, upon further examination, yielded, in a great degree, if not entirely, to the opinions of Mr Du Ponceau. He certainly must have found, in the Delaware Grammar of Mr Zeisberger, since translated and published by the Philosophical Society, under the editorial care of Mr Du Ponceau, those inflected forms which he justly admires, and that the process, which he is pleased to call *agglutination*, is not the only one which our Indians employ in the combination of their ideas and the formation of their words. This peculiar process of compounding words, as Mr Du Ponceau observes, in his preface to Zeisberger's Delaware Grammar, is undoubtedly the most curious thing to be found in the Indian languages. It was first observed by Egedé, in his account of Greenland; and Mr Heckewelder explains it at large, in the eighteenth letter of his Correspondence with Mr Du Ponceau (*Transactions of the Historical and Literary Committee of the American Philosophical Society*). By this means, says governor Colden, speaking of the Iroquois, these nations can increase the number of their words to any extent. None of the languages of the old world, that we know of, appear to possess this prerogative; a multitude of ideas are combined together by a process, which may be termed *agglutination*, if the term be found agreeable, but which, whatever name it may receive, is not the less a subject of real wonder to the inquiring philologist. One example, from the Delaware language, will convey a clear idea of this process of compounding: "and I have chosen," says Mr Du Ponceau, "this word for the sake of its euphony, to which even the most delicate Italian ear will not object. When a Delaware woman is playing with a little dog or cat, or some other young animal, she will often say to it, *Kuligatchis*, which I would translate into English—*Give me your pretty little paw*, or, *What a pretty little paw you have!* This word is compounded thus: *k* is the inseparable pronoun of the second person, and may be rendered *thou* or *thy*, according to the context; *uli* (pronounced *oolce*) is part of the word *wulit*, which signifies *handsome* or *pretty*; it has also other meanings, which need not be here specified; *gat* is part of the word *wichgat*, which signifies a *leg*, or *paw*; *schis* (pronounced *sheess*) is a diminutive termination, and conveys the idea of *littleness*: thus, in one word, the Indian woman says, *thy pretty little paw!* and, according to the gesture

\* The subject of this article is so interesting, in regard to general and comparative philology, and so little is generally known respecting it, that it has been thought proper to allow it a space more than proportionate to the usual length of philological articles in this work.

† Report of the historical and literary committee to the American Philosophical Society at Philadelphia, drawn up by Mr Du Ponceau, 1819.

which she makes, either calls upon it to present its foot, or simply expresses her fondling admiration. In the same manner, *pildpe* (a youth) is formed from *pilsit* (chaste, innocent,) and *lendpe* (a man). It is difficult to find a more elegant combination of ideas, in a single word, of any existing idiom. I do not know of any language, out of this part of the world, in which words are compounded in this manner. The process consists in putting together portions of different words, so as to awaken, at the same time, in the mind of the hearer, the various ideas which they separately express. But this is not the only manner in which the American Indians combine their ideas into words. They have also many of the forms of the languages which we so much admire—the Latin, Greek, Sanscrit, Slavonic, &c.—mixed with others peculiarly their own. Indeed, the multitude of ideas, which in their languages are combined with their verbs, has justly attracted the attention of the learned in all parts of the world. It is not their transitive conjugations, expressing, at the same time, the idea of the person acting and that acted upon, that have excited so much astonishment. These are found also, though not with the same rich variety of forms, in the Hebrew and other Oriental languages. But, when two verbs, with intermediate ideas, are combined together into one, as in the Delaware *n'achingiwi-poma* (I do not like to eat with him), which the abbé Molina also declares to exist in the idiom of Chile—*iduancloclavin* (I do not wish to eat with him)—there is sufficient cause to wonder, particularly when we compare the complication of these languages with the simplicity of the Chinese and its kindred dialects in the ancient world. Whence can have arisen such a marked diversity in the forms of human speech? Nor is it only with the verbs that accessory ideas are so curiously combined in the Indian languages; it is so likewise with the other parts of speech. Take the adverb, for instance. The abstract idea of time is frequently annexed to it. Thus, if the Delawares mean to say—if you do not return—they will express it by *mattatsch gluppiqueue*, which may be thus constructed: *matta* is the negative adverb *no*; *tach* (or *tah*) is the sign of the future, with which the adverb is inflected; *gluppiqueue* is the second person plural, present tense, subjunctive mood, of the verb *glup-pieckten*, to turn about, or return. In this manner, every idea meant to be conveyed by this sentence, is clearly understood. The subjunctive mood shows the uncertainty of the action; and the sign of the future tense, coupled with the adverb, points to a time not yet come, when it may or may not take place. The Latin phrase *nisi veneris* expresses all these meanings; but the English *if you do not come*, and the French *si vous ne venez pas*, have by no means the same elegant precision. The idea which, in Delaware and Latin, the subjunctive form directly conveys, is left to be gathered in the English and French, from the words *if* and *si*, and there is nothing else to point out the futurity of the action. And, where the two former languages express every thing with two words, each of the latter requires five, which yet represent a smaller number of ideas." Mr Du Ponceau, then, justly asks, to which of all these grammatical forms is the epithet *barbarous* to be applied? This very cursory view of the general structure of the Indian languages, exemplified by the Delaware, will at least convince us, that a considerable degree of art and method has presided over their formation.

Mr Du Ponceau has summed up the general results of his laborious and extensive investigations of the American languages, including the whole continent, from Greenland to cape Horn, in three propositions—"1. that the American languages in general are rich in words and in grammatical forms, and that, in their

complicated construction, the greatest order, method, and regularity prevail; 2. that these complicated forms, which I call *polygynthetic*, appear to exist in all those languages, from Greenland to cape Horn; 3. that these forms appear to differ essentially from those of the ancient and modern languages of the old hemisphere." In North America, he selected for investigation the three principal mother tongues, namely, the Karalit (or language of Greenland and the Esquimaux), the Delaware, and the Iroquois; in Middle America, the Poconchi (spoken in Guatemala,) the Mexican proper, and the Tarascan dialect; in South America, the Caribbee and Araucanian languages. For the purpose of obtaining general results like those above stated, it was not necessary or useful, in the first instance, to go into minute details, nor to confound the reader by an extensive display of numerous idioms; but to take the widest possible range, so as to adduce examples from quarters the most remote from each other. In this manner, we can take a commanding position, assume our general rule, and call for exceptions. These and other results, when first announced, appeared so extraordinary in the languages of "savages," that superficial theorists, who relied upon their own visionary speculations, and mere practical men, who trusted implicitly to the loose information of illiterate Indian interpreters, boldly and arrogantly called in question the correctness of them. The learned author and his venerable friend, the reverend Mr Heckewelder, who first drew the public attention to this subject, were most unceremoniously treated, the former as an enthusiast, whose feelings had outrun his judgment, and the latter, as at best an innocent ignoramus, and very near, if not quite, a downright impostor, in regard to a language which he had studied forty years. Mr Du Ponceau repelled the unworthy insinuations by an appeal to facts, with a forbearance and dignity, and, we may add, a knowledge of his subject, which must have been felt by his adversaries as the severest of reproofs. The learned author, denying that he was an enthusiastic or exclusive admirer of the Indian languages, founded his arguments, in reply, upon incontrovertible facts, stated by missionaries and other writers of our own time; but, if he had thought it worth the pains, he was well aware, that proofs of the same kind might have been found in very ancient writers, whom even his adversaries would not have suspected of enthusiasm in philology; and these proofs ought to have been well known to these adversaries, and ought, in candid minds, to have repressed the unreserved insinuations to which we allude. We shall give an example or two from the earlier writers.

The extraordinary capacity of compounding words, which is so remarkable in the Indian languages, was remarked upon so long ago as the time of the celebrated New England missionary, called *apostle Eliot*; who, in his *Grammar of the Massachusetts Indian Language* (first published at Cambridge, New England, in 1666, and republished at Boston, in 1827), thus speaks of it: "This language doth greatly delight in compounding of words for abbreviation, to speak much in few words, though they be sometimes long, which is chiefly caused by the many syllables which the grammar rule requires, and suppletive syllables, which are of no signification, and curious care of euphonic." Again; speaking of that very remarkable feature of these languages, the want of the verb *to be*, Eliot says: "We have no complete distinct word for the verb substantive, as the learned languages and our English tongue have, but it is made a regular composition, whereby many words are made verb substantive;" of which he gives an example corresponding to the modes of formation existing in

these languages at the present day: "The first sort of verb substantives is made by adding any of these terminations to the word—*yeuoo, aoo, ooo* (i. e., *yeuoo, a oo, o oo*)—with due euphonia; and this is so, be the word a noun, as *wosketomp-o oo* (he is a man), or adverb, as *wompigeu-oo* (it is white), or be the word an adverb, or the like."

As to the copiousness of these languages, Mr Du Ponceau observes, that it has been said, and will be said again, "that savages, having but few ideas, can want but few words, and therefore that their languages must necessarily be poor;" to which opinion he replies by this appeal: "Whether savages have or have not many ideas, it is not my province to determine: all I can say is, that, if it is true, that their ideas are few, it is not less certain that they have many words to express them. I might even say, that they have an innumerable quantity of words; for, as Colden justly observes, they have the power of compounding them without end." As a further proof, he adds the fact, that Mr Zeisberger's dictionary of one of the Iroquois languages—the *Onondago* (in German and Indian)—consists of seven quarto manuscript volumes, equal to 1775 full pages of writing, consisting of German words and phrases, with their translation into Indian; upon which he justly remarks, "that there are not many dictionaries of this size; and, if this is filled, as there is no reason to doubt, with genuine Iroquois, it is in vain to speak of the poverty of that language."

We add one more testimony of an ancient date, respecting the North American dialects. It is that of the celebrated Roger Williams, who was distinguished for his knowledge of the Indian languages. So long ago as 1648, he published his valuable little work (reprinted by the Rhode Island Historical Society, 1827), called "A Key into the Language of America," that is, of New England; and, in describing his work, he says, "The English for every Indian word or phrase stands in a straight line directly against the Indian; yet sometimes there are two words for the same thing, for their language is exceeding copious, and they have five or six words sometimes for one thing." The same copiousness is found to exist in the languages of Middle America, as was made known to the European world, long ago, by Clavigero, in his History of Mexico; and also in the languages of the southern part of our continent, as will be found in the valuable History of Chile, by the abbé Molina. We must content ourselves with barely referring to these works on the present occasion, as our principal object is the languages of North America; but in regard to those of Middle and South America, the reader will find, in the works here cited, and in some others, a thorough refutation of the strange opinions of speculative writers, who have presumptuously passed judgment upon a subject, before they had the means of becoming acquainted with it, and decried what they could not comprehend.

We are not yet possessed of sufficient data for determining how many principal stocks, or families of languages, there are in North America. Mr Jefferson, in his Notes on Virginia, upon information which is admitted to be very imperfect, has hazarded an opinion, that they are very numerous; and then he proceeds, from this assumed state of facts, to draw an inference in contradiction of the received opinion of the Christian world as to the age of the earth. His reasoning, which has been too hastily adopted into some popular works in general use, is as follows: "But, imperfect as is our knowledge of the tongues spoken in America, it suffices to discover the following remarkable fact. Arranging them under the radical ones to which they may be palpably traced,

and doing the same by those of the red men of Asia, there will be found, probably, twenty in America for one in Asia of those radical languages, so called; because, if they were ever the same, they have lost all resemblance to one another. A separation into dialects may be the work of a few ages only; but for two dialects to recede from one another till they have lost all vestiges of their common origin, must require an immense course of time, perhaps not less than many people give to the age of the earth. A greater number of those radical changes of language having taken place among the red men of America, proves them of greater antiquity than those of Asia." This celebrated writer, however, was in a great error as to what he assumes to be a "remarkable fact." The "radical" languages of this continent, instead of being so numerous as he supposes, will be found, so far as we may judge from the actual, not assumed, facts of which we are now possessed, to be very few in number. The various dialects of North America, for example, eastward of the course of the river Mississippi, appear to be all reducible to three, or, at most, four principal stocks, namely—1. the Karalit, or language of Greenland and the Esquimaux; 2. the Iroquois; 3. the Lenape, or Delaware; and 4. the Floridian stock. With the Esquimaux begin those comprehensive grammatical forms, which characterize the American languages, and form a striking contrast with those of the opposite European shores, in Iceland, Denmark, Sweden, and other countries, indicating strongly, that the population of America did not originally proceed from that part of the old continent. The Iroquois dialects are spoken by the Six Nations, the Wyandots or Hurons, and other tribes towards the north. The Lenape, or Delaware stock, is the most widely extended of any of the languages spoken eastward of the Mississippi. It is found in different dialects, through the extensive regions of Canada, from the coast of Labrador to the mouth of Albany river, which falls into Hudson's bay, and from thence to the Lake of the Woods; and it appears to be the language of all the people of that country, except the Iroquois, who are by far the least numerous. Out of Canada, few of the Iroquois are found. All the rest of the Indians, who now inhabit this country, to the Mississippi, speak dialects of the Lenape stock. When the Europeans arrived here, these Indians were in possession of all the sea coast from Nova Scotia to Virginia. Hence, as we are told, they were called *Wapanachki*, or *Abenakis* (men of the East), and, by La Hontan, and some other writers, *Algonkins*. In the interior of this range of the sea coast, also, we find dialects of the Lenape. The Floridian stock, as its name indicates, comprehends the languages spoken on the southern frontier of the United States.

Of all these languages, the Delaware, in the north and the Cherokee, in the south (the latter being at present classed under the Floridian stock), are the best known to us—the former, by means of Mr Du Ponceau's correspondence with Mr Heckewelder, and by his edition of Mr Zeisberger's Delaware Grammar; and the latter, by means of the missionary establishment in the Cherokee country, as well as from the newspaper printed by the natives themselves, who have made greater advances in civilization than any other Indian nation of the north. We shall accordingly illustrate the general subject of this article by examples from these languages, which, being of two entirely different stocks, will give as much information on this subject as the general reader will desire, and as will be consistent with the plan of our work. We shall follow the order of our own grammars.

1. The *Article*. In Eliot's ancient Grammar of the Massachusetts' dialect, and in Zeisberger's Gram-

mar of the Delaware, before cited, no mention is made of the article as a part of speech; but Mr Du Ponceau's investigations led him to the conclusion that they possessed one, as he particularly stated, in his notes on the new edition of Eliot's Grammar; and this was confirmed by Mr Heckewelder, whose letter on the subject is there published. The article, which is *mo*, or *m'*, is used for the English *a* and *the*; but it is not frequently employed, because the words are sufficiently understood without it. In the Cherokee, we do not find that any distinct word is used for our *a* and *the*; but, where required, they use a word equivalent to the numeral *one*, and the demonstrative pronouns *this*, *that*, agreeably to the original use and nature of the words which we now call *articles*.

2. *Nouns*.—(a) *Cases*. The Indians have no declensions, generally speaking; that is, the nouns are not declined by inflections, as in Latin and Greek. In the Delaware, however, according to Mr Zeisberger, in two cases, the vocative and ablative (which last Mr Du Ponceau calls the *local case*), there is an inflection. The nominative case is simply the name of the thing, as in English; *lenno* (man), *sipu* (river).<sup>\*</sup> The genitive is expressed by placing the noun so employed immediately before that which is used in the nominative, and sometimes by prefixing the inseparable pronoun of the third person, *wo*; as we say in English, *John his book* (to be explained under the head of *Pronouns*), for *John's book*; *Getannitowit quisall* (God's son); *Nihillatquonk wtanglowcagan* (the Lord's death), in which last example, *anglowcagan* signifies *death*, *w* is the inseparable pronoun *his*, and the *t* is inserted for the sake of euphony. The dative case is expressed by inflections in the verbs, and by prefixes and suffixes, as will be explained hereafter; as, *nemilan* (I give [to] him); *milup* (he gave [to] him); *ndellup* (I said [to] him). The accusative is likewise expressed in a similar manner; *n'dahoala* (I love him); *Getannitowit n'quitayala* (I fear God; literally, God I fear him). The vocative is expressed (in the Delaware) by the termination *an*, and by *enk*, when coupled with the pronoun *our*; as *Nihillalan* (O Lord); *wetochemelenk* (O, our father);—the ablative or local case, by the suffixes *ink* and *unk*, and expresses *in*, *in the*, *on*, *out of*; as *utenink n'da* (I am going to, or into, town); *utenink noom* (I am coming from, or out of, town); *wachtshunk noom* (I come from the hill); *ochunk* (at his father's).—(b) *Numbers*. The singular, in general, has no particular inflections to distinguish it from the plural, except in the third person, where it ends in *l*, but most commonly in *wall* (in the Delaware). The plural is variously inflected; there is a singular number combined with the plural, as in *our father*, *my fathers*, and also a double plural, as in *our fathers*. Substantives are generally combined with the inseparable possessive pronoun, which, in the singular, is *n* for the first person, *k* for the second, and *w* or *o* for the third. Example: singular, *nooch* (my father); singular with plural, *noochena* (our father); double plural, *noochenana* (our fathers). The duplication of a syllable, as *nana* in the first person, *wawa* in the second, and *wawawall* in the third, indicates the double plural. So in the second person, *kooch* (thy father); *koochuwa* (your father); *koochuwawa* (your fathers), &c. In speaking of deceased persons, the plural form *naninga* is used, as *nochena* (our father); *nochenaninga* (our deceased fathers). But the subject of the numbers of nouns requires a further remark to explain a striking feature in these languages. Some of them, as the Guaraneese, in South America,

have only a singular number, and are destitute of a distinct form for the plural, to express which they use either the word *heta* (many), or the numerals themselves. On the other hand, some, as, for example, the Cherokee, have not only the singular and plural, but a dual also, like the Greek and other languages of the Eastern continent; while a third class, as the one last mentioned, have not only the singular, dual, and common unlimited, or indefinite plural of the European languages, but also an additional plural, which some writers have denominated the *exclusive plural*, some the *particular*, and some the *limited plural*. We shall illustrate this by some examples. In the Delaware language, our plural *we* is expressed by *niluna* and *kiluna*; and, in verbs, the initial letters *n* or *k* prefixed denotes them respectively; as, *k'pendameneen* means, generally, *we have heard*, or *we all have heard*, without intending to allude to a particular number of persons; but *n'pendameneen* (the *n* from *n-iluna*) means *we*, in particular (we who constitute our family, nation, select company, &c.); but when no discrimination is intended, the form *kiluna*, or its abbreviation *k'*, is used; as *k'iluna e-lenape-wa* (we the Indians), meaning *all Indians*. We shall have occasion to recur to this subject in our remarks on the verbs.—(c) *Gender*. There are no inflections to denote the masculine, feminine, or neuter genders: but by a very curious and abstract classification, nouns are ranked under two very general classes, *animate* and *inanimate*. To the former belong animals, trees, and all plants of a large growth, while annual plants and grasses belong to the latter class. The masculine and feminine, when it becomes necessary, are distinguished, generally, by words equivalent to *male* and *female*, or *he* and *she*, in English.—(d) *Diminutives*. In the Delaware, these are formed by the suffix *tit* in the class of animate nouns, but by *es* in the inanimate: *lenno* (a man), *lennotit* (a small man); *wikwam* (a house), *wikwames* (a small house); and, in speaking of a pretty little animal, the termination *is* or *this* is used; *mamatis* (a fawn, or little deer); *kuligatshis* (thy pretty little paw), which last example we have before employed to illustrate the mode of compounding words.

3. *Adjectives*. There are not many of these; for those words which, in English, are adjectives, are, in these languages, verbs; and, although not inflected through all the persons, yet they have tenses; and *c* is, doubtless, in this qualified sense that doctor Edwards is to be understood, when he says, of one of the Delaware dialects, "The Mobegans have no adjectives in all their language, unless we reckon numerals, and such words as *all*, *many*, &c., adjectives." We have noticed this remark of Edwards, because it has often been quoted in European publications, and erroneous inferences have been drawn from it respecting the philosophy of language. The same remarks may be applied to the Cherokee language. Degrees of comparison are generally, but not universally, expressed by some word equivalent to *more* or *most*. Numerals may also be classed among adjectives. Few Indians are accustomed to calculate to any great extent; but their languages afford the means of so doing, as well as ours, and since the intercourse of Europeans with them, they have got more into the habit.

4. *Pronouns*.—(a) *Personal Pronouns* are *Separable* or *Inseparable*, but are more frequently used as the latter form, examples of which are above given, under the head of the *Nouns*. When two pronouns are employed in verbs, the last, or the pronoun governed, is expressed (in Delaware) by an inflection, as will be seen under the head of *Conjugation of the Verbs*. The personal pronoun, moreover,

<sup>\*</sup> The reader will, in all these examples, give the vowels the foreign sounds; thus *lenno* is to be pronounced *lennee*; *sipu*, *seepoo*, &c. The *ch* is guttural as in German.

combines itself with other parts of speech, as, with the conjunction *also*; *nepe* (I also); *kepe* (thou also), &c. One further peculiarity in the separable pronouns deserves notice. In conformity, as it should seem, with the general classification of Indian words into *animate* and *inanimate*, the personal pronoun has only two *modes*, as they may be called, the one applicable to the animate, and the other to the inanimate class; thus the separable pronoun of the third person, *nekama*, answers both to *he* and *she* in English. If we wish to distinguish between the sexes, we must add to it the word *man* or *woman*; thus, in Delaware, *nekama lenno* means *he*, or *this man*, and *nekama ochweu* means *she*, or *this woman*.—(b) *Demonstrative and Relative Pronouns*. The modes of expressing these by various forms and combinations are numerous. Doctor Edwards, it is true, says the Mohegan dialect has no relative corresponding to our *who* and *which*; but Eliot, in the Massachusetts language, and Zeisberger, in the Delaware, give this relative as a distinct, independent part of speech.

3. *Verbs*. The Indian languages exhibit almost an endless variety in their verbs. Every part of speech may be compounded with the verb in various ways. Its fundamental idea, as Mr Du Ponceau observes, in his notes to Eliot's Grammar, is that of existence, *I am, sum*. This abstract sentiment receives shape and body from its combination with the various modifications of being, by action, passion, and situation, or manner of existing; *I am loving, loved, sleeping, awake, sorry, sick*, which the Latin tongue more synthetically expresses by one word, *amo, amor, dormio, vigilo, contristor, aegroto*. Next come the accessory circumstances of person, number, time, and the relations of its periods to each other; *I am, we are, I was, I shall be, I had been, I shall have been*. Here the Latin again combines these various ideas in one word with the former ones; *sum, es, sumus, eram, ero, fueram, fuero*. Sometimes it goes further, and combines the negative idea in the same locution, as in *nolo*. This, however, happens but rarely; and here seem to end the verbal powers of this idiom. Not so with those of the Indian nations. While the Latin combines but few adjectives under its verbal forms, the Indians subject this whole class of words to the same process, and every possible mode of existence becomes the subject of a verb. The gender or genus—not, as with us, a mere division of the human species by their sex, but of the whole creation, by the obvious distinction of animate and inanimate—enters also into the composition of this part of speech, and the object of the active or transitive verb is combined with it by means of those forms which the Spanish-Mexican grammarians call *transitions*, by which one single word designates the person who acts, and that which is acted upon. The substantive is incorporated with the verb in a similar manner; thus, in the Delaware, *n'matshi* (I am going to the house); *nihilla pawi* (I am my own master, I am free); *tipiquihilleu* (the time approaches [*prope est hora*]); *nachpiki* (I am so naturally); *nipahwi* (to travel by night [*nocturnus*]); *pachsunnumen* (to divide [*something*] equally), &c. What shall we say, then, of the reflected, compulsive, meditative, communicative, reverential, frequentative, and other circumstantial verbs, which are to be found in the idioms of New Spain and other American Indian languages? The mood is lost in the contemplation of the multitude of ideas thus expressed at once, by means of a single word, varied through moods, tenses, persons, affirmations, negation, transitions, &c., by regular forms and cadences, in which the strictest analogy is preserved.—(c) *Substantive Verbs*. It has been already ob-

served, that the Indian languages are generally destitute of the verb *to be*. In the Delaware, according to Zeisberger's Grammar, the verbs *to have* and *to be* do not exist, either as auxiliaries, or in the abstract substantive sense, which they present to an European mind. The verb *to have* always conveys the idea of *possession*, and *to be*, that of a *particular situation* of the body or mind; and they may each be combined, like other verbs, with other accessory ideas. Thus the verb *to have*, or *possess*, is combined with the substantive or thing possessed, as follows: *n'damochol* \* (I have a canoe); *nowikin* (I have a house). The idea conveyed by the substantive verb *to be*, is expressed by various combinations with other parts of speech; as, *ni n'damochol* (it is my canoe). It is also combined with the relative pronoun *awwen* (who); thus, *evenikia* (who I am), *evenikit* (who he is), &c.—(b) *Animate and Inanimate Verbs*. We have already alluded to this distinction of the verbs; but this requires illustration by examples. The two verbal forms, *nolhatton* and *nolhalla*, in the Delaware, both mean *I possess*; but the former can only be used in speaking of the possession of things inanimate, and the latter of living creatures; as, *nolhatton achquivanissal* (I have or possess blankets); *cheeli kawu n'nolhatlowi* (many things I am possessed of; or, I possess many things); *wak neche-naunges nolhallau* (and I possess a horse). The letter *u*, at the end of the verb *nolhallau*, conveys the idea of the pronoun *him*; so that it is the same as if we said, *and a horse I possess him*. Again, in the verb *to see*, the same distinction is made; as, *lenno newau* (I see a man); *taholens newau* (I see a bird); but, in the case of an inanimate object, they say, for example, *wikwam nemen* (I see a house); *amochol nemen* (I see a canoe), &c. It is the same with other verbs, such, for example, as we call *neuters*: thus they say, *icka-shingieshin n'dallemous* (there lies my beast); but, on the other hand, *icka shingiesh-en n'tamahican* (yonder lies my hatchet or tomahawk). The *i* or *e*, in the last syllable of the verb, as here used in the third person, constitutes the difference which indicates, that the thing spoken of has or has not life.—(c) *Adjective Verbs*. This name is given by Mr Zeisberger to a description of words, respecting whose proper classification, he had much doubt. On the one hand, he found that there were in the Delaware language, pure adjectives, which receive different forms when employed in the verbal sense; such as *wulit*, *wulik*, *wulisso* (good, handsome, pretty); *wulissu* (he, she, or it, is good, pretty, or handsome), and several others. But these are not very numerous. A great number of them are impersonal verbs, in the third person singular of the present tense; while others are conjugated through various persons, moods, and tenses. He decided, at last, to include them all in a list, which Mr Du Ponceau has called *adjective verbs*, in analogy with the name of another class, denominated *adverbial verbs*, which are formed by, or derived from adverbs. Examples: *guneeu*, long (it is); *guneeu*, it was long; *machkeu*, red (it is); *machkeep*, it was red, &c.—(d) *Adverbial verbs*. These are formed from adverbs; as, from *shingi* (unwillingly), they form the verb *shingilendam* (to dislike, to be against the will or inclination); from *shacki* (so far, so long) is formed *shackoochen* (to go so far off and no further).—(e) *Irregular Verbs*. These are chiefly of the class which we call *impersonal*; but they do not all belong to it. Of those which are called *irregular*, in the ancient and modern languages of Europe, that is,

\* The apostrophe in the word *n'damochol* indicates a *sheva* or mute vowel. Eliot, in his Massachusetts Grammar, denotes it by the English short *u*: *nuttappin* for *n'dappin*. (Du Ponceau.)

verbs whose different tenses and moods appear to have sprung from different roots—as in Latin, *sum, eram, fui*; in French, *aller, je vais, j'irai*; and in English, *I go, I went*—there are no examples in Zeisberger's Grammar of the Delaware, and probably there are none in that language. Mr Heckewelder, after giving an example of a Delaware verb, adds this remark: "In this manner, verbs are conjugated through all their moods and tenses, and through all their negative, causative, and various other forms, with fewer irregularities than any other language that I know of." The same regularity exists in the languages of South America. Molina says of that of Chile, "What is truly surprising in this language, is, that it contains no irregular noun or verb. Every thing in it may be said to be regulated with a geometrical precision, and displays much art with great simplicity, and a connexion of well ordered and unvarying grammatical rules, which always make the subsequent so much depend upon the antecedent, that the theory of the language is easy, and may be learned in a few days." This fact, as Mr Du Ponteau justly observes, is worthy of attention. Mr Zeisberger, in his list of irregular verbs, gives one example, *aski* (must), which has neither persons nor tenses, used thus: *aski n'witshema* (I must help him); *aski nayunap* (I was forced to carry him), &c. —(f) *Specific or concrete Character of the Indian Verbs.* It is a remark of Mr Heckewelder, that the Indians are more in the habit of using particular or specific, than generic terms. Their verbs, accordingly, partake of this character, and have numerous forms to express the particular or specific thing, which is the object of the action denoted by the verb. Thus, in the Delaware, *n'mitzi* (I eat), in a general sense; *n'mamitzi* (I am in the act of eating at this moment); the one is used in the indefinite, and the other in the definite sense; and a good speaker will never employ the one for the other. Again; *n'mitzihump* (I have eaten), *metshi n'gishimitzi* (I am come from eating), *n'dappi mitzi* (I am returned from eating). These three expressions are all past tenses of the verb *I eat*, and mean *I have eaten*; but a person just risen from table will not say, *n'dappi mitzi*; this can only be used after leaving the place where he has been eating, in answer to a person who asks him where he comes from. The word *n'dappi* is connected with the verb *apatshin* (to return). And here, in passing, another distinction is to be noticed; if the place from which the person comes is near, he says, *n'dappi*; but if distant, *n'dappa*. A more full illustration of this peculiarity of Indian words, was given some years ago by an example from the Cherokee language, published in the Massachusetts Historical Collections, vol. x., p. 121, of the second series, which we here extract. In that language, says one of the missionaries (the reverend Mr Buttrick), thirteen different verbs are used to express the action of washing: thus (pronouncing the words as in English)—

<i>Kuturo,</i>	I am washing myself, as in a river.
<i>Kulstula,</i>	— my head.
<i>Tastula,</i>	— another person's head.
<i>Kukusqud,</i>	— my face.
<i>Terkusqud,</i>	— another's face.
<i>Takarsula,</i>	— my hands.
<i>Tatseyasula,</i>	— another's hands.
<i>Takasula,</i>	— my feet.
<i>Tatsyaksula,</i>	— another's feet.
<i>Takungkula,</i>	— my clothes.
<i>Tatsyungkula,</i>	— another's clothes.
<i>Takutyn,</i>	— dishes, etc.
<i>Taygura,</i>	— a child.
<i>Kuweli,</i>	— went.

This difference of words prevents the necessity of mentioning the object washed. So it is with the verbs *love, take, have, leave, die, weigh*, &c. The same thing is found in the languages of South and Middle America. Gilij informs us, that "to express *I wash my face*, requires a different word from that which would express washing *my feet, my hands*, &c.; and the old age of a man, woman, and of a garment, the heat of the body, of a fire, of the sun, and of the climate, have each a particular word. Agnis; in our language, and in many others (European), there is but one word, *mangiare*, for to eat; but in the Tamanacan, there are several, according to the thing eaten; *jacura* is, to eat bread, or the cassava; *jemeru* (to eat fruit, honey); *janeri* (to eat meat), &c. We add an example from the Delaware, which is suggested by the above remark of Gilij, on the word *old*. This word, as Mr Heckewelder observes, is used by us in the most general sense; we say, an *old man, old horse, old house, old basket*, &c. The Indians, on the contrary, vary their expressions, when speaking of a thing that has life, and of one that has not; for the latter, instead of the word *old*, they use terms which convey the idea, that the thing has lasted long, that it has been used, worn out, &c. Examples; *kikey* (old, advanced in years), applied to things animate; *chourey* or *chourey* (old by use, wearing), &c.; *kikyeilenno* (an old man, advanced in years); *kikéchum* (an old one, of the brute kind); *chowigwuan* (an old house), from *wikwan* or *wigwan*; *chowaxen* (old shoes), from *mawen* (moccasins or shoes); they say also, *pighillén* (torn by long use or wearing); *logihillén* (fallen to pieces), &c. The same remarks may be made on the word *young*; for instance, their general term for the *young*, the immediate offspring, is *mitshan*; *w'nitchanall* (his or her young or offspring, that have been born alive and suckled), and this applies to man, and beasts of the genus *mammalia*; but when they speak of the feathered kind, or when the young is produced from the egg by hatching, they say *aninshihillén*, plural *aninshihileisak*, barely implying that the animals are *young feathered creatures*. We return to the verbs. (g) *The positive, negative, reciprocal, and other Forms of the Verbs.* All the verbs in these languages may be conjugated throughout, in the positive or affirmative, and the negative forms; as, in the Delaware, *n'dappi* (I am there); *matta n'dappi* (I am not there); and, in an example given by Mr Zeisberger, we have a curious instance of the care taken to preserve precision in some cases: on the verb *nukilapewi* (I am free), he observes, that as this verb has the syllable *wi*, which, in general, indicates a negative form, its negative has *wiwi*. In the Massachusetts language, the negative form was made by interposing *oo* or *u* in the affirmative: as, *noowadchanumun* (I keep it), a tool, garment, &c.; negative, *noowadchanum-oo-un* (I keep it not); *noowacutem* (I am wise); *noowacutam-ooah* (I am not wise). The reciprocal form, in the Delaware, may be thus exemplified: Infinitive mood, *ahoalan* (to love); *n'dahoala* (I love him); reciprocal, infinitive, *ahoaltin* (to love one another); *n'dahoaltineen* (we love one another); and, negatively, *matta n'dahoaltinunween* (we do not love one another), &c. *Reflected form*, *n'dahowala n'hakey* (I love myself); *k'dahowala k'hakey* (thou lovest thyself), &c. *Relative form*, *claweyu* (as or what I say), from *n'dellowe* (I say). *Social form*, *wileen* or *wideen* (to go with), from *n'da*, or *n'ra* (I go). *Causative form*, *pommauchoshreen* (to make to live), from *pommauchin* (to live); *nihitlapuchero* (to make free), from *nihitlapewin* (to be free). *Continuous or habitual form*, *n'waculawallén* (I am always well or happy), from *nulamallén* (I am well or happy). *Adverbial form*, *epia* (where I am), from

*a'dippin* (I am there); infinitive, *achpin* (to be there). To these we add one other form, which, in the Massachusetts language, Eliot called the *instead form*, or *form advocate*; as, *koovadchanumwanshun* (I keep it for thee, I act in thy stead), from *koovadchanak* (I keep thee). He adds, that this form is of great use in theology, to express what Christ hath done for us; as, *n'uppoowonuk* (he died for me); *k'uppoowonuk* (he died for thee), &c.—(i) *Personal Forms or Transitions* are, in fact, the manner of conjugating and declining all the verbs of each of the preceding classes. The remarkable method of effecting this has been already alluded to; but it requires a further development, in order to make it plain and intelligible to those who are accustomed merely to the structure of the European languages. Mr Heckewelder, in his correspondence with Mr Du Ponceau, explains it, in the Delaware language, in the following manner; which, we may add, is conformable with the views given of it, a century and a half ago, by Eliot, in his Grammar of the Massachusetts dialect: "I do not mean," says Mr H. to speak here of the positive, negative, causative, and a variety of other forms, but of those which Mr Zeisberger calls *personal*, in which the two pronouns, governing and governed, are, by means of affixes, suffixes, terminations, and inflexions, included in the same word. Of this I shall give you an instance from the Delaware language. I take the verb *shoalan* (to love), belonging to the fifth of the eight conjugations, into which Mr Zeisberger has very properly divided this part of speech:

## INDICATIVE, PRESENT, POSITIVE.

<i>W'ahala, I love</i>	<i>Plural.</i>
<i>I'ahala, thou lovest</i>	<i>N'dahoalshinn, we love.</i>
<i>W'ahala, he loves</i>	<i>K'dahoalshinn, ye love</i>
<i>W'ahala, they love</i>	<i>Asholewak, they love.</i>

Now for the personal forms, in the same tense:

## First Personal Form.

<i>I.</i>	<i>Singular.</i>	<i>Plural.</i>
<i>I'ahamell, I love thee</i>		<i>K'dahoalshinn, I love you</i>
<i>S'ahala, I love him or her</i>		<i>N'dahoalawak, I love them.</i>

## Second Personal Form.

<i>THOU.</i>	<i>Singular.</i>	<i>Plural.</i>
<i>K'ahala, thou lovest me</i>		<i>K'dahoalshinn, thou lovest us</i>
<i>I'ahala, thou lovest him or her</i>		<i>K'dahoalawak, thou lovest them.</i>

## Third Personal Form.

<i>HE or SHE.</i>	<i>Singular.</i>	<i>Plural.</i>
<i>K'ahala, he loves me</i>		<i>W'dahoalshinn, he loves us</i>
<i>I'ahala, he loves thee</i>		<i>W'dahoalshinn, he loves you</i>
<i>W'ahala, he loves him</i>		<i>W'dahoalawak, he loves them.</i>

## Fourth Personal Form.

<i>WE.</i>	<i>Singular.</i>	<i>Plural.</i>
<i>K'dahoalshinn, we love thee</i>		<i>K'dahoalshinn, we love you</i>
<i>W'dahoalshinn, we love him</i>		<i>N'dahoalawak, we love them.</i>

## Fifth Personal Form.

<i>YE.</i>	<i>Singular.</i>	<i>Plural.</i>
<i>K'dahoalshinn, ye love me</i>		<i>K'dahoalshinn, ye love us</i>
<i>I'ahala, ye love him</i>		<i>K'dahoalawak, ye love them.</i>

## Sixth Personal Form.

<i>THEY.</i>	<i>Singular.</i>	<i>Plural.</i>
<i>K'dahoalshinn, they love me</i>		<i>N'dahoalshinn, they love us</i>
<i>I'ahala, they love thee</i>		<i>K'dahoalshinn, they love you</i>
<i>W'dahoalshinn, they love him</i>		<i>W'dahoalawak, they love them.</i>

In this manner, verbs are conjugated through all the moods and tenses, and through all their negative, causative, and various other forms, with fewer irregularities than any other language that I know of.\* We add an example from the Massachusetts language, as given by Eliot, who has used the English verb *to pay*, with the Indian inflexions, in order, as he expresses it, that "any may distinguish betwixt what is grammar, and what belongs to the word. And

remember (says he), ever to pronounce *pay*, because else you will be ready to read it *pau*. Also remember that *paum* is the radical word, and all the rest is grammar." The Indians, we believe, adopted the word *pay* into their language, as we adopt French and other foreign words into English.

## AFFIRMATIVE FORM.

## INDICATIVE MOOD.

## PRESENT TENSE.

<i>I.</i>	<i>First Singular.</i>
<i>Kup-paum-ush, I pay thee</i>	<i>Kup-paum-unumwo, I pay you</i>
<i>Nup-paum, I pay him</i>	<i>Nup-paum-og, I pay them.</i>
<i>THOU.</i>	<i>Second Singular.</i>
<i>Kup-paum-eh, thou payest me</i>	<i>Kup-paum-iman, thou payest us</i>
<i>Kup-paum, thou payest him</i>	<i>Kup-paum-og, thou payest them.</i>
<i>HE.</i>	<i>Third Singular.</i>
<i>Nup-paum-uk, he payeth me</i>	<i>Kup-paum-ukum, he payeth us</i>
<i>Kup-paum uk, he payeth thee</i>	<i>Kup-paum-ukou, he payeth you</i>
<i>Up-paum-uh, he payeth him</i>	<i>Up-paum-uh nah, he payeth them.</i>
<i>WE.</i>	<i>First Plural.</i>
<i>Kup-paum unumun, we pay thee</i>	<i>Kup-paum-unumun, we pay you</i>
<i>Nup-paum-oun, we pay him</i>	<i>Nup-paum-ounoog, we pay them.</i>
<i>YE.</i>	<i>Second Plural.</i>
<i>Kup-paum-imwo, ye pay me</i>	<i>Kup-paum-iman, ye pay us</i>
<i>Kup-paum-au, ye pay him</i>	<i>Kup-paum-og, ye pay them.</i>
<i>THEY.</i>	<i>Third Plural.</i>
<i>Nup-paum-ukwoog, they pay me</i>	<i>Nup-paum-ukumnoog, they pay us</i>
<i>Kup-paum-ukug, they pay thee</i>	<i>Kup-paum-ukoo-ng, they pay you</i>
<i>Up-paum-oub, they pay him</i>	<i>Up-paum-oub nah, they pay them.</i>

In consequence of this curious mechanism of the Indian verbs, as Dr Edwards has remarked, in his Observations on the Language of the Muhhekanew (Mohegan) Indians, they cannot say, *John loves Peter*, but must say, *John he-loves-him Peter*. Hence, when the Indians begin to talk English, they universally express themselves according to this idiom. It is further observable (he adds, in speaking of the Mohegan dialect, that the pronoun, in the accusative case, is sometimes, in the same instance, expressed by both a prefix and a suffix; as, *kthuwahunin* (I love thee); the *k* prefixed, and the syllable *in* suffixed, both unite to express, and are both necessary to express, the accusative case *thee*.\* Mr Heckewelder informs us, in explaining this curious structure of the Indian verbs, that the form expressive of the pronoun governed, is sometimes placed at the beginning; as in *k'dahoatell* (I love thee), which is the same as *thee I love*, for *k*, from *ki*, is the sign of the second person: sometimes, however, the governing pronoun is placed first, as in *n'dahoala* (I love him), *n* being the sign of the first person: one of the pronouns, governing or governed, is generally expressed by its proper sign, *n'* for the first person *I*, *k'* for *thou* or *thee*, and *w* for *he* or *him*; the other pronoun is expressed by an inflexion; as in *k'dahoalohhumo* (I love you); *k'dahoalineen* (thou lovest us); *k'dahoalawak* (thou lovest them). It will be here perceived, that the governing pronoun is not always in the same relative place with the governed.—(*k*) *Voices, active and passive.* The Indian verbs have an active and passive form; as, in Delaware, *n'dahoala* (I love), *n'dahoalgussi* (I am loved); in the Massachusetts dialect, *noovadchan* (I keep you), *noovadchanit* (I am kept). From this passive form, says Eliot, verbals are often derived; as, *wadchannitwunk* (salvation), &c.—(*f*) *Conjugations.* The verbs may also be classed under different conjugations, the number of which varies in the different dialects. In the Delaware, Mr Zeisberger and Mr Heckewelder

\* The reader should be apprized, that, in these and other examples from Delaware, the double consonants are used only to indicate that the preceding vowel is short, as in the German *immer*; and that the consonant is to be pronounced twice.

\* Mr Du Ponceau, following the Spanish-American grammarians, calls these personal forms *transitions*. Eliot called them the *prefix forms*, in contradistinction to the simple forms, in which the act related to inanimate objects.

\* The word *kthuwahunin*, in Mohegan, does not, at first view, appear to have an etymological affinity with the Delaware example above given, *k'dahoatell* (I love thee); but when we recollect, that the change of *i* into *n*, is a common distinction between these two dialects, and that *f* and *d* are constantly interchanged in languages, the affinity between these two words becomes more manifest.

made eight conjugations: the first ends in *in*, as *achpin* (to be there, in a particular place): the second, in *a*, as *n'da* (I go): the third, in *elendam*, and indicates a disposition of mind, as *wulelendam* (to be glad): the fourth, in *men*, as *n'pendamen* (I hear): the fifth, in *an*, as *ahoalan* (to love): the sixth, in *e* or *we*, as *n'dellowe* (I say): the seventh, in *in*, as *militin* (to give); it has no simple, active, or passive voice, and is only conjugated through the personal forms or transitions: the eighth, in *ton*, as *peton* (to bring); it has the simple active, but not the passive form, and has the personal indicative and subjunctive transitions. Their conjugations are as regular as those of any language that we know.—(m) *Tenses*. The writers on Indian grammar have usually made three tenses—present, past, and future; but, as Mr Heckewelder observes to Mr Du Ponceau, "You will be much mistaken, if you believe that there are no other modes of expressing actions and passions in the verbal form, as connected with the idea of time." This will be presently exemplified in some Indian verbs. The *present* and *preterite* require no particular illustration; but the *future* admits of a modification, which, to those who are conversant with the European languages only, is very remarkable. We take Mr Heckewelder's exemplification, abridged:

## INDICATIVE PRESENT.

## Positive Form.

N'dahoaltineen, we love one another  
K'dahoaltihhino, you love one another  
Ahoaltiwak, they love one another.

## Negative Form.

Matta n'dahoaltiwuneeen, we do not love one another  
Matta k'dahoaltiwihhino, ye do not love one another  
Matta ahoaltiwak, they do not love one another.

It is to be observed, that, in this negative form, *matta* (or *atta*) is an adverb, which signifies *no* or *not*, and is always prefixed; but it is not that alone which indicates the negative sense of the verb. It is also pointed out by *we* or *wi*, which is interwoven throughout the whole conjugation; the vowel which immediately precedes being sometimes changed for the sake of sound, as from *aholtawak* (they love each other) is formed *aholtawiwak* (they do not love each other). The reader will now readily understand the remarkable modification of the future tense above spoken of, which is a concordance in tense of the adverb with the verb. The future tense of the above negative example is—

Mattatah n'dahoaltiwuneeen, we shall or will not love each other  
Mattatah k'dahoaltiwihhino, you shall or will not love each other  
Mattatah ahoaltiwak, they shall or will not love each other.

Now, the termination *atah* or *tah*, in the verbs, indicates the future tense; but, by a peculiarity in these languages, it is sometimes attached to the verb, as in *ktahoaltiwitah* (thou shalt or wilt not love me), and sometimes to the adverb, as in the examples last above given, and to other parts of speech accompanying the verb. So they say, *mattatah n'dawei*, or *matta n'dawitah* (I shall not not go). Mr Heckewelder observes, that, in deciding which form to use, the ear is the best guide. The same thing is noticed by doctor Edwards, in the Mohegan dialect. In the Massachusetts language, the future was expressed by a word signifying futurity, added to the indicative mood; as *mos*, *pish* (shall or will). In addition to these three tenses, we find by Mr Zeisberger's Grammar, that in the Delaware, the subjunctive mood has only a pluperfect in the active and passive voices, but not otherwise.—(n) *Moods*. These have generally been made conformable to the corresponding divisions in our own language—indicative, imperative, subjunctive, infinitive, with the participial form. In the Delaware, Mr Zeisberger has also given what he (or his translator) calls the *local-rela-*

*tive* mood; as, indicative, *n'da* (I go); *local relative*, *eyaya* (where or whither I go). Eliot, in the Massachusetts language, makes five moods—indicative, imperative, optative, subjunctive, or suppositive, and indefinite, or infinitive. We conclude the subject of the Indian verb with an example of a conjugation, from the Delaware, by which the preceding observations will be more fully illustrated; adding only the just remark made by Eliot more than a century and a half ago—that "the manner of formation of the nouns and verbs have such a latitude of use, that there needeth little other syntax in the language." After this example from the Delaware, we shall give some parts of a conjugation from the Cherokee language, which belongs to an entirely different stock, and has some peculiarities still more extraordinary than those already given from other languages. (Our limits will not allow us to insert a whole conjugation of the verb, in its various modifications of the masculine, animate, affirmative, negative, and other forms. We shall therefore only give so much as will exhibit the personal forms or transitions, which have been above spoken of.

## AHOALAN, to love.

## PERSONAL FORMS (OR TRANSITIONS)—POSITIVE.

## FIRST TRANSITION.

## INDICATIVE MOOD

## Present.

K'dahoaltell, I love thee | K'dahoaltihhino, I love you  
N'dahoala, I love him | N'dahoaltiwak, I love them.

## Preterite.

K'dahoalemp, I loved thee | K'dahoaltihhinoemp, I loved you  
N'dahoalap, I loved him | N'dahoaltiwakemp, I loved them.

## Future.

K'dahoaleltah, I shall or will love thee | K'dahoaltihhinoeltah, I shall or will love you  
N'dahoaleltah, I shall or will love him | N'dahoaltiwakeltah, I shall or will love them.

## SUBJUNCTIVE MOOD.

## Present.

Ahoalanne, if or when I love thee | Ahoalanne, if or when I love you  
Ahoalacht, if or when I love him | Ahoalacht, if or when I love them.

## Preterite.

Ahoalanneemp, if or when I loved thee | Ahoalacht, if or when I loved you  
Ahoalacht, if or when I loved him | Ahoalacht, if or when I loved them.

## Pluperfect.

Ahoalanneemp, if or when I had loved thee | Ahoalacht, if or when I had loved you  
Ahoalacht, if or when I had loved him | Ahoalacht, if or when I had loved them.

## Future.

Ahoalachtah, if or when I shall or will love thee | Ahoalachtah, if or when I shall or will love you  
Ahoalachtah, if or when I shall or will love him | Ahoalachtah, if or when I shall or will love them.

## SECOND TRANSITION.

## INDICATIVE MOOD.

## Present.

K'dahoaltell, thou lovest me | K'dahoaltineen, thou lovest us  
K'dahoala, thou lovest him | K'dahoaltiwak, thou lovest them.

## Preterite.

K'dahoalemp, thou didst love me | K'dahoaltihhinoemp, thou didst love us  
K'dahoalap, thou didst love him | K'dahoaltiwakemp, thou didst love them.

## Future.

K'dahoaleltah, thou shalt or will love me | K'dahoaltihhinoeltah, thou shalt or will love us  
K'dahoaleltah, thou shalt or will love him | K'dahoaltiwakeltah, thou shalt or will love them.

## IMPERATIVE MOOD.

Ahoaltell, love thou me | Ahoaltineen, love thou us.

## SUBJUNCTIVE MOOD.

## Present.

Ahoaltineen, if or when thou lovest me | Ahoaltineen, if or when thou lovest us  
K'dahoalanne, if or when thou lovest him | K'dahoalacht, if or when thou lovest them.

*Preterite.*

Ahoal'yanap, if or when thou didst love me	Ahoaliyenkup, if or when thou didst love us
Ahoal'yanap, if or when thou didst love him	K'dahoalachtup, if or when thou didst love them.

*Pluperfect.*

Ahoaliyanpanne, if or when thou hadst loved me	Ahoaliyenkpanne, if or when thou hadst loved us
Ahoaliyanpanne, if or when thou hadst loved him	K'dahoalachtupanne, if or when thou hadst loved them.

*Future.*

Ahoaliyanetsh, if or when thou shalt or wilt love me	Ahoaliyenetsh, if or when thou shalt or wilt love us
Ahoaliyanetsh, if or when thou shalt or wilt love him	Ahoalachtitsh, if or when thou shalt or wilt love them.

THIRD TRANSITION.

PARTICIPLES.

Phaalit, he who loves me	Khoalquenk, he who loves us
Khoalit, he who loves him	Khoalquenk, he who loves you
	Khoalquenchit, he who loves them.

INDICATIVE MOOD.

*Present.*

N'dahoalgen, he loves me	W'dahoalgen, he loves us
K'dahoalgen, he loves him	W'dahoalgen, he loves you
W'dahoalgen, he loves him	W'dahoalgen, he loves them.

*Preterite.*

N'dahoalgenep, he loved me	N'dahoalgenap, he loved us
K'dahoalgenep, he loved him	K'dahoalgenap, he loved you
W'dahoalgenep, he loved him	W'dahoalgenap, he loved them.

*Future.*

N'dahoalachtsh, he shall or will love me	N'dahoalgenatsh, he shall or will love us
K'dahoalachtsh, he shall or will love him	W'dahoalgenatsh, he shall or will love you
W'dahoalachtsh, he shall or will love him	W'dahoalgenatsh, he shall or will love them.

SUBJUNCTIVE MOOD.

*Present.*

Ahoalite, if or when he loves me	Ahoalquenk, if or when he loves us
Ahoalite, if or when he loves him	Ahoalquenk, if or when he loves you
Ahoalite, if or when he loves him	Ahoalachtite, if or when he loves them.

*Preterite.*

Ahoalitup, if or when he loved me	Ahoalquenkup, if or when he loved us
Ahoalitup, if or when he loved him	Ahoalquenkup, if or when he loved you
Ahoalitup, if or when he loved him	Ahoalachtitup, if or when he loved them.

*Pluperfect.*

Ahoalitpanne, if or when he had loved me	Ahoalquenkpanne, if or when he had loved us
Ahoalitpanne, if or when he had loved him	Ahoalquenkpanne, if or when he had loved you
Ahoalitpanne, if or when he had loved him	Ahoalachtitpanne, if or when he had loved them.

*Future.*

Ahoalichsh, if or when he shall or will love me	Ahoalquenksh, if or when he shall or will love us
Ahoalichsh, if or when he shall or will love him	Ahoalquenksh, if or when he shall or will love you
Ahoalichsh, if or when he shall or will love him	Ahoalachtitsh, if or when he shall or will love them.

FOURTH TRANSITION.

INDICATIVE MOOD.

*Present.*

K'dahoalgen, we love thee	K'dahoalohummen, we love you
N'dahoalgen, we love him	N'dahoalowawuna, we love them.

*Preterite.*

K'dahoalgenep, we loved thee	K'dahoalohummenep, we loved you
N'dahoalgenep, we loved him	N'dahoalowawunep, we loved them.

*Future.*

K'dahoalgenatsh, we shall or will love thee	K'dahoalohummenatsh, we shall or will love you
N'dahoalgenatsh, we shall or will love him	N'dahoalowawunatsh, we shall or will love them.

SUBJUNCTIVE MOOD.

*Present.*

K'dahoalgen, if or when we love thee	Ahoalque, if or when we love you
Ahoalgenep, if or when we love him	Ahoalque, if or when we love them.

*Preterite.*

Ahoalgenup, if or when we loved thee	Ahoalekup, if or when we loved you
Ahoalgenup, if or when we loved him	Ahoalawawunup, if or when we loved them.

*Pluperfect.*

K'dahoalgenpanne, if or when we had loved thee	Ahoalekpanne, if or when we had loved you
Ahoalgenpanne, if or when we had loved him	Ahoalawawunpanne, if or when we had loved them.

*Future.*

Ahoalgenetsh, if or when we shall or will love thee	Ahoalquenksh, if or when we shall or will love you
Ahoalgenetsh, if or when we shall or will love him	Ahoalawawunetsh, if or when we shall or will love them.

FIFTH TRANSITION.

INDICATIVE MOOD.

*Present.*

K'dahoalgenhimo, ye love me	K'dahoalgenhimo, ye love us
K'dahoalgenhimo, ye love him	K'dahoalawawak, ye love them.

*Preterite.*

K'dahoalgenhimoep, ye loved me	K'dahoalgenhimoep, ye loved us
K'dahoalgenhimoep, ye loved him	K'dahoalawawakannik, ye loved them.

*Future.*

K'dahoalgenhimoatsh, ye shall or will love me	K'dahoalgenhimoatsh, ye shall or will love us
K'dahoalgenhimoatsh, ye shall or will love him	K'dahoalawawakattsh, ye shall or will love them.

IMPERATIVE MOOD.

Ahoalik, love you me	Ahoalinen, love you us
Ahoalik, love you him	Ahoalaten, love you them.

SUBJUNCTIVE MOOD.

*Present.*

Ahoalique, if or when ye love me	Ahoaliken, if or when ye love us
Ahoalique, if or when ye love him	Ahoalachtike, if or when ye love them.

*Preterite.*

Ahoaliqukup, if or when ye loved me	Ahoalikenkup, if or when ye loved us
Ahoaliqukup, if or when ye loved him	Ahoalachtikup, if or when ye loved them.

*Pluperfect.*

Ahoaliqukpanne, if or when ye had loved me	Ahoalikenpanne, if or when ye had loved us
Ahoaliqukpanne, if or when ye had loved him	Ahoalachtikpanne, if or when ye had loved them.

*Future.*

Ahoaliquketsh, if or when ye shall or will love me	Ahoalikenketsh, if or when ye shall or will love us
Ahoaliquketsh, if or when ye shall or will love him	Ahoalachtiketsh, if or when ye shall or will love them.

SIXTH TRANSITION.

INDICATIVE MOOD.

*Present.*

N'dahoalgenewo, they love me	N'dahoalgenhimo, they love us
K'dahoalgenewo, they love thee	K'dahoalgenhimo, they love you
W'dahoalgenewo, they love him	W'dahoalawawak, they love them.

*Preterite.*

N'dahoalgenewocap, they did love me	N'dahoalgenhimoep, they did love us
K'dahoalgenewocap, they did love thee	K'dahoalgenhimoep, they did love you
W'dahoalgenewocap, they did love him	W'dahoalawawakannik, they did love them.

*Future.*

N'dahoalgenewotsh, they shall or will love me	N'dahoalgenhimoatsh, they shall or will love us
K'dahoalgenewotsh, or K'dahoalgenetsh, they shall or will love thee	K'dahoalgenhimoatsh, they shall or will love you
W'dahoalgenewotsh, they shall or will love him	W'dahoalawawakattsh, they shall or will love them.

SUBJUNCTIVE MOOD.

*Present.*

Ahoalinken, if or when they love me	Ahoalquenk, if or when they love us
Ahoalinken, if or when they love thee	Ahoalquenk, if or when they love you
Ahoalinken, if or when they love him	Ahoalachtite, if or when they love them.

*Preterite.*

Ahoalinkup, if or when they loved me	Ahoalquenkup, if or when they loved us
Ahoalinkup, if or when they loved thee	Ahoalquenkup, if or when they loved you
Ahoalinkup, if or when they loved him	Ahoalachtitup, if or when they loved them.

*Pluperfect.*

Ahoalinkpanne, if or when they had loved me	Ahoalquenkpanne, if or when they had loved us
Ahoalinkpanne, if or when they had loved thee	Ahoalquenkpanne, if or when they had loved you
Ahoalinkpanne, if or when they had loved him	Ahoalachtitpanne, if or when they had loved them.

*Future.*

Ahoalinketsh, if or when they shall or will love me	Ahoalquenksh, if or when they shall or will love us
Ahoalinketsh, if or when they shall or will love thee	Ahoalquenksh, if or when they shall or will love you
Ahoalinketsh, if or when they shall or will love him	Ahoalachtitsh, if or when they shall or will love them.

We have remarked above, that the Indian verb has various modifications in different dialects. Those of the Delaware language have been sufficiently explained for the purposes of a general view; and we shall now further develop this curious subject, by exhibiting some of the peculiarities of the verb, in the Cherokee, or, more properly, *Tsalalakee* language, which belongs to an entirely different stock, and appears not to have the least etymological affinity with the Delaware, though its grammatical forms, generally speaking, are similar. In the course of our remarks, we shall occasionally advert to some of these points of resemblance, as well as to the difference between the two.—(a) *Numbers*. One of the peculiarities which first strikes us, is, that, besides the singular and two plurals, which are found in the Delaware, the Cherokee has also a proper *dual* number, both in its verbs and its nouns and pronouns. This dual is again subdivided, in its first person, into two distinct forms; the first of which is used when one of two persons speaks to the other, and says, for example, *We two* (i. e. thou and I), *will do such a thing*; the second form is used when one of two persons speaks of the other to a third person, and says, *We two* (i. e. he, and I) *will do such a thing*;\* for example, *inaluiha* (we two [i. e. thou and I] are tying it); *awataluiha* (we two [i. e. he and I] are tying it). So in the dual of the nouns and pronouns—*kinitawti*, our father (i. e. of thee and me); *awkinitawti*, our father (i. e. of him and me).—(b) *Pluralized or Multiplicative Form*. We mean by this denomination a form which indicates, that the action expressed by the verb is predicated of more than one object, or that the object of the verb is understood in the plural number. This modification is effected through all the tenses and numbers of the verb, by means of the common plural prefixes, *t*, *te*, *ti*; for example, *katitaw'ti* (I use a spoon); *tekatitaw'ti* (I use spoons); *tsigawewati* (I see [a thing]); *te tsigawewati* (I see [things]); *tsitigi* (I eat [thing]); *te tsitigi* (I eat [things]), &c.—(c) *Habitual or Periodical Form*. This is a form or conjugation, which expresses the being in the habit or custom of doing an act, or the doing of it regularly, periodically, &c.; for example, the common form of the verb *tsikeyu* means *I love him*; but, in the *habitual* form or mode, it is *tsikeyusaw* (I love him habitually, or, am in the habit of loving him); again, *galuiha*, in the common form, means *I tie, or am tying (it)*; but *galungihaw-i* means *I tie habitually, &c.* This form appears to correspond to what Mr Zeisberger, in the Delaware, calls the *continuous* form.—(d) *Conjugations*. These have not yet been sufficiently investigated to furnish us with a satisfactory classification. Some have

made them six in number.—(e) *Moods*. These have been described as five in number, corresponding to our indicative, imperative, subjunctive, potential (relating simply to power or ability) and infinitive; to which, in the opinion of the same writers, may be added a sixth, denoting *liberty to do an act*; but this classification is not yet sufficiently established.—(f) *Tenses*. An exact arrangement of the tenses, as well as the moods, is still wanting. Besides the three general divisions of present, past, and future, the Cherokee has several subdivisions of time; but these subdivisions have not yet been settled with much exactness, so as to enable us to compare them with the European verb. The perfect or past tense, however, has a very remarkable subdivision into two forms, which may, properly enough, be called *are perfects*. They are used not to mark a difference in time, but one of them indicates, that the person speaking was present, or an eye-witness, or conscious of the fact which he relates to have taken place; and the other, that he was absent, or not conscious, but has learned it since by information, discovery, &c. They might be denominated the *absential* and *presential* perfect, or, to avoid the double signification of the word *present*, we might call them simply the *perfect* and the *absent perfect*. The former ends in the nasal *u*, and the latter in *é* or *éi*. Examples: perfect, *u-hlu* (he killed him)—speaking of a killing when the speaker was present, or conscious of the fact; absent perfect, *u-hléi* (he killed him)—speaking of a killing when the speaker was absent. In the following conjugation of the present tense of a Cherokee verb, we are obliged to confine ourselves, as in the case of the Delaware example, to the *animate* form:

#### Conjugation of the Present Indicative of a Cherokee Verb.

##### INDICATIVE MOOD.

###### Present Tense.

NEUTER GENDER; THE OBJECT OF THE VERB BEING IN THE SINGULAR NUMBER.

Singular.		Plural.	
1 person.	Galuiha, I am tying it	1 & 2.	Inaluiha, ye and I are tying it
2 do.	Kaluiha, thou art tying it	1 & 3.	Awataluiha, they and I are tying it
3 (pres.)	Kaluiha, he is tying it	2.	Inaluiha, ye and I are tying it
3 (abs.)	Gahluha, he is tying it	3 (pr.)	Tsalaluiha, they and I are tying it
Dual.		Plural.	
1 & 2.	Inaluiha, thou and I are tying it	2.	Tsalaluiha, they are tying it
1 & 3.	Awataluiha, he and I are tying it	3 (abs.)	Awataluiha, they and I are tying it
2.	Inaluiha, ye two are tying it		

NEUTER, DUAL AND PLURAL; THE OBJECT PLURAL.

Singular.		Plural.	
1.	Tsalaluiha, I am tying these things	1 & 2.	Tsalaluiha, ye and I are tying them (these things)
2.	Tsalaluiha, thou art tying these things	1 & 3.	Tsalaluiha, they and I are tying these things
3.	Tsalaluiha, he is tying these things	2.	Tsalaluiha, ye are tying these things
Dual.		Plural.	
1 & 2.	Tsalaluiha, thou and I are tying these things	3 (pr.)	Tsalaluiha, they are tying these things
1 & 3.	Tsalaluiha, he and I are tying these things	3 (abs.)	Tsalaluiha, they are tying these things
2.	Tsalaluiha, ye are tying these things		

THE FIRST PERSON SINGULAR, OBJECTIVE.

Singular.		Plural.	
2.	Kalaluiha, thou art tying me	2.	Kalaluiha, ye are tying me
3 (pr.)	Tsalaluiha, he is tying me	3 (pr.)	Tsalaluiha, they are tying me
3 (abs.)	Kalaluiha, he is tying me	3 (abs.)	Tsalaluiha, they are tying me
Dual.		Plural.	
2.	Kalaluiha, ye two are tying me		

\* In writing the Cherokee words, in these examples, we are obliged to express the sounds by the best approximations that our English alphabet affords. The true sounds cannot, in every instance, be perfectly expressed by any other than the national syllabic alphabet, if we may so call it, which was invented by a native Cherokee, Guest, who was unacquainted with any other language than his own, but has analyzed that like a philosopher, and has devised an ingenious set of characters to denote all its elementary sounds, which he has reduced to eighty-five, and has denoted by that number of syllabic characters. We cannot employ this native alphabet here, as it would be wholly unintelligible without a good deal of study. To express the *nasal*, which is so common in the language, we have used the *u* in the description above, and *u* in the table of the verb; but the reader should be apprized, that the true sound is more like the French nasal *un*; like *un* in the first syllable of our words *uncle*, *hunger*, as heard the instant before the tongue touches the roof of the mouth. The short *u* is to be sounded, as in *but*, *nut*, &c. The *u* is to be sounded as in English. The other vowels are to have the foreign or Italian sound, as in *far*, *there*, *machine*, *note*, *rule*; and the consonants as in English and its kindred languages. In writing this language with our alphabet, the *g* and *k* are often used promiscuously; as are also the *d* and *t*. The double consonant *tl* is also used for the sound of *tl*.

\* We use the term *present* to denote the expectation and intention, on the part of the speaker, that the present person should hear. The term *absent* is used when the speaker has no such intention, or is indifferent respecting it.

† 1 and 2 persons; 1 and 3 persons. This is, perhaps, a proper distinction between these two forms in the dual and plural, either of which would be expressed by the first person in English.

‡ The dual and plural of the third person are always the same. Where the dual and plural numbers are given separately, in the other persons, we have omitted the dual of the third person, because it always accords with the plural.

§ Where a person is wanting, it will soon plainly be revealed from the nature of the case, as the first person in the instance.

## FIRST AND SECOND PERSONS DUAL, OBJECTIVE.

Collective.*	Distributive.*	
No. 1 (p.) Tiktinaluiba,	Teiktinaluiba,	He is tying thee and me
3 (du.) Oinaluiba,	Teginluiba,	He is tying thee and me.
No. 2 (p.) Tekhinaluiba,	Tekhinaluiba,	They are tying thee and me
3 (du.) Teginaluiba,	Teginaluiba,	They are tying thee and me.

## FIRST AND THIRD PERSONS DUAL, OBJECTIVE.

Collective.	Distributive.	
No. 1	Shimaluiba, Teiktinaluiba,	Thou art tying him and me
3 (p.)	Tashimaluiba, Tetawhinaluiba,	He is tying him and me
3 (du.)	Awginaluiba, Teawginaluiba,	
No. 2	Shimaluiba, Tekhinaluiba,	Ye two are tying him and me.
No. 3	Shiyaluiba, Tekhinaluiba,	Ye are tying him and me
3 (p.)	Kahinaluiba, Tekahinaluiba,	They are tying him and me.
3 (du.)	Oaginaluiba, Tegawginaluiba,	

In the same analogy, there are distinct forms for the English expressions, "he is tying you and me," "they are tying you and me," "thou art tying them and me," "he is tying them and me," "ye are tying them and me," "they are," &c.; "I am tying thee," "he is," &c., "he and I, they and I, they are," &c.; "I am tying you two," "he is," &c., "they are," &c.; "I am tying you (all in the plural), he is, we are, they are," &c.

*Adverbs, Prepositions, Conjunctions, Interjections.* These parts of speech require no particular remarks. According to some writers, all of them are to be found, as distinct parts of speech, in the Indian languages. But others, on the contrary, affirm that some of them are wanting in particular dialects; as, for example, it is said that the Cherokee has no *prepositions*; though they are to be found in the Delaware. —We conclude this article, which the novelty of the subject has led us to extend beyond our original plan, with a few miscellaneous remarks on the Cherokee language. The name of this nation, we would observe, is *Tsalaki* (pronounced nearly like *Tsullakee*), the last syllable of which is often written *gi*; the sound of this final syllable being neither exactly our *k* nor *g*, but an intermediate sound between those two. The English name *Cherokee*, it is supposed, was originally taken from one of the dialects in which the sound of *r* occurs, *Tsaraki* or *Tsurakee*. This name is believed not to be significant; but, if originally so, the signification of it is now lost. Some names of places among them have been much more changed than this national name, by our English orthography; as *Chattahoochee* from *Tsatuhutsi* (which may have been a Creek name), *Coosawatee* from *Kuawetiyi*; *Tellico* from *Taliqua*; *Hightower* from *Ilawa*, pronounced *Etawwa*, &c. Among the words of relationship, *brother, sister, &c.*, we find some terms that have a different signification, according as they are used by a man or woman. Example: the word *ungkilaw*, used by women, signifies *my brother*; but used by men, it means *my sister*; and the women exclusively use *ungkilaw* for *my sister*. It is said that this language has no relative pronoun. Like the Indian languages in general, it is highly compounded, or, as Mr Du Ponceau first very happily denominated this class, *polysynthetic*. There are, as we should naturally expect, therefore, but few monosyllables; some say, only fifteen in the whole, which are all interjections and adverbs, with the exception of one, the monosyllable *aa*, which is sometimes a pronoun and sometimes an adverb. Of its polysynthetic character we are able to give one very remarkable example, in a single word, which, for perspicuity's sake we have separated into its syllables; viz. *Wi-ni-taw-ti-gi-na-li-akaw-lung-ta-aw-ne-li-ti-se-ti*, which may be thus rendered — "They will by that time have nearly done printing. (favours) from a distance to thee and to-

me." It is said that the expression "*I ought to tie thee or him*," cannot be translated into Cherokee; and that the nearest approach they can make to it is, by a circumlocution, which means, "it would be right for me to tie, or it would be wrong for me not to tie," &c. It is also a feature of this language, that all its words end with a *vowel* sound; and this has enabled the 'philosopher' Guest to reduce its elementary syllables to so small a number as eighty-five, and to adopt a *syllabic* alphabet. Their neighbours, the Choctaws (more properly *Chaktaws*), having a language which is wholly different in this particular, have not been able to adopt a similar alphabet. —But we are admonished that our limits forbid any further details; and we only add, that this very general survey of these curiously constructed languages "will convince every reader," as is justly remarked by the American philologist, Mr Du Ponceau, "that a considerable degree of art and method has presided over their formation. Whether this astonishing fact (he adds) is to be considered as a proof—as many are inclined to believe—that this continent was formerly inhabited by a civilized race of men, or whether it is not more natural to suppose, that the Almighty Creator has endowed mankind with a natural logic, which leads them, as it were, by instinct, to such methods in the formation of their idioms as are best calculated to facilitate their use, I shall not at present inquire. I do not, however, hesitate to say, that the bias of my mind is in favour of the latter supposition, because no language has yet been discovered, either among savage or polished nations, which was not governed by rules and principles which nature alone could dictate, and human science never could have imagined." —For further information on this novel and curious subject, we refer our readers to the following as the most important works: *Historical and Literary Transactions of the American Philosophical Society* (vol. i. 8vo, Philadelphia, 1819); in which the reader will find the correspondence of Mr Du Ponceau and Mr Heckewelder, and also a copious list of manuscript grammars, dictionaries, and other works on the Indian languages; Eliot's *Grammar of the Massachusetts Indian Language*, first printed in 1666, Cambridge, New England, and reprinted in 1822, by the Massachusetts Historical Society, in their Collections; Edwards's *Observations on the Language of the Muh-hekannew* [Mohegan] *Indians*, first published in 1788, and reprinted by the same society in their Collections for 1823; Zeisberger's *Grammar of the Delaware or Lenape Language*, translated by Mr Du Ponceau, and published by the American Philosophical Society, in their Transactions, vol. iii.—the most important of all the recent publications, to the student; and the *Cherokee Phoenix*, a newspaper printed by natives of that nation, in their own and the English languages. The circumstance of the alphabet being syllabic, and the number of syllables so small, is the greatest reason why the task of learning to read the Cherokee language is so vastly easier than that of learning to read English. An active Cherokee boy may learn to read his own language in a day; and not more than two or three days are ordinarily requisite. To read is only to repeat successively the names of the several letters; when a boy has learned his alphabet, he can read his language.

INDIANA; one of the United States of America, bounded N. by lake Michigan and the Michigan Territory, E. by Ohio, S. by Kentucky, from which it is separated by the Ohio river, and W. by Illinois; lat. 37° 50' to 41° 45' N.; lon. 84° 45' to 88° W.; length from north to south 270 miles, breadth 220; square miles 36,000; population in 1800, 4651; in 1810, 24,520; in 1820, 147,178; and, in 1830,

\* Collective; Distributive. Collective, *shimaluiba* (he ties us two together); distributive, *teiktinaluiba* (he ties us two separately). This distinction refers to the object of the action, and runs throughout the dual and plural numbers of all the persons. The two forms, however, are not both in common use with every verb; but the one or the other, according as the nature of the action relates to objects, collectively or separately considered.

341,582, of whom, at the last period, 3562 were free blacks. There are, besides, about 4000 Indians of the Miami, Eel river, Pottawatamie, and Chippeway tribes. These Indians receive annuities from the United States, by virtue of treaties for the cession of lands, amounting to about £9000. The state is divided into fifty-nine counties. The seat of government is at Indianapolis, a town situated near the centre of the state, the settlement of which was begun in 1821. The largest town is Vincennes, which is situated on the river Wabash, and was originally settled by French emigrants from Canada. The other chief towns are Madison, Corydon, Jeffersonville, and Vevay. The principal rivers are the Ohio, which forms the southern boundary; the Wabash, which, after passing through the whole width of the state, forms part of its western boundary; the White river, the Whitewater, the Maumee, and the Petohra. A canal for uniting the navigable parts of the Wabash river with lake Erie, is proposed, and a grant of land for effecting the object has been made by congress, but the work is not begun. There are no mountains in Indiana; the country, however, is more hilly than Illinois, particularly towards the Ohio river. A range of hills, called the *Knoxs*, extends from the falls of the Ohio to the Wabash, in a south-west direction, which, in many places, produces a broken and uneven surface. North of these hills lie the *flat woods*, seventy miles wide. Bordering on all the principal streams, except the Ohio, there are strips of bottom and prairie land; both together from three to six miles in width. Between the Wabash and lake Michigan, the country is mostly champaign, abounding alternately with woodlands, prairies, lakes, and swamps. A range of hills runs parallel with the Ohio, from the mouth of the Great Miami to Blue river, alternately approaching to within a few rods, and receding to the distance of two miles. Immediately below Blue river, the hills disappear, and there is presented to view an immense tract of level land, covered with a heavy growth of timber. North of the Wabash, between Tippecanoe and Ouitanan, the banks of the streams are high, abrupt, and broken, and the land, except the prairies, is well timbered. Between the Plein and Theakiki, the country is flat, wet, and swampy, interspersed with prairies of an inferior soil. The sources of rivers are generally in swamps or lakes, and the country around them is low, and too wet for cultivation. There are two kinds of prairies,—the river and the upland prairies. The former are bottoms, destitute of timber, and are said to exhibit vestiges of former cultivation; the latter are from 30 to 100 feet more elevated, and are far more numerous and extensive. Some of them are not larger than a common field, while others extend further than the eye can reach. They are usually bounded by heavy-timbered forests, and not unfrequently adorned with copses of small trees. In spring and summer, they are covered with a luxuriant growth of grass and fragrant flowers, from six to eight feet high. The soil of these plains is often as deep and fertile as the best bottoms. The prairies bordering on the Wabash are particularly rich. Wells have been dug in them, where the vegetable soil was twenty-two feet deep, under which was a stratum of fine white sand. The ordinary depth is from two to five feet. The principal productions of this state are wheat, Indian corn, rye, oats, barley, buck-wheat, potatoes, pulse, beef, pork, butter, whiskey, and peach brandy. Not far from Big Blue river, there is a large cave, the entrance of which is on the side of a hill, that is about 400 feet high. Here are found great quantities of sulphate of magnesia or Epsom salt, and of nitre, &c. The climate is generally healthy and pleasant, resembling that of Ohio. The Wabash is frozen over in the winter.

With the exception of the French settlement at Vincennes, which formed a solitary village for near a century, there were no civilized inhabitants within the present limits of the state, until near the commencement of the present century. From that period, the population has increased rapidly, chiefly by emigration from the other states. A territorial government was formed in 1800, and, in 1816, the state was admitted into the Union, and the present state constitution was formed. Under this constitution, a governor and lieutenant-governor are chosen by the people once in three years. There is a general assembly, consisting of a senate, the members of which are chosen for periods of three years, a third part being elected annually; and of a house of representatives, the members of which are elected annually. The present number of senators is twenty-three, and of representatives sixty-two. The number of representatives may be increased to 100, and of senators to half the number of representatives. The judges of the supreme court are appointed by the governor, with the consent of the senate; the presidents of the circuit courts by the legislature; and the associate judges are elected by the people. Justices of the peace are elected by the people. A thirty-sixth part of the land, in each township, is reserved, by a compact between the state and the United States, for the support of education, and reservations of land have been made for the support of a college, which is established at Bloomington, but which is not yet in operation. The national road, which commences at Cumberland in Maryland, and passes through Pennsylvania, Virginia, and Ohio, will run through the centre of this state, from east to west. The construction of the road in this state is yet but little advanced.

INDIANAPOLIS; a town in Indiana, and the seat of government of the state. It is situated in Marion county, on the west fork of White river. It was laid out in 1821, and in the following year had forty houses. It has increased rapidly from that period, and became the seat of government in 1825.

INDICATIVE; that mode of the verb in which something is said positively; hence it has also been called *modus positivus*, as distinguished from the subjunctive.

INDICATOR (*cuculus indicator*, Linn.). This bird, which is a native of Africa, in its external appearance does not differ much from the common sparrow, except that it is somewhat larger. It is peculiar for its faculty of discovering and indicating to man the nests of wild bees. Being itself extremely fond both of honey and the larvae, knowing that when a nest is plundered, some will fall to its share, it is always willing to act as a guide in the search for them. The morning and evening are its usual times of taking food, at least it then appears most solicitous to engage the aid of man in satisfying its appetite. A grating cry of *cherr, cherr*, may then be heard, which generally brings somebody to the spot where it is perched, when the bird, incessantly repeating its cry, flies slowly towards the quarter where the swarms of bees is to be found. When the nest is at some distance, the bird makes long flights, waiting for its coadjutor between them, and calling him to advance; but in proportion as it approaches, its flights are shorter and its cry more earnest. When it arrives at the nest, it hovers over the spot for the space of a few seconds, after which it retires to some adjoining bush, and patiently awaits its reward in silence. Its followers, having plundered the nest, leave it a considerable portion of that part of the comb containing the young bees, this being its most favourite morsel. This account, which is condensed from Sparmann, was severely animadverted upon by Bruce and other

writers; but Barrow, who visited the southern extremity of Africa at a subsequent period, fully confirms its truth. He says, that every one there is too well acquainted with this bird to entertain any doubts of the fidelity of Sparmann's narrative. It is also confirmed by Le Vaillant, who states that, on account of the important services which it renders to the Hottentots, they were very unwilling that he should destroy one of them.

**INDICTION**, in chronology; a period of fifteen years, reckoned in succession, and used by the Romans for appointing the time for the payment of certain taxes. Three sorts of indiction are mentioned; 1. the *Cæsarean*, which fell on the 8th of the calends of October, or the 24th of September; 2. the indiction of Constantinople, which was instituted by Constantine, A. D. 312, and began on the 1st of September; and 3. the pontifical or Roman, which begins on the calends of January. It has no connexion with the motions of the heavenly bodies. We find ancient charters in England also dated by indictions.

**INDICTMENT**. An indictment, according to the English law, is a written accusation of one or more persons for a crime or misdemeanour, preferred to, and presented upon oath by a grand jury, to a court. In determining whether there is a reasonable cause to put the accused upon his trial, the grand jury hear evidence in support only of the charge; and if twelve of them are satisfied of the truth of the charge, the indictment is then said to be found, and is publicly delivered into court. If the grand jury think the accusation groundless, the accused is discharged; but a new bill of indictment may be preferred to a subsequent grand jury.

**INDIES, WEST.** See *West Indies*.

**INDIGESTION.** See *Dyspepsia*.

**INDIGO**. The knowledge of this most valuable vegetable substance, which forms an important part of East and West Indian commerce, and is beginning to receive considerable attention as an American production, is alike interesting to the chemist and to the dyer. The ancients were acquainted with it under the name of *indicum*. Pliny knew that it was a preparation of a vegetable substance, though he was ignorant of the plant which furnished it, and of the process by which it was prepared. From its colour, and the country from which it was imported, some authors call it *atramentum indicum*, and *indicum agrum*. The American name is *nil*, or *anil*, from which the Portuguese have adopted their *anileira*, the other European nations generally call it *indigo*. The Arabian name is *nile*, and the Chinese, *tien laam*, or *sky blue*.

In treating of indigo, it will be the most convenient to explain, in the first place, its physical and chemical properties, and afterwards to allude to the sources from whence it is derived, and the method by which it is manufactured. As it is found in commerce, it presents the form of little square or oblong cakes, of an intense blue colour, approaching to black; is brittle and friable; rather light, and without taste or odour. It is volatile, with a disagreeable odour, subliming at 550° F.,—a degree of heat near that at which it is decomposed. Its vapour is of a rich violet-red colour, and condenses by cold into delicate acicular crystals, which consist of perfectly pure indigo. Water, by being boiled on indigo, dissolves only about a ninth or twelfth its weight; the solution is of a reddish-brown colour, and contains what may be called the *extractive* part of the substance; but the colouring matter remains unaltered, except in having assumed a brighter hue. Alcohol and ether, when digested upon it, also are attended with similar effects. Sulphuric acid is the only single agent that

dissolves indigo without destroying its colour. When it is put into this acid, a yellow solution is at first formed, which, after a few hours, acquires a deep blue colour. From the solution, diluted with water, potash and its sulphate throw down a deep dark-blue precipitate, capable of imparting to water, containing only  $\frac{1}{1000}$  of its weight, a distinctly blue tinge. It is no longer subject to vaporization, however; from which circumstance, and its property of solubility in water, it is inferred to be a different substance from indigo, and has received the name of *cerulin*. Its composition is believed to be one equivalent of indigo and four of water. When properly diluted with water, it forms the *liquid blue*, or *Saxon blue*, of the dyers. Another compound of indigo and water, under the name of *phenecin* (from *φαινε*, purple), is obtained when water is added to a solution of indigo in sulphuric acid, which has been suffered to stand for several hours, till it has lost its yellow colour, and become blue. It appears to consist of one equivalent of indigo, and two of water. In the formation of these substances, indigo is conceived to combine with water; but whether the water is afforded by the sulphuric acid, or whether the sulphuric acid operates merely to prepare the indigo for combining with water afterwards, is not yet fully determined. When indigo, suspended in water, is brought into contact with certain deoxidizing agents, it is deprived of a part of its oxygen, becomes green, and is rendered soluble in water, and still more so in the alkalies. It recovers its former colour, however, on exposure to the air, by again absorbing oxygen of  $\frac{1}{4}$  or  $\frac{1}{2}$  of the whole weight of the resulting indigo. Its deoxidizement is effected either by allowing it to ferment along with bran, or other vegetable matter, or by decomposing in contact with it the protosulphate of iron, by the addition of lime. Substances dyed by deoxidized indigo receive a green tint at first, which becomes blue by exposure to the air. This is the usual method of colouring cloths by means of indigo, which, when fully oxidized, affords a permanent dye, not removable by soap or by acids. Chlorine, whose power in extinguishing vegetable colours is universal, destroys the colour of indigo; and, from the known fact that the same quantity of free chlorine discolours always the same quantity of pure indigo, a solution of indigo in sulphuric acid has been employed for measuring the strength of solutions of chlorine and of chloride of lime, in order to regulate their application to the art of bleaching; and, reciprocally, a solution containing a known quantity of chloride of lime may be employed as a test of the strength or value of indigo. Indigo, purified by sublimation, is composed of 73.26 carbon, 13.81 nitrogen, 10.43 oxygen, and 2.50 hydrogen.

Indigo may be said to be a rare production of the vegetable kingdom, it hitherto having been found only in a small number of species belonging to the genera *indigofera*, *isatis*, and *nerium*; but it is almost exclusively from the first of these that the indigo of commerce is extracted. The species of *indigofera* are leguminous plants, herbaceous or shrubby, with alternate and generally pinnate leaves, and small blue, purple, or white flowers, ordinarily disposed in axillary racemes. They are very numerous in the equatorial regions of the globe. The species most commonly cultivated are the *I. anil*, a native of tropical America, according to the latest authority, but now cultivated even in the East Indies; the *I. tinctoria*, also cultivated in both Indies; and the *I. argentea*, which is the species employed in Barbary and Egypt. The *I. tinctoria* is the species most abundantly cultivated.

In describing the culture of the indigo plant, and the mode of manufacturing the indigo, we shall draw

our particulars mainly from the methods pursued in the East Indies, where, through the well directed efforts of the English, this article is prepared in its greatest perfection. The plant requires a rich, light soil, and a warm exposure. It succeeds best on newly cleared lands, on account of their moisture; it requires protection against high winds, and needs irrigation in times of drought. The ground, after being properly prepared for the reception of the seed by ploughing, is sown pretty thickly, the time of sowing being so chosen that rain may fall upon the plant as soon as it shows itself above the ground, by which it is not only greatly invigorated, but cleansed from those innumerable insects which otherwise are liable to destroy it. From this time, comparatively little rain is needed; for the dews are so copious as to supply nearly all the moisture required; and, besides, its spindle-shaped root, which descends into the ground perpendicularly, to the depth of nearly three feet, enables it to endure temporary droughts. The prevalence of cloudy weather and much moisture, however, cause the indigo plant to thrive more luxuriantly, but occasion a great deficiency in the colouring matter, which, as it contains an extraordinary quantity of carbon, requires the plant to decompose carbonic acid gas very abundantly,—an operation which it is unable to perform when deprived of the direct influence of the sun's rays. As the young shoots furnish larger and more numerous leaves, it is usual to plant every year; but the Egyptians, who seem to cultivate it most successfully, plant only every third or fourth year. As the plant approaches to maturity, the leaves undergo a sudden change in colour, from a light to a dark green. As soon as this change is observed, the branches are severed from the parent stem early in the morning, and spread out in the sun till the afternoon, by which time they become sufficiently dry to be beaten from the branches by a stick. The leaves, so separated, are housed in warehouses, closely packed, and well trodden down by natives. The plants, from which the leaves have been severed, send forth a new crop, which is gathered, when mature, like the first. Rain, however, is necessary after the cutting, to enable the plant to shoot again in a thrifty manner. The cuttings, in a favourable season, are repeated three or four times, after which the ground is ploughed up for another sowing; but each successive growth of the branches produces an increased deterioration of the qualities of the leaves, so that one part of the leaves of the first cutting yields as much indigo as two parts of the third crop. The dried leaves are not immediately used, but are kept packed for one month, during which time they suffer a material change, which is indicated by their having passed to a light lead colour. By additional keeping, the lead colour gradually darkens, until it becomes black. The maximum quantity of indigo is to be obtained when the lead colour is effected; and any delay in extracting it, after it has reached this point, is attended with a loss in the quantity of the indigo. The lead colour, however, does not appear in a month after the leaves are gathered, unless, from fear of rain, or any other cause, they were cut before being ripe; and, on the other hand, if the cutting was deferred till after the plant was fully ripe, the leaves will not require to be kept so long. The dried leaves, after having suffered the change of colour alluded to, are transferred to the steeping vat (an uncovered reservoir, thirty feet square, and twenty-six inches deep, constructed of brick, and lined with stucco), where they are mingled with water, in the proportion of about one volume of leaves to six of water, and allowed to remain two hours. The great affinity of indigo for oxygen is

here very manifest, in the quick change of the colour of the leaves which float on the surface, and are exposed to the action of the atmosphere, to a blackish blue, when contrasted with those below, which remain unchanged. On this account, the vat is frequently stirred, so that the floating leaves may be immersed. After two hours' infusion, the water, which, from the solution of imperfectly oxygenated indigo, has acquired a fine green colour, is allowed to run off from the leaves, through strainers, into the beating-vat, where it is agitated by the paddles of ten or twelve natives for about two hours, during which time the fine green liquor gradually darkens to a blackish blue. This part of the process requires a longer or a shorter time, depending on the former preparation of the leaf, and the immediate influence of the sun. The criteria for judging when it is completed are derived from the incipient separation of the particles of indigo, which become visible by pouring a small quantity of the fluid into a white earthen dish. At this time, lime-water is thrown into the vat, and thoroughly agitated with the whole mass of fluid. The mass is then left to subside for the space of three hours, when the supernatant liquid, which is of a fine bright Madeira colour, is withdrawn, by orifices in the vat, at different heights. The indigo is then removed to the covered part of the manufactory, where it is put on a straining cloth, and allowed to drain throughout the night. On the following morning, it is transferred to a copper boiler, where it is mingled with a quantity of water, and raised to ebullition. As the mass is gradually heating, a quantity of scum rises, which is immediately removed, and as soon as the whole is brought to the boiling point, the fire is withdrawn. The contents of the copper are retaken to the strainers, and the drained indigo is then divided into small portions, and each portion well worked by the hands of the natives, in order to free it from air bubbles. It is then carried to the pressing-boxes, which are usually square, and of sufficient depth to leave the cake about two inches and a quarter in thickness. By means of a powerful screw, the water is separated from the indigo; the cakes are gradually dried in the shade, and thus rendered fit for exportation.

In the West Indies and America, the old process, formerly employed in India, of fermenting the leaves as soon as cut, instead of drying them, and obtaining the indigo by simple infusion, is still in use. The plant is allowed to stand until it is fully in blossom, when it is cut down with rape-hooks, tied in loads, and carried to the works, where it is deposited in strata in the steeping vat. As soon as the vat is filled with the green plant, water is admitted sufficient to cover it, and the whole is left to digest and ferment, until the greatest part of the pulp is extracted, without letting the tender tops run to putrefaction; and it is the management of this point which occasions the planter the greatest difficulty; for, if he draws off the water but two hours too soon, he inevitably loses the greatest part of the pulp, and if the fermentation runs but two hours too long, the whole is spoiled. Nine-tenths of the indigo of the United States, it is asserted, are more or less injured by an excessive fermentation. To ascertain the due degree of fermentation, the workman draws out, from time to time, a handful of the plant, and, when he finds the tops grow very tender and pale, and observes the stronger leaves change their colour to a less lively pale, he draws the liquor off without delay. An experienced manufacturer will also form a tolerable estimate of the degree of fermentation by the grass of the infusion, of which he frequently beats a little in a silver cup. When the pulp is believed to be extracted, the infusion is drawn off into the beating-

ent, after which it is treated in a manner similar to that above described. It is computed that British India supplies three-fourths of all the indigo brought into European markets. For an account of the indigo obtained from the *Isatis tinctoria*, see *Wood*.

**INDIRECT TAXES**; those which fall in reality on other persons than the immediate subjects of them. They are therefore taxes upon those who finally pay them, and not upon those upon whom they are directly laid. Thus the state exacts custom and excise duties from merchants, upon merchandise, but the consumer, in the price he pays for his articles, refunds this tax to the merchant, so that the last buyer is the one who really pays the tax. There are taxes which appear to be direct, but yet fall indirectly upon others; for instance, the poll tax upon the serfs in Russia. As they are obliged to give every thing, except what they need for their subsistence, to their masters, the latter, of course, obtain so much the less as the poll tax is greater, and thus the tax upon the peasants appears to be an indirect tax upon their masters. Thus almost all direct taxes upon servants are paid by their masters, and therefore a direct tax upon the former is an indirect tax upon the latter. Respecting the opinion that every tax affects those only who derive their income from the soil, see *Physiocratic System*.

**INDORSEMENT OF NEGOTIABLE PAPER.** See *Bills of Exchange*.

**INDOSTAN.** See *Hindoostan*.

**INDRE**; a river in France, which rises about four miles N.N.W. Boussac, in the department of the Creuse; passes by St Sever, La Chatre, Chateauxroux, Chatillon (where it becomes navigable), Loches, Cormery, Amy le Rideau, &c., and joins the Loire at Rigny, between Saumur and Tours.

**INDRE**; a department of France, named from the river Indre. (q. v.) See *Department*.

**INDRE-AND-LOIRE**; a department of France, so called from the rivers Indre (q. v.) and Loire (q. v.) See *Department*.

**INDUCTION**, in logic; a conclusion from the particular to the general. Strict conclusions are made from the general to the particular. The general premise being true, the application to the particular case which is included in it follows with logical certainty. Induction gives only probability. If, for instance, we conclude, from the earth being habitable, that the other planets are so, the conclusion is only probable. Induction rests upon the belief that general laws and rules are expressed in the particular case; but a possibility always remains, that these general laws and rules are not perfectly known. An induction may be perfect or imperfect. To make it perfect, the premises must include all the grounds that can affect the result. If this is not the case, it is imperfect. For instance, every terrestrial animal lives, every aerial animal lives, every aquatic animal lives, every reptile lives; therefore, every animal lives. If we now allow that there exists no animal not included in the four enumerated classes, the induction is perfect.

**INDULGENCE**, in the Roman Catholic system; the remission of sin, which the church has power to grant. (We shall first give the Protestant, and then the Catholic views on this subject.) The visible head of the church, the pope, distributes indulgences in various ways. They are divided into temporary and plenary. The principle of indulgences rests on that of good works; for the Catholic theologians prove the authority of the church to issue indulgences in this way:—many saints and pious men have done more good works, and suffered more than was required for the remission of their sins, and the sum of this surplus constitutes a treasure for the

church, of which the pope has the keys, and is authorized to distribute as much or little as he pleases, in exchange for pious gifts. The historical origin of indulgences is traced to the public penances and the canonical punishments, which the old Christian church imposed on the community, especially on those who did not remain firm unto martyrdom. When ecclesiastic discipline became milder, and the clergy more covetous, it was allowed to commute these punishments into fines, for the benefit of the church. At first, the only source of indulgences was in Rome, and they could be obtained only by going there. At Rome, this treasure of the church was divided among many churches, of which seven principal ones were gifted the most largely by the popes. These churches were termed *stationes indulgentiarum*. One of the richest was the church in the Lateran, on which were bestowed, at its renewed consecration, as many days of indulgence as the drops which fall in a rain continuing three days and three nights. The whole treasure of indulgences of the churches in Rome was accordingly inexhaustible. When the popes were in want of money, and the number of pilgrims who resorted to Rome to obtain the remission of their sins began to decrease, indulgences were put into the hands of the foreign archbishops and bishops; and, finally, agents were sent about, who made them an object of the meanest traffic. During the period of jubilee (see *Jubilee*), the people were taught to believe that the efficacy of indulgences was doubled, and the richest harvests were always reaped at this time. Leo X., famous for his love of splendour, commenced his reign in 1513; and, as the building of St Peter's church had exhausted his finances, he began the sale of indulgences in Germany, without waiting for the jubilee of 1525, in conjunction with the elector of Mentz, who was to receive half the profit; and the latter found an excellent agent for the sale in Tetzel. This flagrant abuse inflamed the zeal of Luther, and the Protestant theologians have always found indulgences one of the most vulnerable points of the Roman Catholic system; and even the Catholic states of Germany represented to the emperor, in 1530, that he ought to prevail upon the pope, to omit sending any more letters of indulgence to Germany, lest the whole Catholic religion should become an object of scorn and mockery. Nevertheless, the right to remit sins was received, in the council of Trent, among the articles of faith.

We shall now proceed to give the Catholic views, as taken from the article *Indulgence*, written by a Catholic, in the German *Conversations-Lexicon*. The penances of the ancient church (see *Penance*) were never so strictly binding as to preclude the presbyters from relaxing them in some degree, in particular instances, where their object seemed more easily attained in some other way. But this never was done, except in single cases, and after the circumstances of the petitioners had been closely examined; nor was the whole punishment ever remitted, but merely a part of it, according as the case of the individual required, and his repentance justified it. The council of Nice, in their 12th canon, require, for such a dispensation, proof of true repentance. In the eleventh century, another kind of indulgences was introduced,—absolution. This was granted to those who undertook some difficult enterprise for the benefit of the church. This was usually bearing arms in her cause, of which the crusades are the most famous example. In the council of Clermont (1095—1096), it was decreed (canon 12), that every one, who, actuated solely by devout zeal, and not by love of glory or by avarice, went on the expedition to Jerusalem for the

deliverance of the holy sepulchre, should receive a full remission of his sins. In later times, this indulgence was extended to those who were not able to go themselves, and sent a champion in their stead. By degrees, the exemption was extended still farther, and soon plenary and partial indulgences were granted to those who gave alms for effecting some good work (e.g. the restoration of a church, &c.), or performed some prescribed labour of piety (the visiting of a church, for instance) at the time of jubilee, which was established by Boniface VIII., in 1300. This gave the death-blow to the public penance of the church. Considerable abuses, however, stole into the system of indulgences, and the scandal became very great. Under pretext of alms for the benefit of good works, indulgences were made the means of indirectly taxing the whole of Christendom. It was proposed several times in the diets of the German empire (e.g. at Nuremberg, in 1466), to make use of them for supplying the expenses of the war against the Turks. The popes, bishops, and civil rulers usually divided the proceeds, though the latter sometimes appropriated them entirely; as, for instance, in 1500, when the government of the empire took possession of the money collected for the pope on the occasion of the jubilee, and allowed only a third part to the legate of the pope, for his subsistence. Under such circumstances, when holy institutions were abused for vile gain, it was natural that wrong notions respecting indulgences and their power, should spring up among the people, and be spread by the preachers employed to distribute them. (See *Tetzl.*) It is a well known fact, that the indulgences proclaimed by Leo X., gave the first spring to the reformation. It was the object of the fathers assembled at Trent, to make a public disavowal of the erroneous doctrines which had been preached by individuals respecting indulgences, that they might not appear to be sanctioned by the church. The council first required (in sess. 24, cap. 8, *De Reformatione*), the restoration of public penance, in the following words: "The holy apostle (Paul to Timothy) ordains, that those who sin publicly, should be publicly rebuked. If, therefore, a crime has been committed publicly, and in the sight of many, so as not to leave any doubt of its giving a bad example to others, a public penance is to be imposed on the guilty person, suited to the crime, that the sight of his repentance may recall those to the right way, whom his example has led astray. The bishop may, however, substitute a private for the public penance, if he thinks it more suitable." Respecting absolution itself, the church has established no dogma, because such dogmas are expressed only in the *canones*, of which there exist none on this subject. She has given only a decree, and this in her last session, which literally says: Since the power of conferring indulgences has been given to the church by Christ, and she has exercised it from the earliest times, the holy council teaches and ordains, that this usage, so beneficial to Christians, and confirmed by the authority of many holy councils, is to be retained in the church; and she inflicts the anathema upon such as either declare indulgences unnecessary, or dispute the power of the church to grant them. It is her wish, however, that in the grant of indulgences, according to the custom long existing in the church, proper limits should be observed, lest the discipline of the church become injuriously relaxed. But as the church desires that the abuses which have crept in, and have given occasion to heretical preachers to heap reproach upon this venerable usage, should be corrected, she ordains by the present decree, that the shameful bartering of indulgences for money, which has been so fruitful a source of abuse, shall be entirely abolished. As the corruptions which have sprung from supersti-

tion, ignorance, irreverence, or from any other cause, cannot here be enumerated and individually censured, on account of the variety of the kinds prevailing in different places and provinces, the synod commands every bishop to search out with diligence the abuses of his own church, and to lay them before the first provincial synod, that they may be branded as errors by the judgment of the other bishops, and be submitted to the authority of the supreme bishop at Rome, whose wisdom will provide for the universal good of the church, that the sacred indulgences may in future be distributed with purity and holiness. The selling of indulgences has accordingly ceased. In regard to the absolution still practised in the church (continues the Catholic writer), the spirit of the church is the same as in ancient times. The old discipline of penance never has been formally abolished. On the contrary, the principle has rather been confirmed by the council of Trent, as has just been shown. The church still commissions her servants to impose penances upon sinners, in proportion to their guilt,—even heavier penances than the ordinary ones. Why, then (he asks), should she not be authorized to remit part of the sentence, if the penitent is found worthy of favour? Whether such remission be deserved by the penitent, is to be judged by those ministers of the church who are in immediate intercourse with them. To make absolution effectual, Bellarmine requires that the end attained should be more agreeable to God than the performance of the penance remitted. The labour itself should be in proportion to its aim. We have seen that there exists no dogma on absolution; it is therefore by no means a doctrine of the church, but it is left to the private views of the individuals, whether and how far the absolution and the idea of purgatory (see *Purgatory*), are connected with each other. It is falsely believed by many Protestants, that absolution is esteemed by the Catholic church equivalent to conversion, and as effectual to remit the punishment of sins. Every popular catechism proves the contrary.

INDUS, or SINDH<sup>\*</sup>; a large river in the western part of Hindoostan, rising on the north of the Himalaya mountains; it flows first north-west, then west, penetrates the chain of mountains in the thirty-sixth parallel, then takes a winding course to the south, and empties by several mouths into the sea of Arabia, between lat. 23° 20' and 24° 40' N. Its chief tributaries are from the east; they were known to the Greeks. One of them is the Behat or Jehum (*Hydaspes*), from Cashmere; it joins the Chenab (*Acetines*), which also receives the Ravy (*Hydrodrus*); below the confluence of the Chenab is that of the Kirah (*Hyphasis*), formed by the junction of the Setledje or Satadron (*Hesidrus*) and the Beyah. The country traversed by the Indus and its tributaries is called the *Penjab* or *Punjab*. The water of the Indus is wholesome, and resembles that of the Ganges. Its course, including its windings, is estimated at 1700 miles, and is generally W. of S. The Delta of the Indus is about 150 miles in length along the coast, and 115 in depth. The river is navigable, for vessels of 200 tons, to the province of Lahore, a distance of 760 geographical miles. From Attock to the Delta, a distance of about 800 miles, its breadth is generally about a mile, and its depth from two to five fathoms. The tide sets in with great violence. Owing to the barbarous manners of the tribes which inhabit its banks, little commerce takes place on this river. The bed of the Indus is sand, with a small quantity of mud.

\* The name is very ancient. *Indus* is from the Greek which borrowed it from the Persian. The Persians seem to have derived it from the Indian *Sindhu*, ocean.

INES DE CASTRO. Pedro, son of Alphonso IV., king of Portugal, after the death of his wife Constantia (1344), secretly married his mistress, Ines de Castro, who was descended from the royal line of Castile, from which Pedro was also descended on his mother's side. As he steadily rejected all propositions for a new marriage, his secret was suspected, and the envious rivals of the beautiful Ines, were fearful that her brothers and family would gain a complete ascendancy over the future king. The old king was easily blinded by the intrigues of his artful counsellors, Diego Lopes Pacheco, Pedro Coelho, and Alvares Gonsalves. They persuaded him that this marriage would be prejudicial to the interests of his young grandson Ferdinand (the son of Pedro by his deceased wife.) Alphonso asked his son if he was married to Ines. Pedro dared not confess the truth to his father, much less would he comply with the command of the king, to renounce his mistress and unite himself to another. Alphonso again consulted his favourites, and it was resolved to put the unhappy Ines to death. The queen Beatrice, mother of the infant, obtained intelligence of this cruel design, and gave her son notice of it. But Pedro neglected not only this information, but even the warning of the archbishop of Braga, as a rumour intended merely to terrify him. The first time that Pedro left Ines, to be absent several days, on a hunting expedition, the king hastened to Coimbra, where she was living in the convent of St Clara with her children. The arrival of Alphonso filled the unhappy lady with terror; but, suppressing her feelings, she appeared before the king, threw herself with her children at his feet, and begged for mercy with tears. Alphonso, softened by this sight, had not the heart to perpetrate the intended crime. But after he had retired, his evil counsellors succeeded in obliterating the impression which had been made on him, and obtained from him permission to commit the murder which had been resolved on. It was executed that very hour; Ines expired under the daggers of her enemies. She was buried in the convent where she was murdered (1355). Pedro, frantic with grief and rage, took arms against his father, but the queen and the archbishop of Braga succeeded in reconciling the father and son. Pedro obtained many privileges; in return for which, he promised, on oath, not to take vengeance on the murderers. Two years after, king Alphonso died; the three assassins had already left the kingdom, by his advice, and taken refuge in Castile, where Peter the Cruel then reigned, whose tyranny had driven some noble Castilians into Portugal. Pedro agreed to exchange these fugitives for the murderers of Ines. Having delivered them to their master, he received, in return, the persons of Pedro Coelho and Alvares Gonsalves; the third, Pacheco, escaped to Arragon. The two were then tortured in the presence of the king, in order to make them disclose their accomplices; their hearts were torn out, their bodies burnt, and their ashes scattered to the winds (1360). Two years after, he assembled the chief men of the kingdom, at Cataneda, and solemnly declared on oath, that, after the death of his wife Constantia, he had obtained the consent of the pope to his union with Ines de Castro, and that he had been married to her in the presence of the archbishop of Guarda and of an officer of his court, Stephen Lobato. He then went to Coimbra. The archbishop and Lobato confirmed the assertions of the king; and the papal document, to which the king referred, was publicly exhibited. The king caused the body of his beloved Ines to be disinterred, and placed on a throne, adorned with the diadem and royal robes, and required all the nobility of the kingdom to approach and kiss the hem of her gar-

ment, rendering her when dead that homage which she had not received in her life. The body was then carried in a funeral car to Alcobaga. The king, the bishops, the nobles, and knights of the kingdom, followed the carriage on foot; and the whole distance, from Coimbra to Alcobaga, was lined on both sides by many thousands of people, bearing burning torches. In Alcobaga, a splendid monument of white marble was erected, on which was placed her statue, with a royal crown on her head. The history of the unhappy Ines has furnished many poets, of different nations, with materials for tragedies,—Lamothé, count von Soden, &c.; but the Portuguese muse has immortalized her through the lips of Camoens, in whose celebrated *Lusiade*, the history of her love is one of the finest episodes.

INFALLIBILITY; exemption from the possibility of error. God, of course, is infallible, because the idea of divinity excludes that of error; Christ was infallible, and, according to the belief of the Greek and Catholic church, and of most Protestant sects, the apostles were also infallible, after the descent of the Holy Ghost. Here, however, the Protestants and Catholics divide. The latter, founding their creed on *tradition* (q.v.) as well as on the *Bible*, maintain that the tradition, that is, the general doctrine and belief, handed down from age to age, and taught by the great body of the pastors, is above the possibility of error; consequently, also, the councils are infallible, because the councils, according to a Catholic writer, "do not make truths or dogmas, as some Protestants maintain, but merely express the belief of the church on certain points in question;" the truth pronounced, therefore, always existed, but had not been previously declared by the church. From several passages in the Bible, the Catholic infers that the above-mentioned tradition and the councils are under the continual guidance and influence of the Holy Ghost: hence the formula so often repeated by the council of Trent, the last general council of the Catholic church—"the holy council lawfully assembled under the guidance of the Holy Ghost." It is clear, that, if the councils are infallible, it is of the utmost importance for the Catholic to know what are lawful councils. This is a point which, as may be easily conceived, has created great discussions in the Catholic church, because the popes claimed the sole right to convocate councils. (See *Council*.) So far all Roman Catholics agree respecting infallibility, namely, that Christ, the apostles, the body of the pastors, the traditions of the church, and the councils, are infallible; but they disagree respecting the infallibility of the pope. The ultramontane theologians maintain that the pope is infallible, whenever he pronounces dogmatically on a point of doctrine, to settle the faith of the whole Catholic church. These theologians are therefore called *infallibilists*. The theologians of the Gallican church do not admit this infallibility. The assembly of the French clergy, in 1682, laid down the maxim, "that in questions of faith, the sovereign pontiff has the chief part, and that his decrees concern the whole church; but that his judgment is not irreformable, until it be confirmed by the acquiescence of the church." Bossuet, in his *Defensio Declarat. Cleri Gallic.*, 2d part, 4. 12 seq. has treated this point at length. He maintains, that the pope is by no means infallible, and that a papal decision is not to be considered infallible until the church acquiesces in it, which, he admits, may be done, in general, silently.

In politics, the word *infallible* is used in a different sense. The position that any political person, or body, is infallible, only means, that there is no appeal from such person or body. When the English public law declares that the king can do no

wrong, every one knows that this is merely a political fiction. But the genuine supporters of divine right believe in a somewhat more real political infallibility of kings.

INFANT, in law. By the English, and generally by the American, and so by the French law, persons come to majority at the age of twenty-one years, until which time they are called in law *infants*, and are under guardianship or tutelage. Infants cannot, in general, bind themselves by contracts, as they are supposed not to have sufficient discretion for this purpose. But this is their privilege, and their contracts are accordingly held in general not to be void, but only voidable at their election; and they may elect to avoid their contracts during their minority, but they cannot confirm them so as to be bound by them, until their majority. Infants may possess property, but it must be under the management and control of a guardian. They have not the right of citizens as to voting, and discharging other political functions. But in regard to crimes and punishments, and trespasses and private wrongs, their conduct is regulated by the same laws as that of the other members of the community, in case of their being of sufficient age and discretion to understand their duties and obligations. And for this purpose no general limit can be assigned, as some children are much more intelligent than others of the same age; and it will again depend, in some degree, upon the nature of the offence committed, or the wrong done, whether a child of any given age can be considered legally guilty of it, since some offences and wrongs can be more easily understood to be such than others. The law, in general, has a tender regard to youth, and does not permit them to be convicted and punished for offences and trespasses, unless it appears clearly that they have sufficient knowledge and discretion to distinguish them to be such.

There are exceptions to the incapacities of minors as to contracting, and these exceptions are made for their benefit. Thus an infant not sufficiently furnished with necessary clothes, food, or instruction, by his parent or guardian, and not being under the immediate superintendence of the parent or guardian, may make a valid contract, in respect to those subjects, and such contract may be enforced against him. Another exception to the general incapacity of infants to contract, relates to the contract of marriage, which, by the law of England and the United States of America, may be made by a male at the age of fourteen, and by a female at that of twelve. The French code fixes the age for making a valid marriage contract, in the case of the male, at eighteen, and in that of the female at fifteen. And as the law gives validity to the principal contract, the prevalent doctrine, though subject to some doubt as to the extent of its application, is, that all contracts collateral and incidental to that of marriage, such as making marriage settlements by the husband, and accepting them instead of dower by the wife, are equally binding on both of the parties, being of age to contract marriage, and, accordingly, not subject to be revoked either before or after coming to the age of majority. If, however, one party be under the age at which a contract of marriage may be made, he or she may, on arriving at such an age, either ratify or annul any such contract previously made. The jurisdiction in respect to infants is generally vested in either probate or orphans' courts. These courts appoint guardians to take charge of the property of infants, and, in case of the decease of the father, to take charge of their persons; but, during the life of the father, he has the guardianship and control of the persons of his sons until they are twenty-one years of age, and of his daughters until they are either

eighteen or twenty-one. At a certain age, however, that is, twelve or fourteen, the child, in case of the decease of the father, may choose his own guardian, who, being approved by the proper judge, is appointed accordingly. See *Infants*.

INFANT SCHOOLS. See *Schools*.

INFANTE, or INFANT (a word derived from the *Latin*, signifying *child*); the title given, particularly in Spain and Portugal, to the princes of the royal house, the eldest being also called *el principe*. The princesses at these courts are called *infantas*, the eldest also *la princesa*.

INFANTRY.\* If cavalry (q. v.) are to be called *l'arme du moment*, the great work of the battle is to be performed by the infantry, which composes the greatest part of an army, and is, in point of character, the most important part, because it can be used every where—in mountains, on plains, in woods, on rivers, and at sea, in the redoubt, in the breach, in cities, and fields, and, depending only on itself, has a great advantage over the two other classes of troops, who, depending, in a great measure, for their efficiency on the strength and the will of brutes, are far less fitted to endure deprivation, and a noxious climate, to contend with the snows of Russia, or the deserts of Egypt. The infantry are pre-eminently the moral power of armies; and on no class of troops has a general, who knows how to act on his soldiers, such influence. Foot soldiers were armed, in old times, with a spear, sometimes with a sword, arrows, lance, and sling; at present, with a gun and bayonet, which is generally accompanied with a sword. Sometimes, but rarely, they are armed with pikes. Some foot soldiers, in most armies, have rifles, generally so constructed that the rifleman may put his short sword on the rifle, to be used as a bayonet, though this has proved of no great service. The sword given to foot soldiers, in almost all armies, is of but little advantage, and is generally intended principally for ornament, to complete the soldierlike look, rather than to be used in fighting. It serves, however, for cutting branches, to be used in cooking and building huts; but swords might be given to foot soldiers, similar to the sailors' cutlasses, which would answer all these purposes, and also the chief end—to fight. (See *Cutlass*.) They ought always to have a sufficient guard for the hand. The foot soldier has no defensive covering, or very little. The greatest is his mantle, rolled up, and worn on one shoulder by the Prussian and Russian troops. The helmet or cap protects the head, and epaulettes (q. v.) are sometimes used to protect the shoulders. The thick cuc, with wire in it, has sometimes been considered a defence to the neck. Infantry is divided into light infantry and that of the line. The latter forms the great mass, which is intended to fight in line, to decide attacks by the bayonet, to make assaults, and is itself again divided into grenadiers (q. v.) and musketeers. The light infantry is particularly intended to serve in the outposts, to act as sharpshooters, to make bold expeditions, and harass and disquiet the enemy. It includes the riflemen. The light infantry form from the thirtieth to the sixtieth part of an army. The character of military operations, however, has changed of late so much, that,

\* Though the word is immediately derived from the Italian *infanteria* and *fanteria*, it is primarily of German origin. We find still, in the dialect of Lower Saxony, *Fent* and *Vent*, signifying a young, unmarried man, and, in a more extended meaning, a servant, a soldier on foot. The Icelandic *fent*, Italian *fente*, Danish *fent*, Swedish *fente*, have the same meaning with the Low-Saxon *Fent*, and are, no doubt, connected with the Latin *infans*. With the prefixed sibilant, this root became, in Anglo-Saxon, *swin*, in English *swine*, in Danish *svin* (a youth employed in country service, a young lover).

in a good army, it is necessary that the infantry of the line should take part readily in the light service, and the light infantry be ready to fight in the line, from which the riflemen only are excepted. These are only used as sharpshooters. In some armies, there are, besides the riflemen, whole regiments of light infantry; in others, as in the Prussian army, each regiment has two battalions of infantry of the line, and one battalion of light infantry; in others, as in the French, each battalion has its grenadiers and *moussquetaires* (sharpshooters). Infantry is divided into battalions (q. v.), these into companies, these into platoons. Several battalions, two or three, sometimes four or five, form a regiment. The tactics of infantry admit three different modes of arranging this species of troops in battle—1. in line, when they are drawn up in line two or three men deep, an order very rarely, if ever, used at present; 2. in column, when several lines, three or two men deep, are drawn up one behind the other (See *Column*, in *Tactics*, and *Square*); 3. in dispersed order. (See *Sharpshooters*.) The excellence of infantry depends on their good order in advancing and retreating, perfect acquaintance with their exercises and duties, in a just application of their fire, and great calmness both in assaulting and when assaulted in the square, which is acquired by experience. As long as the infantry remain calm, the general need not lose hope; but all is to be feared when they are disordered, whether through ardour or fear.

In countries affording horses, men always prefer, in the early periods of society, to fight on horseback, and civilization only gives more importance to infantry. Where foot soldiers exist, at this early period, together with cavalry, they are considered of inferior consequence. The Hebrew army, however, consisted, for a long time, of infantry only. (See *Cavalry*.) The Egyptians, likewise, seem to have used cavalry little. With the Asiatics, besides the use of infantry and cavalry, princes and noblemen fought on chariots. The infantry was the part least esteemed, and, with the Persians, consisted of the heavy-armed, the slingers, and archers. Probably this was one reason of the victories of the Greeks over the Persians, as they had cultivated infantry more, and had given up the chariots, described by Homer as common in the Trojan war. Even their kings and generals fought on foot. They had both heavy and light infantry. The Greeks were conquered, in their turn, by an improved form of infantry, the columns, of Philip of Macedon, which also enabled his son Alexander to conquer the Persians. With the Romans, infantry was the strength of the armies. Their legions, consisting mostly of infantry, conquered the world. With the ancient Germans and Gauls, also, infantry was considered very important; but when, in the great migration of nations, the Huns, and other Mongolic tribes, arrived in Europe, on small and fleet horses, and carried victory with them, spreading the terror of their arms far and wide, and when the Franks in Northern Spain became acquainted with the Moors, who came from Arabia, and the plateau of Asia, on beautiful horses, cavalry was considered as more important. When the feudal system was developed, the horse, of course, was more agreeable to the adventurous knight, than the foot service. The crusades, where the Europeans were obliged to fight with the fine cavalry of the Seljooks, favoured this tendency still more. Infantry fell into total disrepute, and consisted of the poorer people, who cared little in whose service they fought, in those times of violence and oppression, when a change of rulers made no change in their sufferings; and no reliance could be placed upon them. Among those people who were not in feudal bondage, and

fought for the defence of their own liberty, infantry maintained its old importance, as with the Swiss, on several occasions in the fourteenth and fifteenth century; and the penetrating Machiavelli, who burned to free his country from its numberless foreign and native tyrants, saw the great value of infantry, and urged its establishment upon a respectable footing. The invention of gunpowder changed the whole art of war, and brought infantry again into repute. (See *Army*.) The Swedish infantry, in the thirty years' war, was excellent. The arrangement became, in the course of time, more judicious, and all unnecessary manœuvring was avoided. The Austrians, at this time, employed soldiers from their Turkish frontiers—the Croats and Pandours, semi-savages—as a sort of irregular light infantry; and other armies had troops of a similar character; but they were so rude and disorganized, because their warfare was little better than legalized robbery, that Gustavus Adolphus would not admit them into his forces; but Frederic the Great again established free corps (q. v.) during the seven years' war. Infantry remained without much change in the eighteenth century. Prince Leopold of Dessau, during this time, first introduced, in the Prussian army, the iron ramrod, the lock-step, and several other improvements. The bayonet having been invented already in the middle of the seventeenth century, came more and more into use, and enabled the squares to resist the cavalry; but a great change in the use of infantry took place towards the end of the eighteenth century, when, in the American war of independence, the people, being obliged to contend, without discipline, against well trained troops, adopted the irregular mode of fighting, protected by trees or other objects, being, at the same time, mostly skilful marksmen. The efficiency of this method of fighting was evident; and when, in 1791, the French revolutionary war began, the French sent swarms of *tirailleurs* against the allies, and injured the latter exceedingly. In the wars from 1791 to 1802, the French greatly improved this way of fighting, which, in the interval of peace that followed, was reduced to a system, the consequences of which were seen in 1805, 1806, and 1807, against the Austrians, Prussians, and Russians. These nations, after the disasters which they suffered, adopted the same system, as well as the greater use of columns, particularly as the ordinary mode of arranging the troops before they came into the fire. Under equal circumstances, well trained infantry is almost uniformly successful against any other kind of troops.

INFERIE, in Roman antiquities; sacrifices offered to the infernal deities for the souls of the departed. Some writers have thought that they are the origin of the exequies of the Catholic church.

INFÉRNO (Italian for *hell*); the name of the first part of Dante's grand poem. See *Dante*.

INFINITESIMALS. See *Calculus*.

INFINITIVE; the indefinite mode, in which the verb is represented without a subject. As the verb expresses an action, or a state, it generally belongs to a subject whose action or state is expressed; but if we wish to express the mere idea of this action or state, we use the infinitive, which therefore, in many languages, is employed without further change, as a substantive—for instance, in Greek and German—only preceded by the neuter article; but, as the verb expresses an action or state, under certain conditions of time, the infinitive can also express the action or state in the present, past or future, though these conditions are not expressed in all languages by peculiar forms; nay, some languages have not even a peculiar form for the infinitive present, and must express it by some grammatical contrivance, as is the case in English. See *Verb*.

# INFLAMMATION OF THE INTESTINES. See *Enteritis*.

**INFLEXION**, POINT OF, in the theory of curves; that point in which the direction of the curve changes from concavity to convexity, and *vice versa*. It is particularly called *punctum inflexionis*, at the first turning, and *punctum regressionis* when the curve returns. These points are of much interest in the theory of the functions.

**INFLUENZA** (Italian, *influenza*); a term used in medicine to denote an epidemic catarrh which has, at various times, spread more rapidly and extensively than any other disorder. It has seldom occurred in any country of Europe, without appearing successively in every other part of it. It has sometimes apparently traversed the whole of the Eastern continent, and, in some instances, has been transferred to America, and has spread over this continent likewise. The French call it *la grippe*. In all the known instances of its occurrence, from the 14th century, its phenomena have been pretty uniform, and have differed little, except in severity, from those of the common febrile catarrh. In 1802, such an influenza attracted universal attention. In February, it set out from the frontiers of China, traversed all Russia, extended along the Baltic, to Poland and Denmark; reached Germany and Holland in April and May, and France and Spain in June. It could even be followed to Gibraltar. No sex, age, or state of health was exempted. It showed itself chiefly as a severe cold, attended with a catarrhal fever of a more or less inflammatory or bilious character. Generally, it passed over within a few days, yet, in some places, it gave a check to business. Few persons died of it, except those who were afflicted at the same time with other diseases, but almost every one was attacked. G. F. Meier, a German physician, attempted to prove that Europe suffered periodically from the influenza. He maintained that, during the greater part of the period which had elapsed since 1712, this epidemic had visited Europe, at intervals of about twenty years, and still more frequently in the early part of the period. Accordingly, he prophesied a new one for 1820, which, however, did not happen.

**INFORMER**. To encourage the apprehending of certain felons, divers English statutes of 1692, 1694, 1699, 1707, 1720, 1741, and 1742, granted rewards of from ten to fifty pounds sterling, to such as should prosecute to conviction highwaymen, counterfeiters, and thieves. These acts were passed at the time of the troubles in Great Britain, occasioned by the risings of the Jacobites, when, with the increase of political criminals, the number of private offenders was thought to be increasing also. By the law of 1699, besides the forty pounds, an immunity from all parish officers (overseer of the poor, churchwarden, &c.) was allowed to any person who should prosecute to conviction a felon guilty of burglary, horse-stealing, &c. The *Tyburn tickets* (as the certificates of exemption were called) could be sold, as the first was of no use to a man who received a second, and were actually sold in large cities, like Manchester, at high prices (from 250 to 300 pounds sterling.) The amount of the rewards (without including the Tyburn tickets), in the forty counties of England, for 1798, was £7700, and, in 1813, it had risen to £18,000. The abuses which originated from this system were horrible. The police officers made a trade of it, by seducing poor, ignorant persons, chiefly foreigners, to crimes (principally the issuing of counterfeit money), in order to gain the reward by prosecuting them for the offence. A certain M'Daniel confessed (1756) that he had caused, by his testimony, seventy men to be condemned to death. He was brought to

the bar with two others, but the people, fearing they were to be acquitted, treated them with such violence, that they were killed on the spot. In 1792, a similar case happened, in which twenty men had become the victims of an informer. A more recent case, in 1817, excited greater indignation. Four police officers, who had entered into a conspiracy against the life of poor men, were condemned to death, but, on account of some judicial formalities, were released by the twelve judges (the united members of the three chief tribunals in Westminster hall), and escaped without punishment. They had induced several poor women to pass counterfeit money, and seized them in the act. In other cases, such men endeavoured to change a small offence into a capital crime; for instance, if one had stolen the work-bag of another, they swore that it had been tied with a string or ribbon to the arm, and torn from it by violence, by which theft was transformed into robbery, and, instead of imprisonment, the punishment was death, and the informer received the price of blood (£50). A revolting case of this kind happened (1817) when two soldiers, who were wrestling with another, in sport, for a wager of one shilling, were condemned for robbery by the artifice of a police officer, and escaped with the greatest difficulty from an undeserved punishment. Small offences were kept secret by the police officers, and the perpetrators watched, until, as they termed it, they weighed forty pounds sterling. For prosecution to conviction of any person attempting to pass counterfeit bank notes (which was, until lately, a capital crime), the bank paid £30, and for the prosecution of a person issuing counterfeit coin, £1. Several persons became the victims of this provision. The police officers very well knew the counterfeiters, and those who made it a trade to induce women and children to change their false notes, and deliver them into the hands of the police; but they spared the true authors of the crime, as good customers, and denounced the poor wretches employed by them, who were condemned by the jury upon the slightest suspicion, and executed without mercy. Alderman Wood asserted, in parliament, that, in the year 1818, at a visitation of the prison, he had found thirteen men, mostly Irishmen and Germans, who had received counterfeit money from others, to buy bread, had been seized in the act and condemned, without any regard to their assertions that they were ignorant of the character of the money. These rewards were abolished in 1818, by an act of parliament (58 George III., c. 70), but the abuse in respect to the bank notes remained as before.

**INFULA** was, with the Romans, the wide, white woollen ornament of the head of priests, vestals, and even of animals offered for sacrifice, the hiding of the head being considered a mark of humiliation. At later periods, the imperial governors wore the *infula* as a sign of dignity, and, as such, it was adopted, in the seventh century, by the bishops of the Catholic church, who continue to wear it on solemn occasions, and have it, instead of a crown or helmet, in their coat of arms. It consists of two pieces, turning upward, of a pointed form, one before and one behind, so that in the middle there is a hollow. They are of pasteboard, or tin, and covered with white silk, the one in front being ornamented with a cross. The bishops of the church of England have an *infula* still in their coat of arms, but never wear it on the head. With them, however, it is generally called *mitre*, from *mitra*, which, according to Von Hammer, originally meant the globular part of the head-dress of Persian kings, indicating, originally, the ball of the sun, which the Persian kings wore on the crown, and the Egyptian on the head. *Mithra* was the genius of the sun with the Persians. See *Mithra*.

INGE; a Saxon word signifying *field*, appearing in many German geographical names, as *Thüringen*, *Thüngen*, *Zophingen*, &c.; also in Dutch names, as *broingen*.

INGENHOUS, John, a naturalist, born at Breda, in 1730, practised physic in his native city, and afterwards went to London, where he was well received by Pringle, the president of the royal society. The empress Maria Theresa, having lost two children by the small-pox, ordered her ambassador at London to send her an English physician, to vaccinate the others. Pringle recommended Ingenhous, who received honours and presents, at Vienna, for the easy operation, which was not then much practised. He then travelled, and finally settled near London, where he died in 1799. He was the author of several treatises on subjects of natural history, which he enriched by several important discoveries.

INGOT, in the arts, is a small bar of metal made of a certain form and size, by casting it in moulds. The term is chiefly applied to the small bars of gold and silver, intended either for coining or exportation to foreign countries.

INGRIA; a former province of Sweden, on the bay of Finland. It belonged, as early as the thirteenth century, to Russia, was inhabited by the Ingrians or Ishorians, and received its name from the river Iuger, the former name for Ishora, when the Swedes took possession of it in 1617. In 1700, the Russians reconquered it. It forms, at present, a part of the government of St Petersburg, in which the capital, St Petersburg, is situated.

INGULPHUS, abbot of Croyland, and author of the history of that abbey, was born in London about 1030. He received his early education at Westminster, and afterwards went to Oxford, where he applied to the study of Aristotle, and, as he says, "clothed himself down to the heel in the first and second rhetoric of Tully." In the year 1051, William, duke of Normandy, then a visitor at the court of Edward the Confessor, made Ingulphus, then of the age of twenty-one, his secretary. He accompanied the duke to Normandy, afterwards went on a pilgrimage to the Holy Land, and, upon his return, entered into the order of the Benedictines, at the abbey of Fontenelle, in Normandy, of which he became prior. On the acquirement of the crown of England by William, Ingulphus was created abbot of the rich monastery of Croyland. He died in 1109. His history of the monastery of Croyland is interspersed with many particulars of the English kings. It was published by Sir Henry Savile, in 1596, among the *Scriptores post Bedam*, and has been reprinted both at Frankfurt and at Oxford, the latter of these editions, dated 1684, being the most complete. The history of Croyland comprises from 664 to 1091.

INHERITANCE. See *Descent and Estate*.

INJECTIONS belong partly to surgery and partly to anatomy. In surgery, fluids, different, according to the different effects desired to be produced, are thrown, by means of a small syringe, into the natural cavities of the body, or those occasioned by disease, partly to remove unhealthy matter, and partly to bring the remedy immediately to the seat of the disorder, and thus effect a cure. Wounds and sores are usually cleansed in this way, when they extend far below the skin, for an excitement and cure are produced by the same method. Cato the Censor had one applied to himself when he suffered from a *fracture*. In diseases of the nose and the cavities connected with it, in those which have their seat in the neck, in disorders of the ears, the bladder, and urethra, the uterus and vagina, and for the radical cure of hydrocele, injections are often used, and with important advantages. Pure warm water is injected,

with the highest success, for the removal of pus, blood, or even foreign bodies. Sometimes astringent medicines, to restrain excessive evacuations, sometimes stimulating ones, to excite inflammation, as in hydrocele, or even to increase and improve evacuations, sometimes soothing medicaments, to mitigate pain, &c., are added to the water. In diseases of the throat which hinder the patient from swallowing, and thus tend to produce death by starvation, nourishing fluids are injected into the stomach. The blood of beasts, or of men, has been sometimes injected into the veins, which is called *transfusion*. In the same way, medicines are introduced immediately to the blood; for instance, tartar emetic to excite vomiting, if a foreign body is fixed in the throat so firmly as to restrain the patient from swallowing, and can neither be moved up nor down. According to the place where the injection is to be made, the instrument must be either longer or shorter, a straight or a curved tube. The size is regulated by the quantity of the liquid to be injected, and the force which is to be applied. Anatomists inject into the vessels of bodies various coloured fluids, which are liquid when hot, and coagulate when cold, to make the smaller ones visible. Thus the arteries, veins, and lymphatic vessels are injected. Anatomy has carried this art so far as to make very minute vessels visible to the naked eye.

INJUNCTION is a prohibitory writ, issuing by the order of a court of equity, restraining a person from doing some act which appears to be against equity, and the commission of which is not punishable by the criminal law. An injunction may be obtained to stay waste, as where a tenant for life, or years, is proceeding to cut down timber which he has no right to cut; to prevent vexatious litigation in the courts of common law, as where a man persists in bringing actions to recover an estate, notwithstanding repeated failures; to enable a man to make a just defence, which he could not make at common law, as where the legal defence to a claim rests exclusively, or to a great degree, in the knowledge of the party advancing the claim; to prevent infringement of a copyright, or a patent, &c.

INJURIA (*Latin*), in law; properly, every act by which some one suffers unlawfully. In the Roman law, the obligations arising from such violations formed a class by themselves, which were regulated by the *lex Aquilia*, so called because the tribune Aquilius (in the sixth century, between the destruction of Carthage and Corinth, and during the beginning of the civil wars) had caused the law to be enacted. At a later period, the right to ask legal redress was also extended to a mere violation of the honour of a person; and, in the laws of modern nations, this has been retained, though with a great variety of views. In the middle ages, the duel was authorized by law; and, when the laws took from individuals the right of redressing their own wrongs, it was deemed necessary to offer some other mode of redressing injuries to honour, which had been one of the most fruitful sources of duels. The common law of England punishes injuries to honour only when they amount to malicious attempts to blacken a man's reputation (see *Libel*, and *Slander*); but according to the Prussian code, a person may be sued for having used insulting language, or even insulting gestures, on the mere ground of violation of honour, and not of any other damage inflicted thereby. But, of late, the right has been considerably restricted; for instance, the complaint must be entered within a short period fixed by law, &c. According to the laws of the German states, the petition of the complainant may be to have the *amende honorable* made him, as by an apology for the insult, &c., or to have

the offender punished. Legislation and adjudication on injuries to honour are matters of much delicacy, beyond the limits of the English law, which makes reparation only in cases where the offence has produced, or is directly calculated to produce injury, to a man, in his character or business.

**INK, WRITING.** This material can be prepared of various colours, but black is the most common. Doctor Lewis gives the following receipt:—In three pints of white wine, or vinegar, let three ounces of gall-nuts, one ounce powdered logwood, and one ounce green vitriol be steeped half an hour; then add one ounce and a half gum Arabic, and, when the gum is dissolved, pass the whole mixture through a hair sieve. Van Mons recommended the following preparation:—Let four ounces gall-nuts, two ounces and a half sulphate of iron, calcined to whiteness, and two pints water, stand in a cool place 24 hours; then add one ounce and a quarter gum Arabic, and keep it in a vessel open, or slightly stopped with paper. Another recipe is this:—Take one pound gall-nuts, six ounces gum Arabic, six ounces sulphate of iron, and four pints beer, or water; the gall-nuts are broken, and stand as an infusion twenty-four hours; then coarsely-pounded gum is added, and suffered to dissolve; lastly, a quantity of vitriol is introduced, and the whole passed through a hair sieve. It is generally observed, that unboiled inks are less likely to fade than others. A good red ink is obtained as follows:—A quarter of a pound of the best logwood is boiled with an ounce of pounded alum, and the same quantity of cream of tartar, with half the quantity of water, and, while the preparation is still warm, sugar and good gum Arabic, of each one ounce, are dissolved in it. Solutions of indigo with pieces of alumina, and mixed with gum, form a blue ink. Green ink is obtained from verdigris, distilled with vinegar, and mixed with a little gum. Saffron, alum, and gum water, form a yellow.—It is not well ascertained how soon the present kind of writing ink came into use. It has certainly been employed for many centuries in most European countries; but the ancient Roman inks were, for the most part, of a totally different composition, being made of some vegetable carbonaceous matter, like lamp-black, diffused in a liquor. The Chinese, and many of the inks used by the Oriental nations, are still of this kind. Sometimes the ink of very old writings is so much faded by time as to be illegible. Doctor Blagden (*Philosophical Transactions*, vol. lxxvii.), in his experiments on this subject, found that, in most of these, the colour might be restored, or, rather, a new body of colour given, by pencilling them over with a solution of prussiate of potash, and then with a dilute acid, either sulphuric or muriatic; or else, *vice versa*, first with the acid, and then with the prussiate. The acid dissolves the oxide of iron of the faded ink, and the prussiate precipitates it again of a blue colour, which restores the legibility of the writing. If this be done neatly, and blotting paper laid over the letters as fast as they become visible, their form will be retained very distinctly. Pencilling over the letters with an infusion of galls also restores the blackness, to a certain degree, but not so speedily nor completely.

**China or Indian Ink.** The well known and much admired Indian, or China ink, is brought over in small oblong cakes, which readily become diffused in water by rubbing, and the blackness remains suspended in it for a considerable time, owing to the extreme subtilty of division of the substance that gives the colour, and the intimacy with which it is united to the mucilaginous matter that keeps it suspended. Indian ink does, however, deposit the whole of its colour by standing, when it is diffused in a considerable quantity of water. Doctor Lewis, on

examining this substance, found that the ink consisted of a black sediment, totally insoluble in water, which appeared to be of the nature of the finest lamp-black, and of another substance soluble in water, and which putrified by keeping, and, when evaporated, left a tenacious jelly, exactly like gum, or isinglass. It appears, probable, therefore, that a consists of nothing more than these two ingredients, and probably may be imitated with perfect accuracy by using a very fine jelly, like isinglass, or gum, and the finest lamp-black, and incorporating them thoroughly. The finest lamp-black known is made from ivory shavings, and thence called *ivory black*.

**Printers' Ink.** This is a very singular composition, partaking much of the nature of an oil varnish, but differing from it in the quality of adhering firmly to moistened paper, and in being, to a considerable degree, soluble in soap-water. It is, when used by the printers, of the consistence of rather thick jelly, so that it may be distributed over the types readily and thinly, when applied by rollers made of a composition of glue and molasses; and it dries very speedily on the paper, without running through to the other side, or passing the limits of the letter. It is made of nut-oil, boiled, and afterwards mixed with lamp-black, of which about two ounces and a half are sufficient for sixteen ounces of the prepared oil. Other additions are made by ink-makers, of which the most important is generally understood to be a little fine indigo in powder, to improve the beauty of the colour. Red printers' ink is made by adding to the varnish about half its weight of vermilion. A little carmine also improves the colour. (*Encyclopædie, Arts et Mètièrs*, vol. iii. page 518.)

**Coloured Inks.** Few of these are used, except red ink. The preparation of these is very simple, consisting either of decoctions of the different colouring or dyeing materials in water, and thickened with gum Arabic, or of coloured metallic oxides, or insoluble powders, merely diffused in gum-water. The proportion of gum Arabic to be used may be the same as for black writing ink. All that applies to the fixed or fugitive nature of the several articles used in dyeing, may be applied, in general, to the use of the same substance as inks. Most of the common water-colour cakes, diffused in water, will make sufficiently good coloured inks for most purposes.

**Sympathetic Inks;** liquids without any observable colour; any thing may be written with them invisible, and made visible at will by certain means. Even Ovid informed maidens who were closely watched, that they might write to their lovers whatever they pleased with fresh milk, and when dry sprinkle over it coal-dust, or soot. In modern times, chemistry has taught the preparation of many improved inks of this nature:—Form a solution of green vitriol in water, and add a little alum, to prevent the yellow iron precipitate from sinking, which always rises in case the acid does not prevail; this solution forms a sympathetic ink, which appears extremely black when it is moistened with a saturated infusion of gall-nuts. A sympathetic ink may likewise be formed from common black ink. For this purpose, the colour must be destroyed by a mixture of nitric acid. Any thing written with it becomes visible on moistening it with a solution of some volatile alkali. The famous ink, invisible in the cold, and visible at a moderate temperature, may be prepared without much difficulty. (See *Colours*.) Any writing with this ink is invisible; but, on the application of a certain degree of heat, it becomes a beautiful greenish blue. As soon as it cools again, the colour vanishes; and thus, by alternately heating and cooling it, the writing can be made visible or invisible. Care must be taken not to heat it more than is required to make

R. plain, for otherwise it always continues visible. With this sympathetic ink landscapes may be drawn, in which the trees and the earth lose their verdant appearance in the winter, but may be changed again into a spring landscape, at will, by exposing them to a gentle heat. This has been already tried on screens.

INLAND NAVIGATION. See *Canals*.

INN, a river in the south of Germany, rises in the Grisons, flows through Tyrol and Bavaria, and empties into the Danube at Passau. It is navigable from Telf. Inspruck (q. v.) is situated on this river.

INNATE IDEAS: certain primary notions, or impressions, supposed by many philosophers to be given to the mind of man when it first receives its being, and to be brought into the world with it. Their existence has afforded ground for much dispute among philosophers.

INNOCENT: the name of thirteen popes, among whom are the following:—

*Innocent I.*, saint, a native of Albano, succeeded Anastasius I., as bishop of Rome, in 402. He was in great favor with the emperor Honorius, and induced him to take severe measures against the Donatists. He supported St Chrysostom (q. v.), and renounced the communion with the Eastern churches, on account of their treatment of that eminent man. In 408, he was sent to obtain terms of peace from Alaric, but without success, in consequence of the opposition of the pretorian prefect Jovius. (q. v.) Rome was taken and pillaged, in 410, while Innocent was still in Ravenna. He condemned the Pelagians as heretics, in a letter to the African churches, but excited their opposition by his arrogant tone. He died in 417; according to some, in 416. He is one of the most distinguished among the saints; his day is July 28. His decrees (in the Collection of Dionysius Exiguus) and letters (most complete in Schœnemann's *Pontif. Rom. Epist. genuinæ*) prove his zeal for the establishment of the Roman supremacy; but part of them are considered, by many critics, spurious. Zosimus was his successor.

*Innocent II.*, a Roman of noble birth, elected pope, in 1130, by a part of the cardinals, whilst the others elected Peter of Leon, who took the name of *Anacletus*. Innocent fled to France, where, by the mediation of Peter of Clairvaux, he was acknowledged by the council of Etampes, by Louis VI., and, soon after, by Henry II. of England, also by the German king Lothaire, who conducted him, in 1138, to Rome, where he occupied the Lateran, whilst *Anacletus* occupied the castle of Crescentius, the church of St Peter, and a large part of the city. Innocent was soon obliged to retire to Pisa, and, though the emperor reinstated him, in 1137, *Anacletus* maintained himself until his death, in 1138. Having prevailed against another anti-pope, he held the second oecumenical council in the Lateran, where nearly 1000 bishops condemned Arnold of Brescia and his heresy, declared all the decrees of *Anacletus* null, and excommunicated Roger of Sicily, who had supported the latter. But Roger waged war against the pope, made him prisoner, and obliged Innocent to acknowledge him as king, absolve him from excommunication, and invest him and his heirs with Apulia, Calabria, and Capua. Towards the end of his pontificate, he put France under an interdict, and had to struggle with constant disturbances in Rome and Tivoli. He died in 1143. Celestine II. succeeded him. His letters are to be found in Baluze, Martène, and others.

*Innocent III.*, Lothaire, count of Segni, born at Anagni, in 1161, studied in Rome, Padua, and Bologna. On the death of Celestine III. (1198) cardinal John of Salerno declined the pontificate, which

had been offered to him, and proposed Lothaire, who was unanimously elected, at the age of thirty-seven. The death of the emperor Henry VI., in 1197, had thrown the imperial affairs in Italy into the greatest confusion. Innocent, in the vigour of manhood, endowed by nature with all the talents of a ruler, possessed of an erudition uncommon at that time, and favoured by circumstances, was better qualified than any of his predecessors to elevate the papal power, which he considered as the source of all secular power. By his clemency and prudence, he gained over the inhabitants of Rome, obliged the imperial prefect to take the oath of allegiance to him, and directed his attention to every quarter where he believed, or pretended to believe, that a papal claim of property, or of feudal rights, existed. From the imperial seneschal, duke Marquard of Romagna, he required homage for the Mark of Ancona, and, on his refusal to comply, took possession of the Mark, with the assistance of the inhabitants, who were dissatisfied with the imperial government, and excommunicated Marquard; obliged the duke Conrad of Spoleto to resign that duchy, and would also have taken Ravenna, if the archbishop had not prevented him. He concluded treaties with many cities of Tuscany for the mutual protection of their liberties and those of the church. Thus he soon obtained possession of the ecclesiastical states, in their widest extent. He conferred Naples on the widowed empress Constantia and her minor son, afterwards the emperor Frederic II., after having abolished all the privileges conceded by Adrian IV., in 1156, assumed the guardianship of the young prince, after the decease of the empress, and frustrated all the machinations of Marquard to deprive him of his inheritance. In Germany, Innocent favoured the election of Otho IV. against Philip of Suabia, crowned him, in 1209, at Rome, but soon became involved in disputes with him, on account of his violations of the promises which he had made to the church. He excommunicated Philip Augustus, king of France, laid the kingdom under an interdict, in 1200, because Philip had repudiated his wife, Ingeburge, and obliged the king to submit. He was still more decided in his treatment of John (q. v.), king of England, who refused to confirm the election of Stephen Langton as archbishop of Canterbury. Innocent laid the kingdom under an interdict, and, in 1212, formally deposed him, and instigated the king of France to attack England. John was finally obliged to submit, resigned his territories to Rome, and received them as a papal fief, from Innocent, from whom he was unable to obtain absolution until he had paid large sums of money. Almost all Christendom was now subject to the pope; two crusades were undertaken at his order, and his influence extended even to Constantinople. Innocent was one of the greatest popes and rulers; he acted in accordance with the principles laid down in his writings; he enforced purity of morals in the clergy, and was himself irreproachable in private life; yet the cruel persecution of the Albigenses in the south of France, which he encouraged, though without approving of all its rigours, and the inquisitorial tribunals established by him in 1198, from which the inquisition itself originated, are stains on his pontificate, but partially effaced by a consideration of the spirit of the times and the disordered state of the Christian world. It may be said of his rule, as of that of Gregory VII., whom he most resembles, that, in those times, the power of the pope was salutary, as a bond of union for Europe, in which the still firmer bond of a common civilisation and knowledge did not, as at present, exist. His attacks on the secular power are to be considered as the struggle between the ecclesiastical and secular

power, which was natural and necessary in the development of European civilization. If he had not subdued the monarchs, they would have crushed the papal power. In 1215, he held a council of more than 1300 archbishops, bishops, prelates, and ambassadors of European princes, by which transubstantiation in the Lord's supper and auricular confession were established as dogmas, Frederic II. was acknowledged as German emperor, and the Franciscan and Dominican orders were confirmed. Innocent died soon after, on the 16th of July, 1216. Some of his works on legal and theological subjects were published in Cologne, 1575, folio. The best edition of his letters, important for the history of the time (eleven books), is that of Baluze (Paris, 1682). The *Sebat Mater* and *Veni Sancte Spiritus*, and other sacred hymns, are said to have been written by him. Honorius III succeeded him.

*Innocent XI.* (Benedict Odescalchi) was born at Como, in 1611, served, in his youth, as a soldier, in Germany and Poland, took orders, at a later period, and rose through many important posts, until he was elected pope in 1676, on the death of Clement X. He was eminent for his probity and austerity; he zealously opposed nepotism (q. v.) and simony, restrained luxury and excess, and even prohibited women from learning music. Though hostile to the Jesuits, whose doctrine of probabilities he publicly disapproved, and attacked sixty-five of their opinions in the decree *Super quibusdam axiomat. moralibus*, yet he was obliged to condemn Molinus and the Quietists. He determined to abolish the privileged quarters (the ground for a considerable distance around the palaces of certain ambassadors in Rome, which was considered as foreign territory, in which criminals were out of reach of the authorities); but Louis XIV., the vainest of monarchs, would not yield to so just a claim, occupied Avignon, and imprisoned the papal nuncio in France; in consequence of which, the authority, and particularly the acknowledgment of the infallibility of the pope, received a severe blow, by the *II. Propositiones Cleri Gallicani*, in 1682. (See *Infallibility and Gallican Church*.) These disputes were highly favourable to the English revolution, as it induced the pope, in 1689, to unite with the allies against James II., in order to lower the influence of Louis XIV. His conduct in this respect has led many Catholics to assert that he sacrificed the Catholic religion to his personal resentment; and it was pointedly said, that "to put an end to the troubles of Europe, it was only necessary for James II. to become a Protestant, and the pope a Catholic." Bayle, however, judiciously observes, that the extreme predominance of any great Catholic sovereign is injurious to the interests of the papacy, and mentions the similar conduct of Sixtus V., another able pope, in relation to Philip II. of Spain and Queen Elizabeth of England. Innocent died August 12, 1689, at the age of seventy-eight, leaving behind him the character of an able and economical pontiff, and of an honest and moral man. Had he not died, an open rupture with France might have ensued. Alexander VIII. succeeded him.

**INNS OF COURT.** The colleges of the English professors and students of common law are called *inns*, the old English word for the houses of noblemen, bishops, and others of extraordinary note, being of the same signification as the French *hôtel*. It is not possible to determine precisely the antiquity of the establishment of inns of court. The received opinion is, that societies of lawyers, which, before the conquest, held their chief abodes for study in ecclesiastical houses, began to be collected into permanent residences, soon after the court of common pleas was directed to be held in a fixed place,—a

stipulation which occurs in the great charters both of king John and Henry III. In these houses exercises were performed, lectures read, and degrees conferred; that of barristers, or, as they were first styled, *apprentices* (from *apprendre*, to learn), answering to bachelors; that of sergeants (*servientes ad legem*) to doctors. The inns of court were much celebrated for the magnificence of their revels. The last of these took place in 1733, in the Inner Temple, in honour of Mr Talbot, when he took leave of that house, of which he was a benchers, on having the great seal delivered to him. Fortescue, lord chancellor of England in the reign of Henry VI., says in his treatise *De Laudibus Legum Anglia*, that in his time, there were about 2000 students in the inns of court and chancery, all of whom were gentlemen born. In the reign of queen Elizabeth, Sir Edward Coke did not reckon above a thousand students, and the number at present is very considerably less. The inns of court are governed by masters, principals, benchers, stewards, and other officers, and have public halls for exercises, readings, &c., which the students are obliged to attend and perform for a certain number of years, before they can be admitted to plead at the bar. These societies have not any judicial authority over their members; but, instead of this, they have certain orders among themselves, which have, by consent, the force of laws. For light offences, persons are only excommunicated, or put out of commons; for greater, they lose their chambers, and are expelled the college; and, when once expelled from one society, they are never received into any of the others. The gentlemen in these societies may be divided into benchers, outer barristers, inner barristers, and students. The four principal inns of court are the Inner Temple and Middle Temple (formerly the dwelling of the knights Templars, and purchased by some professors of the common law, more than three centuries since); Lincoln's Inn and Gray's Inn (anciently belonging to the carls of Lincoln and Gray). The other inns are the two Serjeants' Inns.

*Inns of Chancery* were probably so called because anciently inhabited by such clerks as chiefly studied the forming of writs, which regularly belonged to the cursitors, who are officers of chancery. These are Thavie's Inn, the New Inn, Symond's Inn, Clement's Inn, Clifford's Inn (formerly the mansion of lord Clifford), Staple's Inn (which belonged to the merchants of the staple), Lion's Inn (anciently a common inn, with the sign of the lion), Furnival's Inn, and Bernard's Inn. These were formerly preparatory colleges for younger students, and many were entered here before they were admitted into the inns of court: now they are mostly taken up by attorneys, solicitors, &c. At the present day, previously to being called to the bar, it is necessary to be admitted a member of one of the inns of court. The regulations of Lincoln's Inn, to which those of the other inns bear a strong resemblance, are alone given in the following account:—The applicant for admission need not be present, but the application may be made through the medium of a third person; the applicant must be recommended to the society by one of its members, or by two housekeepers, who are required to certify that they know the applicant to be a proper person for admission. A bond must also be entered into by the applicant himself and the recommending member, or housekeepers, in the sum of £100, conditioned for the due payment of his fees to the society. The fees are generally more than £5 and less than £8 a year; the expense of admission, in the year 1827, amounted to £31, 16s. Before the student commences keeping his terms for the English law, he must deposit with the society the sum of

£100, which is returned, without interest, if the student dies, or quits the society, or is called to the bar. No deposit is required from those who can produce a certificate of having kept two years' terms in the universities of Oxford, Cambridge, or Dublin, or of being of the faculty of advocates in Scotland, nor from those who are admitted merely for the purpose of being called to the Irish bar. Persons removing from one inn to another are allowed the terms which they have kept in their original inns. A term is kept by the student being present at five dinners during the term; three dinners suffice for three quarters of a term; one dinner, during the grand week, for half a term. The student must keep twelve terms (sixty dinners) before he can be called to the bar, and his name must have been five years on the books, unless he produce a certificate of having taken the degree of master of arts, or bachelor of law, at Oxford, Cambridge, or Dublin, in which case three years will suffice. He must also have gone nine times through a certain ceremony, which is called *performing an exercise*. Exercises are performed thus:—The student is furnished, by the steward of the society with a piece of paper, on which is supposed to be written an argument on some point of law, but, owing to the negligence of successive copyists, the writing now consists of a piece of legal jargon, wholly unintelligible. When, after dinner, grace has been said, the student advances to the barrister's table, and commences reading from this paper; upon which one of the senior barristers present makes him a slight bow, takes the paper from him, and tells him that it is quite sufficient. Students intended for the Irish bar keep eight terms in England, and the remainder in Ireland. When the twelve terms have been kept, and the nine exercises performed, the student may petition the benchers to call him to the bar. Except under very peculiar circumstances, the petition is granted, as a matter of course. After dinner, on the day appointed for the call, the student is required to take certain oaths. He then retires with the benchers to the council chamber, which adjoins the hall, to sign the register of his call. There are certain oaths to be taken in the courts of Westminster hall. These should be taken within six months after the call. No attorney, solicitor, clerk in chancery or the exchequer, unless he has discontinued practice for two years in such branches of his profession, and no person who is in deacon's orders, or under twenty-one years of age, can be called. The expense of being called is between £90 and £100. The three years, during which a student is keeping terms, are spent by him in the chambers of a conveyancer, an equity draftsman, or a special pleader.

INNSBRUCK, INNSBRUCK, INNSBRUCK, or INNSBRUGG; the capital of Tyrol, on the Inn, over which there is a bridge; lat. 47° 16' 18" N.; lon. 11° 23' 53" E. The city, 1754 feet above the level of the sea, has considerable suburbs, some fine churches, 10,200 inhabitants, and 574 houses. It contains a university, and a general seminary for Tyrol connected with it, and manufactories of several kinds. The works of art in one of the churches, particularly the statues in bronze of the members of the house of Hapsburg, are celebrated. Not far from Innsbruck is the castle of Ambras, (q. v.) Innsbruck is the seat of the Austrian provincial government for Tyrol, and of the assembly of the estates established in 1816. See *Austria*.

INNUEUDO. In an action for a written libel, or for verbal slander, if the offensive words are not in themselves sufficiently intelligible, or if, without explanation, their slanderous tendency does not appear, it is usual for the plaintiff, in his declaration,

which is the written statement of his complaint, to insert parenthetically into the body of the libel the necessary explanation; as, for instance—He (meaning the plaintiff) is forsworn (meaning that he had perjured himself in prosecuting the said defendant). These comments have the Latin name *innuendo*, signifying *meaning*, because *innuendo*, in former times, was always used instead of the word *meaning*, in these explanations. The general rule with regard to innuendoes is, that they must be merely explanatory, introducing no new matter, but only referring to something previously mentioned.

INO, daughter of Cadmus and Harmonia, second wife of Athamas, king of Thebes, drew upon herself the anger of Juno by nursing the young Bacchus, the son of her sister Semele. In order to favour her own children, she projected the murder of her step-children, Phryxus and Helle. Being warned by their mother, Nephele, who appeared to them in a dream, they saved themselves by flight. Juno was still more highly incensed against Ino by this attempt; she made Athamas, the husband of Ino, mad, and, in his frenzy, he dashed his eldest son by Ino, Learchus, against a rock. Ino fled with her youngest son, Melicerta, and threw herself with him into the sea. The body of the boy was carried by a dolphin to the shore, where king Sisyphus caused it to be buried, and instituted in honour of him the well-known Isthmian games (q. v.), as Ino and Melicerta were made sea-deities, at the prayer of Venus. Ino was worshipped under the name of *Leucothea*. According to another account, the body of Melicerta was at first left unburied, and caused a dreadful pestilence, whereupon the oracle, being consulted, ordered that the body should be buried with the usual rites, and that games should be instituted in honour of Melicerta.

INOCULATION, in medicine, is the introduction, by a surgical operation, of a minute portion of purulent matter into contact with the true skin, for the purpose of exciting artificially a milder form of some contagious disease, and thereby protecting the human system against similar attacks in future; keeping in mind, however, that such a process can be only of efficacy in regard to diseases which attack us only once in the course of our lives. Such, for instance, as small-pox. This fatal and loathsome disease appears to have been unknown to the ancient Greeks and Romans, as no mention is made of it in their writings. It is said to have been first noticed during the siege of Mecca, in 522, when it attacked the Arabian and Abyssinian Christians. But, however that may be, it is at least certain that it raged in Egypt during the siege of Alexandria, in the year 640. It first showed itself in Europe and England, about the time when the crusaders returned from the wars of the Holy land; and the mortality which resulted from it was excessive. And in 1520, when it visited, for the first time, some of the provinces of South America, it proved fatal to not less than one half of the population there.

The practice of inoculation, although long followed in some obscure parts of Wales, seems to have been scarcely known throughout England, till the early part of last century, and its adoption is chiefly due to the exertions of lady Mary Wortley Montague, whose admirable letters are so well known. The small-pox had been raging with great mortality in Turkey for some years previous to her ladyship's going thither; and the practice of inoculation, which had been long known and followed by the poorer classes of European Greeks, had lately been had recourse to by the wealthier inhabitants. Her ladyship had her own son inoculated at Pera, with success; and on her

return to England, exerted herself to procure its adoption at home.

For many years the practice met with the greatest opposition, both from the medical profession and the clergy; and several mistakes, of a serious nature, happened, owing to the nature of the plan being but little understood. A pamphlet, published by Dr Jurin, had a great effect in elucidating the subject, and paving the way for the general adoption of so useful an operation, by placing all the disputed points in a clearer point of view; and showing, by numerous facts, that the inoculated small-pox had proved a perfect security against the recurrence of the disease; and that the hazard of inoculation was infinitely less than that of the natural small-pox. Dr Jurin stated that the number of deaths in London, for forty years preceding, had been 903,798, of which 65,079 were occasioned by the natural small-pox; and that more than one-fourteenth part of mankind died from this disease. Of those who were seized with small-pox, two in seventeen, or nearly one in nine, were carried off by it; and, indeed, the mortality from natural small-pox, in some families of the poor, had even amounted to one in five or six; while, on the contrary, of those inoculated, the proportion of fatal cases was not greater than one in sixty. These arguments were further strengthened by the favourable testimonies of Drs Mead and Frewer, and some public establishments were created in London, for the purpose of diffusing the benefits of this practice, in the year 1746.

About the year 1767, the attention of the public was long and powerfully excited by a new and more successful method of inoculation introduced by Mr Sutton, a surgeon in Essex. It consisted chiefly in shortening the period of medicinal preparation from a month to a few days, and in keeping his patients much in the open air during the whole progress of the disease. Of his great popularity and success some idea may be formed, by the fact, that, in the first year of his practice, he received two thousand, and in the second, six thousand guineas in fees. His plan consisted in abstinence from animal food and fermented liquors during the fortnight of preparation; in the course of which, also, he administered, at intervals, three doses of some alternative mercurial powder over night, followed next morning by a dose of neutral purgative salts. May, June, July, and August, were selected by him as the most fit months for his more delicate subjects. He used recent fluid matter for inoculating, and introduced it under a piece of raised cuticle, taking, if possible, his matter from the arm of another inoculated patient before the eruptive process. A pill, (believed to be of extract of poppies), was given on the night following the operation, and every second night till the eruptive fever came on. The same low scale of diet was enjoined during the course of the disease. If, during the eruptive fever, the skin was dry and hot, some drops were given which produced profuse sweating. In cases where the fever was violent, he used to give a powerful powder or pill (the nature of which he kept secret) and cold water to allay the heat; with draughts of tepid balm tea when perspiration came on. On the ceasing of which, and coming out of the pustules, he enjoined exercise or gestation in the open air, and allowed the use of milk gruel in any quantities. In proportion to the severity of the local symptoms of inflammation, he enjoined a lower scale of diet. Sir George Baker ascribed the success attending this Suttonian method, as it was called, chiefly to the free and cool country air, which also formed part of the regimen and plan adopted by the great Dr Sydenham in the treatment of the natural small-pox, whilst others of his friends attributed his success

to some secret remedies he used, and to his taking the matter at a very early stage of the distemper. See *Small Pox and Vaccination*.

IN PALCO (*Ital.*); an expression alluding to a stage performance. Oratorios were originally performed in Italy on a stage erected in the church; that is, in *palco*.

IN PONTIFICALIBUS (*Latin*, in the full dress of a priest); frequently applied, in sport, to a person in full dress on any occasion.

INQUISITION. The immediate cause of the erection of the tribunals of faith, was the sect of the Albigenses, the persecution of whom, in the twelfth and thirteenth centuries, made the south of France a scene of blood. (See *Albigenses*.) The project of extirpating the rebellious members of the church, and of extending the papal power at the expense of the bishops, by means of the inquisition, was conceived by pope Innocent III. (who ascended the papal chair in 1198) and was completed by his immediate successors. This tribunal, called the *holy inquisition*, or the *holy office* (*sanctum officium*), was under the immediate direction of the papal chair; it was to seek out heretics and adherents of false doctrines, and to pronounce its dreadful sentence against their fortune, their honour, and their lives, without appeal. The process of this tribunal differed entirely from that of the civil courts. The informer was not only concealed, but rewarded by the inquisition. The accused was obliged to be his own accuser; suspected persons were secretly seized and thrown into prison. No better instruments could be found for inquisitors, than the mendicant orders of monks, particularly the Franciscans and Dominicans, whom the pope employed to destroy the heretics, and inquire into the conduct of bishops. Pope Gregory IX., in 1233, completed the design of his predecessors, and, as they had succeeded in giving these inquisitorial monks, who were wholly dependent on the pope, an unlimited power, and in rendering the interference of the temporal magistrates only nominal, the inquisition was successively introduced into several parts of Italy, and into some provinces of France; its power in the latter country being more limited than in the former. The tribunals of faith were admitted into Spain in the middle of the thirteenth century, but a firm opposition was made to them, particularly in Castile and Leon, and the bishops there maintained their exclusive jurisdiction in spiritual matters. But a change afterwards took place; and while, in other countries of Europe, the inquisition could never obtain a firm footing, but in some fell entirely into disuse, as in France, and in others, as in Venice, was closely watched by the civil power, an institution grew up in Spain, towards the end of the fifteenth century, which was the most remarkable of all the inquisitorial courts in the middle ages, and differed much from the rest in its objects and organization.

Ferdinand of Arragon, and Isabella of Castile, having united their power, made many efforts to break the strength of the nobles, and to render the royal authority absolute. The inquisition was used as a means of effecting their plans. There were three religious parties in Spain, Christians, Jews, and Mohammedans. The Moors still maintained possession of the last remnant of their empire, the kingdom of Grenada, which was, however, already threatened by the arms of Ferdinand and Isabella. The Jews had their synagogues, and formed a distinct class in the principal cities of Spain. Commerce was principally in their hands; they were the lessees of the king and the nobles, and suffered no oppression, being subject only to a moderate capitation tax, which they had been obliged to pay to the clergy since the year 1300. The riches which they had amassed by their industry,

exposed them to great envy and hatred, which was nourished by the ignorant priests. The sermons of a fanatical monk, Fernando Martines Nunes, who preached the persecution of the Jews as a good work, was the principal cause of the popular tumults in many cities, in 1391 and 1392, in which this unhappy people was plundered, robbed, and murdered. Many Jews submitted to baptism to save their lives, and the descendants of these unfortunate men were, for about 100 years, the first victims of inquisitorial seal.

In 1477, when several turbulent nobles had been reduced in the southern part of Spain, queen Isabella went to Seville with the cardinal Pedro Gonsales de Mendoza: there this prelate, as archbishop of Seville, made the first attempt to introduce the inquisition. At his command, punishments were publicly and privately inflicted, and it was discovered, among other things, that many citizens of Seville, of Jewish origin, followed, in private, the manners and customs of their fathers. The cardinal charged some of the clergy privately to enlighten the faith of these people, and to make the hypocrites true sons of the church. These teachers brought back many to the faith; but many, who persevered in their opposition to the doctrines of the church, were condemned and punished.

After this prelude, the design was disclosed of extending the inquisition over the whole country; and Mendoza laid the project before the sovereigns Ferdinand and Isabella. They approved of an institution, which, at the same time, suited the persecuting spirit of the age, and could be used as a powerful engine of state. The design was, by means of this institution, which was to be entirely dependent on the court, to oppress those who were, either secretly or openly, Jews or Mohammedans (and many Christian nobles belonged to the party of the Mohammedans, the standing allies of malcontents), to enrich the royal treasury, to which the property of the condemned was confiscated, and to limit the power of the nobles, and even of the clergy. In the assembly of the states, held at Toledo, 1480, the erection of the new tribunal was urged by the cardinal. After the superior branches of administration—the supreme council of Castile, the council of state, the board of finance, and the council of Arragon—had been confirmed by the estates, the cardinal declared that it was necessary to establish a permanent tribunal, to take cognizance of matters of faith, and administer the ecclesiastical police. In spite of all opposition, it was determined to establish a tribunal, under the name of the general inquisition (*general inquisition suprema*), and the new court was soon opened in Seville (1481). Thomas de Torquemada, prior of the Dominican convent at Segovia, and father-confessor to the cardinal Mendoza, had already been appointed by Ferdinand and Isabella, the first grand inquisitor, in 1478. He had 200 familiars and a guard of fifty horsemen, but he lived in continual fear of poison. The Dominican monastery at Seville soon became insufficient to contain the numerous prisoners, and the king removed the court to the castle in the suburb of Triana. At the first *auto da fe* (act of faith), seven apostate Christians were burnt, and the number of penitents was much greater. Spanish writers relate, that above 17,000 gave themselves up to the inquisition, more than 2000 were condemned to the flames the first year, and great numbers fled to the neighbouring countries. Many Jews escaped into Portugal, Africa, and other places.

The pope, however, had opposed the establishment of the Spanish inquisition, as the conversion of an ecclesiastical into a secular tribunal. Soon after the appointment of the new inquisitor, he had directed the archbishop of Toledo, a warm enemy of Mendoza,

to hold a solemn court over a teacher in Salamanca, who was charged with heretical opinions, and the inquisitor-general was repeatedly summoned to Rome. Torquemada, however, did not obey the summons, but sent a friend to defend his cause. The contest between the pope and the Spanish court, was carried on with heat, until 1483, when Sixtus IV. was obliged to yield, and acknowledge Torquemada as inquisitor-general of Castile and Leon. He was also authorized, by the papal bull, to establish inferior courts at pleasure, to remove those judges who had been appointed by the pope, and to regulate the manner of proceeding in inquiries respecting matters of faith according to the new plan. A later bull subjected Arragon, Valencia, and Sicily, the hereditary dominions of Ferdinand, to the inquisitor-general of Castile; and thus the inquisition was the first tribunal whose jurisdiction extended over the two Spanish kingdoms of Castile and Arragon; the Arragouese estates, at their session at Tarragona, in 1484, being obliged to swear to protect the inquisition.

The introduction of the new tribunal was attended with risings and opposition in many places, excited by the cruelty of the inquisitors, and encouraged, perhaps, by the jealousy of the bishops; several places, particularly Saragossa, refused admission to the inquisitors, many of whom lost their lives; but the people were obliged to yield in the contest, and the kings became the absolute judges in matters of faith; the honour, the property, and the life of every subject was in their hands. They named the grand inquisitor; and by them, or under their immediate influence, were his assessors appointed, even the secular ones, two of whom were of the supreme council of Castile, laymen being permitted to hold the office. This tribunal was thus wholly dependent on the court, and became a powerful instrument for establishing the arbitrary power of the king on the ruins of the national freedom; for putting down the clergy, who had previously acknowledged only the jurisdiction of the Roman see; for oppressing the bold nobles, and taking away the privileges of the estates. The property of those who were condemned, fell to the king; and, although it had been granted to the inquisition, it was still at his disposal. Ferdinand and Isabella, indeed, devoted a part of this property to found convents and hospitals; but the church, notwithstanding, lost many possessions by means of the inquisition; and an ordinance, drawn by Torquemada (1487), proves that it was a source of revenue to the king, supplying the treasury, which was exhausted by the war: the inquisitorial chest was, indeed, at that time, drained by so many royal draughts, that the officers could not obtain their salaries.

The first ordinance, by Torquemada, dedicating the tribunal to the service of God and their majesties, bears date 1484. Among other articles are the following, showing the political importance of the institution. In every community, the grand inquisitor shall fix a period, from thirty to forty days, within which time, heretics, and those who have relapsed from the faith, shall deliver themselves up to the inquisition. Penitent heretics and apostates, although pardoned, could hold no public office; they could not become leasees, lawyers, physicians, apothecaries, or grocers; they could not wear gold, silver, or precious stones, or ride, or carry arms, during their whole life, under penalty of being declared guilty of a relapse into heresy; and they were obliged to give up a part of their property for the support of the war against the Moors. Those who did not surrender themselves within the time fixed, were deprived of their property irrevocably. The absent also, and those who had been long dead, could be condemned,

provided there was sufficient evidence against them. The bones of those who were condemned after death, were dug up, and the property which they had left reverted to the king.

Torquemada died in 1493, and was buried in the Dominican convent at Avila, which had been built with the property taken from heretics, and was a monument of his cruel zeal. He had resigned his office two years before, being afflicted with the gout. According to another account, Torquemada did not retire so quietly from the stage. It is said that, suspecting that Ferdinand and Isabella, whom the wars with the Moors had involved in great pecuniary embarrassments, would be moved by the great sums which were offered them, to limit the privileges of the inquisition, and disturbed by this apprehension, he went to the royal palace, with a crucifix under his mantle. "I know your thoughts," said he boldly to the sovereigns; "behold the form of the crucified one, whom the godless Judas sold to his enemies for thirty pieces of silver. If you approve the act, yet sell him dearer. I here lay down my office, and am free from all responsibility; but you shall give an account to God." He then laid down the cross, and left the palace.

At first, the jurisdiction of the inquisition was not accurately defined; but it received a more regular organization by the ordinance of 1484, establishing branches in the different provinces of Spain, under the direction of the inquisitor-general. In later times, the supreme tribunal was at Madrid. The inquisitor general presided. Of the six or seven councillors, whom he appointed on the nomination of the king, one, according to an ordinance of Philip III., must be a Dominican. He had a fiscal, two secretaries, a receiver, two relators, and several *officials*, as they were called, who were appointed by the grand inquisitor, in concurrence with the king. The inquisitorial council assembled every day, except on holidays, in the royal palace; on the last three days of the week, two members of the council of Castile were present at the meeting. It was the duty of some of the officers (*calificadores*) to explain whether any act or opinion was contrary to the doctrines of the church; others were lawyers, who merely had a deliberative voice. The sentence of the inquisition was definitive. It was the duty of the fiscal to examine the witnesses, to give information of criminals, to demand their apprehension, and to accuse them when seized. He was present at the examination of the witnesses, at the torture, and at the meeting of the judges, where the votes were taken. It was the duty of the registers, besides the preparation of the necessary papers, to observe the accuser, the witnesses, and the accused, during their legal examination, and to watch closely the slightest motion by which their feelings might betray themselves. The officials were persons sent by the court to arrest the accused. A *secuestrador*, who was obliged to give sureties to the office, kept an account of the confiscated property. The receiver took the money which came from the sale of sequestered property, and paid the salaries and drafts on the treasury. It is computed, that there were in Spain above 20,000 officers of the inquisition, called *familiares*, who served as spies and informers. These places were sought even by persons of rank, on account of the great privileges connected with them. As soon as an accuser appeared, and the fiscal had called upon the court to exercise their authority, an order was issued to seize the accused. In an ordinance of 1732, it was made the duty of all believers, to inform the inquisition if they knew any one, living or dead, present or absent, who had wandered from the faith, who did observe or had observed the law of Moses,

or even spoken favourably of it; if they knew any one, who followed or had followed the doctrines of Luther; any one who had concluded an alliance with the devil, either expressly or virtually; any one who possessed any heretical book, or the Koran, or the Bible in the Spanish tongue; or, in fine, if they knew any one who had harboured, received, or favoured heretics. If the accused did not appear at the third summons, he was excommunicated.

From the moment that the prisoner was in the power of the court, he was cut off from the world. The prisons, called *holy houses* (*casas santas*), consisted of vaulted apartments, each divided into several square cells, which were about ten feet high, and stood in two rows, one over the other. In the upper cells, a dim ray of light fell through a grate; the lower were smaller and darker. Each dungeon had two doors. The inner, which was bound with iron, had a grate, through which food was introduced for the prisoner. The other door was opened, early in the morning, to air the cell. The prisoner was allowed no visits from his friends or relations; no book of devotion was given him; he was compelled to sit motionless and silent in his dark cell, and, if his feelings found vent in a tone of complaint, or even in a pious hymn, the ever-watchful keeper warned him to be silent. Only one captive was usually placed in each cell, unless for the purpose of making discoveries. At the first hearing, the accused was called upon to confess his guilt. If he confessed the crime of which he was accused, he pronounced his own sentence, and his property was confiscated. If he declared himself innocent, contrary to the testimony of the witnesses, he was threatened with torture. The advocate who was appointed to defend him, could not speak to him, except in the presence of the inquisitors. The accused was not confronted with the accuser nor the witnesses before the court, neither were they made known to him; and he was often subjected to the torture, to extort a confession, or to explain circumstances which had not been fully explained by the witnesses. Those who escaped death by repentance and confession, were obliged to abjure their errors, and to swear to submit to all the pains and penalties which the court ordered. Imprisonment, often for life, scourging, and the loss of property, were the punishments to which the penitent was subjected. He was made infamous, as well as his children and grand-children. Wearing the *san-benito* (the blessed vest of penitence, a sort of coarse, yellow tunic, with a cross on the breast and back, and painted over with devils) was a common method of punishment. An accused person, who was fortunate enough to escape before the officers of the inquisition could seize him, was treated as an obstinate heretic. Summonses were posted up in all the public places, calling on him to appear. If he did not do this within a certain time, and if the evidence of the witnesses proved the charges, he was delivered over to the secular power, and burnt in effigy. Persons who had been dead more than forty years, were condemned, and, though their children retained possession of the property they had inherited, yet they were dishonoured, and rendered incapable of holding any public office.

When sentence of death was pronounced against the accused, the holy *auto da fe* was ordered. This usually took place on Sunday, between Trinity Sunday and Advent. At daybreak, the solemn sound of the great bell of the cathedral called the faithful to the dreadful spectacle. Men of high rank pressed forward to offer their services in accompanying the condemned, and grandees were often seen acting as familiars to the inquisition. The condemned appeared barefooted clothed in the dreadful *san benito*, with a

conical cap (*carroza*) on their heads. The Dominicans, with the banner of the inquisition, led the way. Then came the penitents, who were to be punished by fines, &c., and after the cross, which was borne behind the penitents, walked the unfortunate wretches who were condemned to death. The effigies of those who had fled, and the bones of the dead who had been condemned, appeared in black coffins, painted over with flames and hellish forms; and the dreadful procession was closed by monks and priests. It proceeded through the principal streets of the city to the church, where a sermon was preached, and the sentence was then pronounced. The convicted stood, during this act, before a crucifix, with an extinguished taper in their hands. As "the church never pollutes herself with blood," a servant of the inquisition, when this ceremony was finished, gave each of those who had been sentenced a blow with the hand, to signify that the inquisition had no longer any power over them, and that the victims were abandoned (*relaxados*) to the secular arm. A civil officer, "who was affectionately charged to treat them kindly and mercifully," now received the condemned, bound them with chains, and led them to the place of execution. They were then asked in what faith they would die. Those who answered the Catholic, were first strangled; the rest were burnt alive. The *autos da fé* were spectacles to which the people thronged as eagerly as to the celebration of a victory. Even the kings considered it a meritorious act to be present, with their courts, and to witness the agonies of the victims.

In this manner did the inquisition proceed, in the times of its most dreadful activity. The Spaniards found their personal freedom so much restrained, even in the early period of the existence of this office, that one of the principal requests of the disaffected, in the reign of Charles I. was, that the king should compel the inquisition to act according to the principles of justice. But the important influence which this court had, in the course of the following century, both on the state and on the moral character of the Spaniards, could not, at that time, have been anticipated. This noble and high-spirited people were more debased by the dark power of the inquisition than by any other instrument of arbitrary government, and the stagnation of intellectual action, which followed the discovery of America, concurred, with other fatal causes, to diminish the industry of the people, to weaken the power of the state, and to prevent, for a long time, any progress to higher degrees of moral and intellectual improvement. In more modern times, when the spirit of persecution was restrained in almost all other countries of Europe, the original organisation of the inquisition was but little changed; still the dread of this dark court gradually diminished. The horrible spectacle of an *auto da fé* was seldom witnessed during the last century, and the punishments of the inquisition were confined, in a considerable degree, to those men who had become obnoxious to justice. In 1762, the grand inquisitor having, contrary to the express will of the king, published a bull, excommunicating a French book, was exiled to a monastery at a distance from Madrid. A royal decree forbade the inquisition to issue any commands without the consent of the king, and required the grand inquisitor, in the condemnation of books, to conform to the laws of the land, and to make known his prohibition only by virtue of the power given him by his office, and not with the citation of bulls. The decree also ordered that, before prohibiting any book, the author should be cited, that his defence might be heard. In 1770, during the administration of Aranda, the power of the inquisition was limited to the punish-

ment of obstinate heretics and apostates, and it was forbidden to imprison any of the king's subjects, without first fully proving their guilt. In 1784, it was determined that, if the inquisition instituted a process against a grandee, a minister, or, in short, against any officer of rank, its acts must be subjected to the royal inspection.

If we consider the principal acts of the inquisition during the eighteenth century, we shall see that, notwithstanding the restraint exercised over it, it still remained an instrument which, under favourable circumstances, might exert a terrible influence. There were sixteen provincial inquisitions in Spain and the colonies, all subject to the supreme tribunal. As late as 1763, we find that, at an *auto da fé* at Llerena, some obstinate heretics were committed to the flames, and, in 1777, the inquisition armed itself with all its terrors against a man who was guilty of nothing more than imprudence—the celebrated Olavides (q. v.); and, in 1780, a poor woman of Seville was declared guilty of witchcraft, and was burnt alive at the stake. With all the limits which had been set to its power, with all the mildness of the tribunal, whose principal officers, under the preceding reigns, had been mostly men of intelligence and moderation, still the odious spirit of the institution, and the unjust form of procedure, survived; and, until the moment when it was abolished by Napoleon (December 4, 1808), the inquisition continued to be a powerful obstacle to the progress of the human intellect. The inquisition published annually a catalogue of prohibited books, in which, among some infidel and immoral works, many excellent or innocent books were included. All the attempts of enlightened men, towards effecting the destruction of this antiquated instrument of a dark policy, during the two last reigns, were without connexion, and therefore without effect, and they sank under the artifices which an all-powerful favourite, the clergy and the inquisition employed for their common advantage. The process, concluded as late as 1806, against two learned and excellent canons—Antonio and Gerónimo Cuesta, whose destruction their unworthy bishop, under the protection of the prince of peace, had striven to effect—was the last sign of life in this terrible court, and plainly shows that intrigue, when united with the secret power of the inquisition, had great influence in Spain, even in recent times; and the decision of the king, which declared the accused innocent, and condemned the proceedings of the inquisition as contrary to law, was yet tender towards the inquisitors, and confirmed the general opinion, which punished those who had fallen into the power of the inquisition with the loss of public esteem.

According to the estimate of Llorente, the number of victims of the Spanish inquisition, from 1481 to 1808, amounted to 341,021. Of these, 31,912 were burnt, 17,659 burnt in effigy, and 291,456 were subjected to severe penance. Ferdinand VII. re-established (1814) the inquisition, which had been abolished during the French rule in Spain; but, on the adoption of the constitution of the cortes (1820), it was again abolished, and was not revived in 1823, by the advice of the European powers.

In Portugal, the inquisition was established, after a long contest, in 1557. The supreme tribunal was in Lisbon; inferior courts, established in the other cities, were subject to this. The grand inquisitor was nominated by the king, and confirmed by the pope. John of Braganza, after the delivery of the country from the Spanish yoke, wished to destroy the inquisition. But he succeeded only in depriving it of the right of confiscating the property of the condemned. On this account, he was excommunicated after his death, and his wife was obliged to permit his

body to receive absolution. As the Spaniards took the inquisition with them to America, so the Portuguese carried it to India, and established it at Goa. In the 18th century, the power of the inquisition in Portugal was restrained by the ordinance which commanded that the accuser of the court should furnish the accused with the heads of the accusation and the names of the witnesses, that the accused should be allowed to have the aid of counsel, and that no sentence of the inquisition should be executed until confirmed by the royal council. The late king abolished the inquisition, not only in Portugal, but also in Brazil and the East Indies, and caused all its records at Goa to be burnt.

The inquisition restored in Rome by Pius VII., has jurisdiction only over the clergy, and is not therefore dangerous to those who are not Catholics. In 1826, it condemned to death Caschiur, a pupil of the Propaganda, who was appointed patriarch of Memphis, but not accepted by the viceroy of Egypt. The pope changed the punishment into imprisonment for life. His crime is unknown.

Among the late works on the inquisition, are Llorente's *History of the Spanish Inquisition* (Paris, 1815; in English, London, 1827), and Antonio Puig-blanch's *Inquisition Unmasked*, from the Spanish (London, 1816). The Records of the Inquisition, from the original MSS., taken from the Inquisitorial Palace at Barcelona, when it was stormed by the Insurrectionists in 1819 (1828), contain interesting reports of some particular cases.

**INQUISITION, PROCESS** or. This phrase is used, on the continent of Europe, to designate that kind of criminal process in which the court takes upon itself the investigation of an offence, by appointing one of its members to collect the proofs of the crime, as, for instance, in the German courts. Thus the process of inquisition differs from what is called the *process of accusation*, where the court stands between the government and the accused, as it does in England and the United States. In civil cases, the process of accusation prevails also in the German courts. See *Process*; also *Accusation*, and *Act*.

**INSANITY, MENTAL DERANGEMENT.** By these general terms we understand every form of intellectual disorder, whether consisting in a total want or alienation of understanding, as in idiocy, or in the diseased state of one or several of the faculties. Medical writers have adopted different systems of classification, in their treatment of this subject; but perhaps the most convenient is that which comprises all mental diseases under the four heads of mania, melancholy, demency or fatuity, and idiocy. Lunacy, in its proper sense, implies an influence of the changes of the moon (Latin, *luna*) on the state of the mind or body, of which modern science cannot recognise the existence. It is true that many diseases are periodical in their returns, and it is not improbable that paroxysms of violence among insane persons, may be really increased at the time of a full moon, by the effect of the shadows of clouds, and other objects, as ghosts are generally seen by moonlight; but any other lunar influence neither experience nor science can discover. The causes of insanity are divided by modern writers, into physical and moral. Every excess of passion, joy, grief, anger, fear, anxiety, &c., may become a moral cause of insanity. Great political or civil revolutions have always been observed to be attended with numerous cases of mental derangement. Pinel observed this phenomenon in France, after the revolution of 1789, and Dr Rush describes similar effects, in the United States, after the war of the revolution. Strong religious excitement often produces similar results, although in many cases, religious enthusiasm is only a form of

the malady, and not a cause. Madden (*Travels in Egypt, Nubia, &c.*, 1830) states that insanity is rare among the Mohammedans, and attributes it to their consoling belief in the certainty of their salvation. Dr Rush thinks that the disease is more common among civilised communities than with savages, on account of the greater influence of moral causes on the former. The physical causes of insanity are various and numerous; diseases of various kinds, and of different organs, bodily injuries or wounds, excessive indulgence in eating, drinking, and other sensual pleasures, privation, exposure to extreme cold or heat, &c., are among them. Insane persons are often, however, in good health, and dissection does not always detect a disordered condition of the organs. Philosophy is not sufficiently acquainted with the mutual action and reaction of the body and the mind on each other, to decide how far the disordered state of the one is consistent with the sanity of the other; nor is it certain that there is any one organ or function which must be diseased to affect the mind. Climate, age, occupation, and sex, are often mentioned as causes influencing insanity. But climate does not appear to be an exciting cause, although the moral, civil, religious, or physical condition of a nation may have rendered the disorder more frequent in some countries than in others. The seasons, however, appear to exercise an influence, and it is generally observed that the cases of insanity are most numerous in the hottest part of the year. Suicides are most frequent when the thermometer is above 84°. Although many circumstances, both physical and moral, appear to render the female sex most liable to insanity, it does not appear that the number of insane females is greater than that of males: drunkenness being more prevalent among the latter, may be one cause of this. In both sexes, the most active period of life, from thirty to forty, presents the greatest number of cases. In regard to occupation, sufficient data do not exist to show that there is any decided predominance of cases in any particular employment.

Idiocy is either a congenital or an acquired defect of the intellectual faculties, or, as Pinel defines it, an obliteration, more or less absolute, of the functions of the understanding and the affections of the heart. Congenital idiocy may originate from a malformation of the cranium, or of the brain itself; the senses are often wanting, or defective, and life is commonly of short duration. Acquired idiocy proceeds from mechanical injury of the cranium, or from an injury or a disease of the brain, from excess in sensual indulgences, intemperance, fatigue, and from moral causes. In this the senses may be partially affected, or quite destroyed, and life often continues to old age. Absolute idiocy admits of no cure; but it should not be hastily be concluded that a patient is in this state. The term *demency* (fatuity, the *μωπη* of the Greeks, and *dementia* of later writers) is applied to a complete or partial hebetude of individual faculties, particularly those of association and comparison, producing confusion of thoughts, loss of memory, childishness, a diminution or loss of the powers of volition; it differs from idiocy in being curable. Persons are reduced to this state, because exterior objects make too weak an impression on them; the sensations are, therefore, feeble, obscure, and incomplete; the patient does not form a correct idea of objects, nor compare, associate, or abstract ideas. It is often merely an attendant of other diseases, or other forms of insanity, and is frequently quite temporary, though it often becomes permanent.

*Mania* (Greek, *μανια*, madness) is a species of mental derangement, characterised by the disorder of one or several of the faculties, or by a blind impulse

to acts of fury. Adults are the principal subjects. A nervous temperament, an irritable constitution, predispose to it. Females are more exposed to it than males, particularly at the period when menstruation begins or ceases, during pregnancy, and after delivery. Violent emotions, a dissipated life, excess in any indulgence, sometimes produce it. The disorder of the intellectual faculties is manifested by extravagant, gay, gloomy, or furious emotions; the gestures and words seem automatic. Sometimes the conversation is rational, but the patient bursts out, at intervals, into paroxysms of rage, attacking every thing which he meets; the moral affections also seem deadened, and the most ferocious hatred is displayed towards the most natural objects of love. It is sometimes cured, but sometimes remains stationary, and sometimes is converted into demency. Repeated bleeding, hellebore, cold water poured upon the head, swearing, and other means of terror, were formerly employed as remedies. At present, solitude, warm baths, low diet, &c., are more commonly applied.

*Melancholy* (from *μῆλας*, black, and *χολή*, bile), called also *monomania* (Greek, *μῆν*, only, and *μανία*, madness); a species of mental disorder, consisting in a depression of spirits. Some dark or mournful idea occupies the mind exclusively, so that, by degrees, it become unable to judge rightly of existing circumstances, and the faculties are disturbed in their functions. The powers of the soul become weakened, we might say crippled. If these feelings are allowed to attain a height at which the power of self-control is lost, a settled gloom takes possession of the mind. Consciousness, however, may still continue; the person knows his state. But if consciousness is also lost, and this state becomes continual, the melancholic patient is insensible to the world around him; he only lives within himself, and there only in the circle of one fixed idea. In this disordered state of the feelings, the other faculties may still continue to act, although the mode and result of their operation will necessarily be influenced by the existing disease. There may be reflection in the actions of the patient, but the reflection proceeds from false premises. Several kinds of melancholy are distinguished; the distinctions are founded, however, mostly on the cause of the disease. A very common cause of melancholy is love. He who loses the great object of his wishes and affections, which has absorbed, we might almost say, the whole activity of his soul, feels more than jealousy at the success of a fortunate rival; existence appears to him a blank, and himself the most unhappy of men. Another frequent cause of melancholy is gloomy views of religion. A constant excitement of the feelings by the awful picture of the eternal punishment of sin, often produces absolute despair. The use of such means, to prepare the mind for the reception of deep religious principle, has not unfrequently led to distraction and suicide. Repeated failures in enterprises pursued with anxious zeal, may also reduce the faculties of a man so much, that he becomes wrapt up solely in the idea of his misfortune. Melancholy patients often flee from men, haunt solitary places, such as graveyards, and are given to nocturnal rambles. The course of the disease is various; sometimes it lasts a series of years; sometimes it ceases of itself, or is cured by medical aid; more frequently it passes over into other kinds of insanity, or into bodily diseases, as dropsy of the chest, consumption, dropsy in the head, apoplexy, &c. It is said that melancholy people rarely suffer from the gonorrhoea, or are attacked by epidemic diseases. Several physical causes are enumerated as inducing it, particularly a superfluity of black bile (hence the Greek name). Various derangements in the physical system tend to occasion it, as debility of the nerves, violent

flow of the blood to the heart, superfluity of thick blood. (For the light in which the law regards melancholy patients, see the article *Non Compos.*) Burton's *Anatomy of Melancholy* consists chiefly of extracts from ancient authors, illustrating the causes, effects, and cure of that morbid affection. The author's own reflections are few, but they are original, ingenious, and striking. The subject of insanity is fully treated in the following works: Burrow's *Commentaries on the Causes, Forms, Symptoms, and Treatment of Insanity* (London, 1828); Pinel, *Traité sur l'Aliénation Mentale*; Voisin, *Des Causes Morales et Physiques des Maladies Mentales* (1826); Willis, *Treatise on Mental Derangement* (1823).

INSCRIPTION, in archaeology, is used to designate any monumental writing, intended to commemorate some remarkable event, to preserve the name of the builder of a monument, or of the person in whose honour it was erected, &c. Inscriptions are one of the most important sources of history, particularly for the earlier periods of nations, when other written documents are rare or entirely wanting, and tradition is the only medium of historical knowledge. After the invention of the alphabet, the earliest application of the art of writing is by engravings on wood, stone, or metals; and, after other and more convenient materials have come into common use, this method is still preferred for many purposes, on account of the greater durability of the material. We have inscriptions, therefore, from all nations who have arrived at a certain stage of civilization, on walls of temples, tombs, triumphal monuments, tablets, vases, &c., containing laws, decrees, treaties, religious legends, moral, philosophical or scientific precepts, chronological tables, &c., generally contemporary with the events they commemorate. Indian, Persian, Egyptian, Phœnician, Etruscan, Grecian, Roman, &c., inscriptions, have been diligently studied, and have made important revelations in the hands of learned and ingenious men. The Egyptian monuments are numerous, and covered with inscriptions, which the learned have only recently been able to decipher. They are in the hieroglyphic, hieratic, and demotic characters, in the Coptic or old Egyptian language, and have already served to throw much light on the imperfect accounts of historians, and to supply many deficiencies in our knowledge of Egyptian history. (See *Hieroglyphics*.) The Phœnician monuments, bearing inscriptions, are few. The language was employed on the medals of the Phœnician cities till the time of Alexander, and was carried to Carthage, Cadiz, &c., by this commercial people. Barthélemy (*Mém. de l'Acad. des Belles Lettres*, tom. xxxii.), Swinton, Chishull, have written on this subject, but it is still involved in obscurity. The inscriptions on the ruins of Pasargadæ, Babylon, and Persepolis (q. v.), are in the arrow-headed character, of which there are two kinds, the Persian and the Babylonian: the former consists of three sorts of characters, all of which are commonly used in the same inscription. The Persian inscriptions, so far as they have been deciphered, appear to contain merely names of the kings, with wishes for their welfare. The Babylonian characters are of two sorts, and are sometimes called *naïl-headed*, in distinction from the Persian. The little that is known relating to the arrow-headed characters may be found in Heeren's *Ideen*, i. 1; Hager's *Diss. on the Babylonian Inscriptions* (London, 1801); Von Hammer's *Fundgruben des Orients*, iv. 4; Alexander's *Travels from India to England* (London, 1827). The ancient Arabic inscriptions are in the Cufic character (see *Cufic Writing*), and the old Hebrew are in the Samaritan character. Greek art was carried from its native soil into all the countries around the Mediterranean, by commerce and colonies, and, by the arms of Alex-

ander and his successors, even into the remote East. The Greek language appears on a great number of monuments in this extensive region, written in different characters, according to the age of the inscription, and in different dialects in different countries. The Doric dialect is perceptible in the monuments of Dorian colonies, and so with the others. In this manner, where there are two cities or artists of the same name, it may be determined to which the work of art should be attributed by the dialect of the inscription. The forms of the Greek letters underwent some changes, which must be attended to in the study of inscriptions: the absence or admission of certain letters (as H and Q), the different forms of the sigma (Σ, C, or S), of the epsilon (as E or ε), of the O (as round or square, □), of the lambda (as A or L), &c., may aid in determining the age of a monument. The early inscriptions are often from right to left, sometimes in the *boustrophedon* (q. v.), which was abandoned about the middle of the fifth century before Christ. (See the 8th vol. of the *Thesaur. Antiq. Græc.* of Gronovius; the works of Pococke, Chandler, and other travellers; Montfaucon's *Palæographia Græca*; *Mém. de l'Académie des Inscriptions*.) The Etruscan inscriptions, on vases and monuments, have occasioned much dispute among the learned. Niebuhr, in his Roman History, says, that the assertion of Dionysius, that the Etruscans spoke a peculiar language, deserves full credit, since it was, in his time, a living language; and it is fully confirmed by the inscriptions extant, in the words of which no analogy with the Greek or Latin can be detected; and he adds in a note, that, among all the Etruscan words of which explanations have been pretended, only two have been really explained. See, however, Lanzi's *Saggi di Lingua Etrusca* (Rome, 1789, 3 vols.); Gori's *Museum Etruscum*; and Inghirami's *Monument. Etruschi* (1826). From the Eugubian Tables, discovered in 1444, Buonarroti, Gori, and others endeavoured to form an alphabet: the former thought he had discovered twenty-four, the latter sixteen letters. The Latin inscriptions are the most frequently met with. They are found on monuments of all descriptions; some very ancient ones are yet preserved. (See Grævius's *Thesaur. Antiq. Rom.*, vol. 4, and Fabricius's *Bibliotheca Latina*, lib. iv. c. 3.) Inscriptions are called *bilingual*, when the characters are taken from two different languages, as was sometimes done by the vanquished people, in compliment to their conquerors. Inscriptions are sometimes repeated in different languages, or in different characters, on the same monument; as, for instance, in the language of the province and in the Greek or Latin, in the times of the Greek and Roman empires. Some of the general collections of inscriptions are, Gruter's *Inscriptiones antiquæ, Cura Grævii* (Amsterdam, 1707, 2 vols., folio); Muratori's *Thesaurus Vet. Inscrip.* Milan, 1739, 4 vols.) Consult, also, the works of Selden, Prideaux, Chandler, and Mattaire on the Parian (Arundelian) marbles (q. v.); the *Archæologia Britannica* 1779 to 1822, 21 vols., 4to; the *Mémoires de l'Académie des Inscriptions*; and the numerous works on particular countries, cities, or collections. See *Medal*, *Vase*, *Obelisks*, *Pyramids*, &c.

INSCRIPTIONS, ACADEMY OF. See *Academy*.

INSECTIVORA; animals which live, or are thought to live, on insects. Divisions of this sort cannot be very exact. Some *insectivora* drink blood with delight, or eat grass occasionally, and some of the beasts of prey, whose principal food is larger game, are fond of flies. Among birds, the *insectivora* form a very numerous class.

INSECTS. See *Entomology*.

INSOLVENCY. See *Bankrupt*.

INSTANCE. On the European continent, a court is said to be of the *first instance*, when it has original jurisdiction of a case; of the *second instance*, when it has appellate jurisdiction from a lower court; of the *third instance*, when it has appellate jurisdiction from courts of the second instance. In some cases, generally criminal, a court may be of the first or second instance, according to the place where the process was begun; for instance, if a man is tried in Prussia for a high crime, and found guilty, he appeals, and the case is sent to another criminal court, chosen by the government, which, in this case, is of the second instance; while, in the next case, perhaps, the situation of the two courts may be reversed. To *absolvere ab instantia* means to absolve a person from an accusation, without carrying through the process.

INSTINCT (from the Latin *instinctus*); that impulse, produced by the peculiar nature of an animal, which prompts it to do certain things, without being directed, in acting thus, by reflection, and which is immediately connected with its own individual preservation, or with that of its kind. Thus the newborn duck hastens to the water, the infant sucks, without being taught to do so; all animals eat when they feel hunger, drink when they are thirsty, by instinct. All the instincts of animals are directed to the preservation either of the individual or of the genus. They appear in the selection of food, avoiding of injurious substances, taking care of their young, and providing for them before they are born; as the bird, for instance, builds its nest to receive its future progeny. The instinct of motion, and the opposite instinct, which compels the bird, for instance, to remain on her eggs at the period of incubation, are equally strong. The building of dwellings is, in the case of many animals, a highly curious exercise of instinct; as, for instance, in the case of the beaver and the bee. They are evidently actuated by instinct, as they always succeed the first time they attempt it. Certain instincts lead to certain changes; for instance, to migrating, or to coupling at certain times, to building nests, and expelling the young when they are fledged, and able to take care of themselves. Instinct sometimes misleads; as, for instance, the fly lays its eggs in the flower of the *stapelia hirsuta*, deceived by the smell of this plant, which resembles that of meat in a state of putrefaction. The young, in this case, perish for want of food. Two things are worthy to be remarked. Men often act from instinct, when least aware of it, and often explain actions in other animals, by instinct, in which they cannot be actuated by it, but in which memory, and the power of combination, must necessarily be supposed. Numerous anecdotes of dogs prove this. The intelligence of animals is an extremely interesting subject, and though there are several highly valuable works on it, yet it is far from having been thoroughly investigated.

INSTITUTE, THE NATIONAL. This learned body, which was organised after the first storm of the French revolution, during which all the academies of learning and arts in France had perished, was formed by the decree of the 3d Brumaire of the year 4, from the *Académie Française*, the *Académie des Sciences*, and the *Académie des Belles Lettres et des Inscriptions*. Its object was the advancement of the arts and sciences by continual researches, by the publication of new discoveries, and by a correspondence with the most distinguished scholars of all countries, and especially by promoting such scientific and literary undertakings as would tend to the national welfare and glory. The institute was composed of a number of members residing at Paris, and an equal number of associates (*associés*) in the different parts of the republic. Each class could also choose eight learned foreigners as associates. It

was at first divided into three classes, each of which was subdivided into several sections. The first class embraced the physical and mathematical sciences, the second the moral and historical, and the third literature and the fine arts. The number of active members, exclusive of the *associés*, was limited to 144. The national institute received, however, its final organization by a decree of the 3d Pluviose of the year 11 (January 23, 1803). It was then divided into four classes—1. the class of the physical and mathematical sciences, consisting of sixty-five members; 2. the class of the French language and literature, consisting of forty members; 3. the class of history and ancient literature, of forty members; and, 4. the class of the fine arts, with twenty-eight members. In the last years of the imperial government, the title of the national institute was exchanged for that of the *imperial institute*. The restoration of the Bourbons gave rise to new changes in this learned body, which restored it, in some degree, to its original condition. A royal ordinance of March 21, 1816, first restored the former names of the classes, so that the name of *institute* was applied only to the whole body collectively. The same ordinance assigned the first rank to the *Académie Française*, as being the oldest; the next rank to the *Académie des Inscriptions et Belles Lettres*; the third to the *Académie des Sciences*; and the last to the *Académie des Beaux Arts*. These united academies were under the personal direction of the king, and each had an independent organization, and a free exercise of the powers committed to them. To each academy were attached ten honorary members, who had merely the right of being present at the meetings. Such of the former honorary members and academicians as had returned with the court, became, as a matter of right, honorary members of their respective academies. A list of names, appended to the royal decree, determined the members.

The *Académie Française* is well known to be charged with the composition of a French dictionary. As every one who has brought a *vaudeville* on the stage with success, thinks himself entitled to a place among the forty members of this class, these places afford the most fruitful subjects for squibs and satire.

The *Académie des Inscriptions et Belles Lettres* has lately limited its members to thirty. It has always been considered a great mark of distinction to be an *associé étranger* of this class. The number of corresponding members is unlimited. The most distinguished scholars, both in and out of Europe, are thus connected with the society. Committees of this academy superintend the erection of public monuments, and the preservation and description of those already in existence. Sacy, Daunou, Caussin, Letronne, Boissonade, were chosen from this academy to continue the *Notices et Extraits des Manuscrits, de la Bibl. du Roy*. The editing of the *Journal des Savans*, to which the members of all the academies contribute, devolves principally on this academy. They have the distribution of prizes of considerable value.

The *Académie des Sciences* is divided, as formerly, into the two principal departments of the physical and mathematical sciences, and retains most of its earlier regulations, made in the time of the republic. The number of its *associés étrangers* is limited to two.

The *Académie des Beaux Arts* has five sections. A committee of this academy is charged with the publication of a dictionary of the fine arts.

The annual changes which take place in the academies, may be learned from the calendar called *l'Annuaire Royal de France*, published by Firmin Didot, printer to the institute.

INSTITUTIONES. See *Corpus Juris*, and *Civil Law*.

INSTRUMENT, in music; any sonorous body, artificially constructed for the production of musical sound. Musical instruments are divided into three kinds—wind instruments, stringed instruments, and instruments of percussion. Of the stringed instruments among the ancients, the most known are the lyre, psalterium, trigonium, simmicium, epandoron, &c. The principal wind instruments were the tibia, fistula, tuba, cornu, and lituus; those of percussion, the tympanum, cymbalum, crepitaculum, tintinnabulum, and crotalum.

INSTRUMENTAL MUSIC; music produced by instruments, as contradistinguished from *vocal* music. The term *instrumental* is particularly applied to the greater compositions, in which the human voice has no part. The first instrument invented was probably the pipe or flute. An idle shepherd might very naturally, from accident, or in imitation of the effects of the wind, blow through a simple reed, and thus invent the pipe, from which the flute would readily originate. The pipe is, in fact, found among many savages. The invention of stringed instruments, as they are more artificial, is of later origin. The instrumental music of the Greeks was confined to a few instruments, among which the flute, the cithara, the sackbut, though not precisely like those instruments among the moderns, were the most important. The violin was invented in the middle ages, and soon became the principal instrument, taking its place above the flute, though the latter is of much more ancient origin, because the playing on a stringed instrument is less fatiguing, and the tone of the violin is more distinct from the human voice, and, therefore, better fitted to be used with it; besides, the instrument permits much more perfect execution. Until the middle of the last century, the Italian composers used no other instruments in their great pieces, than violins and bass-violos; at that time, however, they began to use the hautboy and the horn; but the flute has never been much esteemed in Italy, particularly in music exclusively instrumental. These were the only wind instruments in Italy, used in instrumental music, until the end of the last century; and even to this day, the Italians use wind instruments much less than the Germans, and particularly the French. Since Mozart, every instrument has been used, which appeared adapted to answer a particular purpose. This is the cause of the fewness of the notes in the Italian, and of their great number in German, and their excess in the modern French scores. In general, symphonies and overtures, solos, duets, terzettos, quartettos, quintettos, &c., sonatas, fantasias, concerts for single instruments, dances, marches, &c., belong to instrumental music.

INSURANCE is a contract, whereby, for a stipulated consideration, called a *premium*, one party undertakes to indemnify another against certain risks. The party undertaking to make the indemnity is called the *insurer* or *underwriter*, and the one to be indemnified, the *assured* or *insured*. The instrument, by which the contract is made, is denominated a *policy*; the events or causes of loss insured against, *risks* or *perils*; and the thing insured, the *subject* or *insurable interest*. *Marine* insurance relates to property and risks at sea; insurance of property on shore against fire, is called *fire* insurance; and the written contracts, in such cases, are often denominated *fire* policies. Policies on lives are another description of this contract, whereby a party, for a certain premium, agrees to pay a certain sum, if a person, to whose life it relates, shall die within a time specified. These policies, however, usually make an exception of death by suicide.

There was a kind of insurance in use, among the Greeks and Romans, called *bottomry* or *respondentia*, which is, where the owner of a vessel or goods, borrows money upon bottomry (q. v.) upon the vessel, or upon respondentia on the goods, for a certain voyage, agreeing, that if the ship or goods arrive at a certain port, the money shall be repaid, and also interest, exceeding the legal rate; but if lost by the risks specified in the bond, before arriving at the port named, the lender is to lose the money loaned. This risk of losing the whole capital, is the cause of the excess of interest allowed in case of the arrival of the ship or goods; and it is called *marine interest*, which ought to be equal to the common rate of interest, added to the rate of premium, for insuring the ship or goods for the same voyage against the same risks. This sort of contract was anciently in use, and, as the laws then gave less security, or, at least, as credit and confidence were not so widely diffused, and correspondence was less extensive among merchants, it was usual for the lender to send some person with the property, to receive repayment of the money loaned and the marine interest, at the port where the risk terminated. In modern times, it is not usual to send any person with the property, who would be of no service during the voyage; and, at its termination, some agent of the lender, at the port of arrival, if he is not there himself, looks after his interest. The wide extension of correspondence, among merchants of all parts of the world, in modern times, gives a facility for this purpose, and renders the execution of this, as well as other commercial contracts, more economical, and, at the same time, more secure.

Contracts of insurance, strictly so called, are of modern invention; and their importance, in relation to commerce, is scarcely inferior to that of bills of exchange. Every merchant is liable to losses and reverses, by the change of the markets. The risks of this description may, however, be calculated upon with some degree of probability; but those of fire, the perils of the seas, or capture, cannot be so well estimated; and, when they come, they would, in many cases, bring ruin upon the merchant, if it were not for the system of insurance, the object of which is, to apportion the losses from these disasters among all those whose property is exposed to the same hazards. If, for instance, all persons engaged in trading were to enter into a general agreement to contribute for the losses of each other, occasioned by those casualties, in the proportions of the amounts that they should respectively have at risk, every individual would then only run the risk of the proportion of losses occurring upon the general aggregate of property at risk. But as such a general combination would be complicated, and practically inconvenient, a very simple system is devised, by means of insurance, for effecting the same object; for one person—the underwriter—agrees to take upon himself those risks, for a hundred merchants, more or less, for a certain premium on each risk, calculating that the premiums on the fortunate adventures will compensate him for the losses he may incur on those which are unfortunate, and leave him some surplus, as a compensation for his time and trouble; and a little experience will enable him to calculate the chances with very considerable accuracy. The result accordingly is, that all the persons who procure their property to be insured by him, in effect, mutually contribute for each other's losses, by the bargain of of each with the common receiver of the contributions of all.

This contract was subjected to a system of definite rules, much earlier in Italy and France than in England; and as the contract is the same in prin-

ciple, and very similar in form in different countries, the rules of construction adapted to it in one country, are equally applicable in another. The system of rules collected in the French ordinance of the *maritime* in the year 1681, and which had already, in general, become established in France, Italy, and the Netherlands, is still in force, and daily applied throughout the commercial world, not only in Europe, but also in America. But it was late before these principles of insurance were intimately incorporated into the law of England. Until the time of lord Mansfield's becoming chief-justice of the court of king's bench in England, about the middle of the eighteenth century, the law of insurance was in a very rude state. It was, before that time, the more general practice to make what were called *wagering policies*, in which one party agreed, for a certain premium, to pay the other a certain sum, in case a particular vessel should not arrive at a certain port of destination, on account of certain perils; without any question being made whether the party insured had any interest in the ship or cargo; so that, in addition to the contracts of insurance against real loss, many contracts of the above sort were made by persons who had no interest whatever in the property to which the contract related. These contracts of insurance, in the case of persons really interested in the property, were a very imperfect indemnity, since they only extended to the case of a defeat of the voyage; whereas, great damage is often sustained by the ship or cargo, notwithstanding they may both arrive at the port of destination. But, at about the period already mentioned, Magens, a merchant, who had removed from Hamburg to London, published his very elaborate work on insurance, in the latter place, containing all the laws and regulations of the different commercial countries of the continent on this subject, and presenting its leading doctrines, in relation to partial losses and general averages, and giving a great number of examples of adjustments of losses, of both descriptions. Lord Mansfield, at about the same time, expelled from the administration of this branch of law the narrow, quibbling, and technical doctrines with which it had been previously too much infested. The foundation was then laid for that magnificent and truly scientific superstructure of legal principles and practical rules, which has been the work of the joint labours of the English and American jurists, from that period down to the present day. The courts of the United States have contributed their full share towards the formation of the admirable system by which the commerce of the world is now protected and promoted; and instances might readily be referred to, of discussion and opinions on this subject in the American courts, which, in learned research, liberality of views, scientific principles, and logical precision, will not suffer by a comparison with those of any other country.

This contract, considered as one of indemnity—and as such only it ought always to be regarded, and by no means confounded with gambling,—requires, in the first place, a subject; something must be at risk, and the thing so at risk must be described in the contract; and no party can be injured, unless he has an interest in the subject which he is liable to lose, or in respect to which he is liable to suffer by the perils insured against; and the contract must specify against what perils or risks the underwriter undertakes to make indemnity; and the party insured must, at the time of making the contract, state, fairly and honestly, all the material circumstances within his own private knowledge, which may enable the underwriter to form an estimate of the risk. This is peculiarly a contract, in which the assured a

bound to fairness and good faith in effecting it, and the underwriter to liberal promptness in complying with his stipulation to make indemnity.

**INSURRECTION.** See *Revolution*.

**INTAGLIOS**; engraved gems. See *Gem Sculpture*.

**INTEGRAL.** See *Calculus*.

**INTEMPERANCE.** See *Temperance*.

**INTENSENESS** is the state of being raised or concentrated to a great degree. A *verbum intensivum*, in grammar, is a verb which expresses increased force; as, *facio*, I do earnestly, from *facio*, I do; *petio*, I seek earnestly, from *peto*, I seek. The German *betteln*, to beg alms, may, perhaps, be considered as the intensive form of *bitten*, to ask, unless it be considered to denote properly a repetition of the act of asking, in which case it will belong to the class of *verba frequentativa*, such as *facito*, I do repeatedly; *lectito*, I read often.

**INTERDICT**; an ecclesiastical censure in the Catholic church, the effect of which, taken in its most extended sense, is, that no kind of divine service is celebrated in the place or country under the sentence; the sacraments are not administered, the dead not buried with the rites of the church. This interdict is called *real* or *local*, whilst the personal interdict regards only one or more persons. We shall here speak of the former. Even Catholic writers admit that the interdict has been often abused for interested purposes, and has produced licentiousness in the countries and provinces subjected to it, by depriving them of religious service for a length of time. (See the Catholic *Dictionnaire de Théologie*, Toulouse, 1817, article *Interdict*.) And no one, acquainted with history, can deny that interdicts have been productive of rebellion and all kinds of disorder; they served, however, in the barbarous age of modern Europe, as a check against the power of the monarchs. It is a mistake to suppose that Gregory VII. (q. v.) was the inventor of this mighty engine of ecclesiastical power. It can be proved to have existed before his time; but it is true that he used it oftener and more powerfully than any of his predecessors. The eleventh century was pre-eminently the century of interdicts. Adrian IV. laid Rome itself under an interdict, for the purpose of compelling the senators to expel Arnold of Brescia and his followers. Innocent III. laid France under an interdict in 1200, and England in 1208. (See *Philip Augustus*, *John*, and *Innocent*.) Popes or bishops sometimes mitigated the rigour of the interdict. Thus we read in the Chronicle of Tours, that the vaticum and baptism were allowed to be administered during the interdict, under which France was laid, as above-mentioned, and which lasted nine months. Innocent III. finally permitted preaching and confirmation to take place during this period, and even the administering of the eucharist to crusaders and foreigners. And Gregory IX., about 1230, on account of the "great scandal" caused by the interdicts, permitted mass to be said once a week, without ringing the bells, and with the doors closed. Boniface VIII. (1300) ordered the mass to be said without singing, every day, with closed doors, except on Christmas, Easter, Pentecost, and Assumption, when ringing the bells, singing, and open doors were allowed. Magdeburg was four years under an interdict, because the archbishop of the city had been murdered. John XXII. took off the interdict by a bull. Interdicts were gradually recognised to be inconsistent with the spirit of the time; and, when Paul V. laid Venice under an interdict in 1606, the churches were not closed, nor divine service interrupted, and only a minority of the bishops acknowledged it. In the beginning of the same century, some interdicts, pro-

nounced by bishops, excited much attention. It was not unfrequent, in the middle ages, for princes to request bishops to lay the territories of their vassals under an interdict. The interdict must be announced, like the excommunication, in writing, with the causes, and is not to be imposed until after three admonitions. The penalty of disobedience to an interdict is excommunication. Writers of the Gallican church say that the pope has no right to lay France under an interdict, and the parliaments refused to register them. Interdicts are not to be confounded with the simple *cessatio a divinis*, or the disuse of religious ceremonies, which takes place when a church has been polluted, e. g., by a murder committed in it.

**INTEREST** is the allowance made for the loan or forbearance of a sum of money, which is lent for, or becomes due at, a certain time; this allowance being generally estimated at so much per cent. per annum, that is, so much for the use of £100 for a year. Interest is either *simple* or *compound*. *Simple interest* is that which is allowed upon the principal only, for the whole time of the loan or forbearance. The money lent or forborne, is called the *principal*; the sum paid for the use of it, the *interest*. The interest of £100 for one year, is called the *rate per cent.*, and the sum of any principal and its interest, together, the *amount*.—*Compound interest* is that which arises from any sum or principal in a given time, by increasing the principal, at fixed periods, by the interest then due, and hence obtaining interest upon both interest and principal. The accumulation of money, when placed at compound interest, after a certain number of years, is exceedingly rapid, and in some instances appears truly astonishing. One penny, put out at five per cent. compound interest, at the birth of Christ, would, in 1810, have amounted to a sum exceeding in value 357,000,000 of solid globes of standard gold, each in magnitude as large as this earth! (the exact number of globes, according to this computation, is 357,474,600); while at simple interest, it would have amounted only to 7s. 7½d.

**INTERIM** (of Augsburg). After the overthrow of the Smalcaldic league, the despotic emperor Charles V., in order to place Germany in its former condition, in regard to religion as well as politics, issued a decree, to be observed until a general council should be assembled. This decree was therefore called the *interim*, and settled, *pro tem.*, the constitution, the doctrines and discipline of the church in Germany. At the diet of Augsburg (1548) it received the force of a law of the empire. Nothing was conceded to the Protestants but the cup in the Lord's supper, and the marriage of priests; in every other respect the doctrines and ceremonies of Catholicism, from which they had been free for more than twenty years, were to be restored. The Protestants, however, contrived to gain time by negotiations and compliances, until the treaty of Passau (1552) and the peace of Augsburg (1555) secured to them complete religious freedom. See *Peace, Religious*.

**INTERLUDE**; a piece of music, a dance, or a short dramatic scene, generally between two performers of different sexes, exhibited between the acts of a serious opera, to vary the entertainment. The interlude is not an invention of the moderns; the ancients were acquainted with certain short pieces, loosely connected, which served to make an easy transition from one play to another, and to occupy the interval between the two. At present, the term *interlude*, or *intermezzo*, is applied principally to small comic operas, written for one, or at most for two persons, but not connected, in any way, either with the play which precedes, or that which follows. On account of the very limited number of persons in the interlude, little more is required of such pieces

than humour and comic power. According to Arteaga, modern interludes were at first madrigals, which were sung between the acts by several voices, and were connected with the play. One of the oldest and most beautiful is *Il combattimento d'Apolline col Serpente*, by Bardi. But these madrigals soon lost their primitive form, and represented some action.

**INTERMENT.** See *Funeral Rites*.

**INTERNUNTIVS**; the messenger or representative of the pope, sent to small foreign courts and to republics. The papal ambassador to emperors and kings is called *nuntius*. (See *Nuncio*.) The ordinary Austrian ambassador at Constantinople is also called *internuntius*.

**INTERPOLATION**, in algebra, signifies the finding of an intermediate term in a series, its place in the series being given. There are analytic formulas for the execution of interpolations.

In philological criticism, *interpolation* signifies the insertion of spurious passages in a work. In printed texts, suspected passages are often enclosed in brackets.

**INTERPRETATION** (from the *Latin*); the explanation of the true meaning of an author or instrument. (For the interpretation of the Scripture, see *Eregesis*; for interpretation in politics, see *Construction*.) On the continent of Europe, if a law is interpreted by the legislative power, it is called *interpretatio authentica*; if by the unwritten usage, *interpr. usualis*; if in a scientific way, *interpr. doctrinalis*, which may be *interpr. grammatica*, if the meaning is found out from the words according to grammatical rules, or *interpr. logica*, if the meaning is found by internal reasons, or *interpr. critica*, if obtained by correcting the text. The *interpr. logica* is called *extensiva*, if it extends the law beyond the literal meaning of the words, or *restrictiva*, if it restricts the application of the law to fewer cases than the words would imply, and *declarativa*, if it settles vague expressions. In the interpretation of laws, it is of the first importance to ascertain the meaning of the lawgivers; the intention of the person who drew up an instrument in the nature of a contract, is not so decisive, because there the intention of the party with whom the contract was made, is equally important. Furthermore, the meaning which words bore at certain periods, is important in the explanation of old laws, and a knowledge of local usages is often essential for interpretation. In former times, laws and instruments were drawn up with a profusion of words, to avoid, as far as possible, leaving any thing to construction; but experience has proved this view to be erroneous, for nothing is clearer than the simplest language; and, though there will always be room left for interpretation, except in mathematics, yet this increases with the profusion of words and the endeavour to embrace every detail.

**INTERREGNUM.** See *Germany*.

**INTERVAL**; the difference in point of gravity or acuteness between any two sounds. Taking the word in its more general sense, we must allow that the possible intervals of sound are infinite; but we now speak only of those intervals which exist between the different tones of any established system. The ancients divided the intervals into simple or uncomposite, which they call *diastema*, and composite intervals, which they call *systema*. The least of all the intervals in the Greek music was, according to Bacchius, the enharmonic diesis, or fourth of a tone; but our scale does not notice so small a division, since all our tones concur in consonances, to which order only one of the three ancient genera, viz., the diatonic, was accommodated. Modern musicians consider the *semitone* as a simple interval, and only call those composite which consist of two or

more semitones: thus from B to C is a semitone, or simple interval, but from C to D is two half tones, or a compound interval.

**INTERVENTION**, in politics; a word which has been used, particularly since the congresses of Troppau, Laybach, and Verona (see *Congress*, and *Holy Alliance*), to express the armed interposition (*intervention armée*) of one state in the domestic affairs of another. The right of armed intervention has never been so distinctly pronounced and acted upon, as in modern times, since the congress of Vienna. It was a natural consequence of the holy alliance, and the congresses of rulers, or their representatives, assembled to prop the pillars of despotism. (See *Italy*, *France*, since 1819, *Naples*, and *Spain*.) Such armed interventions as have lately taken place in Europe, arise from the fellow-feeling of sovereigns, who claim the right of assisting each other against their subjects, and directly contravene the right of independent development which belongs to the character of a nation.

The works of Fiévée (*De l'Espagne et des Conséquences de l'Intervention Armée*, 3d edit., Paris, 1823), of Bignon (*Du Congrès de Troppau*, Paris, 1821, and *Les Cabinets et les Peuples depuis 1815. Jusqu'à la Fin de 1822*, 3d edit., Paris, 1823), of De Pradt, &c., as well as the important debates on the subject of the French war of intervention in Spain, in both the French chambers, and in the British parliament, 1823, have exhausted the subject. The first statesmen of Britain and France then exerted themselves to throw light on the doctrine of armed intervention, which had already been applied to the Poles, treating it both in its general principles and in its application to particular cases. Among the state papers relating to the right of intervention according to the latest principles, the following are particularly important:—the declaration of the British minister, lord Castlereagh, of the 19th January, 1821, and the circular of Verona, 14th December, 1822. With regard to the application of this doctrine, by the European powers, to the Spanish American colonies, Britain and the United States declared themselves categorically, in 1824, that no congress of the sovereigns was held on that subject. The United States are the power which acts most implicitly upon the principle of non-intervention. (See *Independence*.) Recently, the interest of most of the European monarchs, which induced them to pronounce at Laybach the right of armed intervention, has prompted them to deny it in the protocol of the five great powers, issued at London, in 1831, denouncing foreign intervention in the affairs of Belgium.

**INTESTINE** (*intestinum*, from *intus*, within). The convoluted membranous tube, that extends from the stomach to the anus, receives the ingested food, retains it a certain time, mixes with it the bile and pancreatic juice, propels the chyle into the lacteals, and covers the feces with mucus, is so called. The intestines are situated in the cavity of the abdomen, and are divided into the small and large, which have, besides their size, other circumstances of distinction. The small intestines are supplied internally with folds, called *valvula conniventes*, and have no bands on their external surface. The large intestines have no folds internally; are supplied externally with three strong muscular bands, which run parallel upon the surface, and give the intestines a second appearance; they have also small fatty appendages, called *appendicula epiploica*. The first portion of the intestinal tube, for about the extent of twelve fingers' breadth, is called the *duodenum*; it lies in the epigastric region, makes three turnings, and, between the first and second flexure, receives by a common opening, the pancreatic duct, and the

*ductus communis choleodochus*. It is in this portion of the intestines that chylification is chiefly performed. The remaining portion of the small intestines, is distinguished by an imaginary division into the *jejunum* and *ileum*. The *jejunum*, which commences where the *duodenum* ends, is situated in the umbilical region, and is mostly found empty; hence its name: it is every where covered with red vessels, and, about an hour and a half after a meal, with distended lacteals. The *ileum* occupies the hypogastric region and the pelvis, is of a more pallid colour than the former, and terminates by a transverse opening into the large intestines, which is called the *valve of the ileum, valve of the cæcum, or the valve of Tulpinus*. The beginning of the large intestines is firmly tied down in the right iliac region, and, for the extent of about four fingers' breadth, is called the *cæcum*, having adhering to it a worm-like process, called the *processus cæci vermiformis, or appendicula cæci vermiformis*. The great intestine then takes the name of *colon*, ascends towards the liver, passes across the abdomen, under the stomach, to the left side, where it is contorted like the letter S, and descends to the pelvis; hence it is divided, in this course, into the *ascending portion, the transverse arch, and the sigmoid flexure*. When it has reached the pelvis, it is called the *rectum*, from whence it proceeds in a straight line to the anus. The intestinal canal is composed of three membranes, or coats; a common one from the *peritoneum*, a muscular coat, and a villous coat, the *villi* being formed of the fine terminations of arteries and nerves, and the origins of lacteals and lymphatics. The intestines are connected to the body by the mesentery; the *duodenum* has also a peculiar connecting cellular substance, as have likewise the colon and rectum, by whose means the former is firmly accreted to the back, the colon to the kidneys, and the latter to the *os coccygis*, and, in women, to the vagina. The remaining portion of the tube is loose in the cavity of the abdomen. The arteries of this canal are branches of the *superior and inferior mesenteric*, and the *duodenal*. The veins evacuate their blood into the *vena porta*. The nerves are branches of the eighth pair and intercostals. The lacteal vessels, which originate principally from the *jejunum*, proceed to the glands in the mesentery.

INTONATION, in music, relates both to the consonance and to the strength or weakness of sounds. Intonation not only includes the act of tuning, but the giving to the tones of the voice or instrument that occasional impulse, swell, and decrease, on which, in a great measure, all expression depends. A good intonation is one of the first qualifications in the higher walks of execution.

In church music, those antiphonies are called *intonations*, which are first sung by the priest, and then responded by the choir or the congregation; also the short sentence, mostly taken from the Bible, which the minister sings before the collect, and which is responded by the choir or community. Such are the *Gloria* (q. v.), "The Lord be with you," &c.

INTOXICATION; the state produced by the excessive use of alcoholic liquids. It comes on gradually, and several stages may be noticed in its progress. The first is the condition expressed by the phrase *warmed with wine*. In this stage, the circulation of the blood becomes somewhat more rapid, and all the functions of the body are exercised with more freedom. The excitement, however, is not so great as to produce a surcharge of blood in the head or lungs. In this state, some of the powers of the soul seem to act more freely; the consciousness is not yet attacked; the fancy is more lively; the feeling of strength and courage is increased. In the second stage, the effect on the brain is more decided. The peculiarities of

character, the faults of temperament which, in his sober moments, the individual could control and conceal, manifest themselves without reserve; the secret thoughts are disclosed, and the sense of propriety is lost. In the next degree, consciousness is still more weakened; the balance of the body cannot be kept, and dizziness attacks the brain. In the next degree, the soul is overwhelmed in the tumult of animal excitement; consciousness is extinguished; the lips utter nothing but an incoherent babble; the face becomes of a glowing red; the eyes are protruded; sweat streams from the pores; and the victim of intoxication falls into a sleep resembling the stupor of apoplexy. For some further remarks on this subject, see the article *Temperance*.

INTRENCHMENT; any work that fortifies a post against the attack of an enemy. The word is generally used to denote a ditch or trench with a parapet. Intrenchments are sometimes made of fascines with earth thrown over them, of gabions, hogheads, or bags filled with earth, to cover the men from the enemy's fire. See *Retrenchment*.

INTRIGUE; an assemblage of events or circumstances, occurring in an affair, and perplexing the persons concerned in it. In this sense, it is used to signify the nodus or plot of a play or romance, or that point wherein the principal characters are most embarrassed through artifice and opposition, or unfortunate accidents and circumstances.

INTROITO; a passage of the fifth verse of the 42d Psalm, with which the Catholic priest, at the foot of the altar, after having made the sign of the cross, begins the mass; whereupon the servitor answers with the rest of the verse; after which the whole Psalm is recited alternately by the priest and the servitor. In masses for the dead, and during Passion week, the Psalm is not pronounced.

INTUITION (from the Latin *intueor*, I look steadfastly at, gaze upon; in German philosophy, *Anschauung*), would mean, according to its etymology, in its narrowest sense, an image in the mind, acquired directly by the sense of sight. In the English use of the word, it is confined to mental perception, and signifies the act whereby the mind perceives the agreement or disagreement of two ideas, immediately by themselves, without the intervention of any other; in which case, the mind perceives the truth, as the eye does the light, merely by being directed towards it. Thus the mind perceives that white is not black, that three are more than two, and equal to one and two. This part of knowledge, says Locke, is irresistible, and, like the sunshine, forces itself immediately to be perceived, as soon as ever the mind turns its view that way. It is on this intuition that all the certainty and evidence of our other knowledge depend; this certainty every one finds to be so great, that he cannot imagine, and therefore cannot require, a greater. The German *Anschauung*, which literally signifies the same as *intuition*, is used to signify any notion directly presented by an object of sense. The transcendental philosophy acknowledges also intuitions which live in us (distinct from ideas obtained by reasoning), in consequence of the direct perception of the internal sense, as the intuition of the Divine. Kant distinguishes empiric intuitions (those conveyed by the senses from external objects), and pure intuitions (*reine Anschauungen*), or intuitions *a priori*, which are the basis of the former; for instance, *space* and *time*: as nothing can be perceived by our senses except either in space or time, our notions of these must precede the empiric intuitions.

INVALIDS; in its general sense, a person who is sickly or indisposed; in its more particular sense, soldiers and officers, who are disabled for foreign

service by wounds, disease, or age, and who are generally maintained for life in public establishments (hospitals), at the public expense. The Athenians had a law, providing for the public maintenance of persons disabled in war. The Romans also made some, though small, provision for invalids. At a later period, they were taken care of in the monasteries. Philip Augustus of France first formed the plan of an hospital for invalids. But, as pope Innocent III. would not permit this institution to be placed under the direction of the bishop, the king relinquished the plan. Louis XIV. was the first who carried this design into execution. Between 1671 and 1679, he erected a splendid hospital at Paris, in the suburb of St Germain. A church, a department for the sick, a governor, and other officers, are attached to it. Guards are stationed, and all other forms observed which are customary in fortified posts. A soldier must have served ten years, to be received into this hospital on account of poverty or infirmity. The invalids who mount guard are the only ones who bear arms. This institution suffered very much at the commencement of the revolution; but, during the imperial government, it was put in a better condition than ever. The architect of the hospital was Brimont. It is composed of five courts surrounded by buildings. A vast esplanade, bordered by rows of trees, and decorated with a fountain, gives the principal *façade*, towards the Seine, a noble perspective. The *hôtel* has a library of 20,000 volumes; it is capable of containing 7000 men, and is governed by a marshal of France. The church is considered a *chef-d'œuvre* of French architecture; its dome supports a lantern, which is surmounted by a cross 308 feet high. From the dome were formerly suspended 3000 colours, taken from different nations; but they were taken down and burnt by the invalids, at the time when the allies entered Paris, that they might not be retaken. Works in statuary and painting, by Lafosse, Boullogne, Coppel, Coustou, Coysevox, &c., adorn the ceilings, niches, and other parts of the buildings. Frederic the Great, in 1748, built the hospital at Berlin, with the inscription *Læso et invicto militi*. The British marine hospital, at Greenwich, is the first institution of this kind.

INVENTION, in science, is distinguished from *discovery*, as implying more creative combining power, and generally signifies the application of a discovery to a certain purpose. But the distinction is often very nice, and it is difficult, in many cases, to say which word is most suitable. Every invention includes a discovery. When Archimedes exultingly exclaimed, *Eureka* (I have found it), after he had discovered, in the bath, that his body, in the fluid, displaced an amount equal to its own bulk, he *discovered*; but he *invented* when he applied the hydrostatic law, thus discovered, to determining the specific gravity of different substances. Inventions owe their origin, as discoveries do, either to chance, to some happy idea suddenly striking the mind, or to patient reflection and experiment. Many inventions belong to the two former heads. Of the third class of inventions, late years afford many instances, owing to the great attention which has been paid to the natural sciences. As man, in modern times, is always inclined to consider that which is nearest him the most important, he generally considers the inventions of his age as far surpassing those of other times; but the study of history teaches us more modesty. The invention of the screw, of the wheel, of the rudder, of the double pulley, may be compared with any modern inventions in mechanical science, and could not, moreover, have been struck out at once by chance. The history of inventions is one of the most interesting branches of historical sciences,

exhibiting, in a striking light, the stages of progress and decline in human activity, and the great variety of motives which have actuated different ages. G. Ch. A. Busch has published a *Manual of Inventions*, 12 vols., (Ebenach, 1802 to 1822, in German). Beckmann's *History of Inventions* (Leipsic, 1780-1806), has been translated into English, 3 vols.

INVENTION OF THE CROSS. The Roman Catholic church celebrates a feast, May 3, in honour of the finding of the cross on which Christ was executed. The search was made by the order of St Helena, mother of the emperor Constantia 326, and the cross was said to have been found in the ruins of Calvary. The story is told by S.

INVERKEITHING; a royal burgh and in Fifeshire, occupying a pleasant elevation from the northern shore of the Firth of which here forms a noble bay, affording anchorage for ships of all descriptions, in the men of war on the Leith station, which in gales occasionally run up hither from Leith so safety; here also foreign vessels usually quarantine, for whose accommodation a *lazzaretto* moored at the mouth of the harbour for the purpose of receiving their merchandise and fumigated under the superintendence of an inspector. This bay is the harbour, which has been improved and deepened, so that ships can now in or discharge their cargoes alongside the extensive and commodious quays constructed close to the town. Inverkeithing is a very ancient place, been a royal residence in the time of David I. It contained convents of Franciscan and Dominican friars, the remains of one of which, termed *The Friars*, is still exempt from the magisterial authority exercised over the rest of the burgh. At present it consists of one spacious street, intersected by a number of inferior widths. It was made a burgh by William the Lion, and has since received charters from other kings, all ratified by James VI. The parish is three miles and a half in length by about one in breadth, and includes the island of Inchgarvie, the fishing village of Bruce Haven and that of North Queen's Ferry, between which and South Queen's Ferry, on the opposite side of the Forth, passage-boats are in constant requisition. Population in 1831, 3,189.

INVERNESS-SHIRE; an extensive highland county of Scotland, bounded on the east by those of Aberdeen and Elgin or Moray, on the west by the Atlantic Ocean, on the north by the shire of Ross and the Moray Firth, and on the south by the shires of Argyle and Perth, including also the islands of North and South Uist, Eigg, and several others of the Hebrides. It comprehends the districts, Badenoch, Lochaber, Moidart, Glenelg, and Glenelg, and extends across the entire country from the North Sea to the Atlantic, having the noble Lochs Ness, Oich, and Lochy, running in a direct line through the centre, or vale of Glenmoremahalabin, from north-west to south-east, and uniting the northern and western oceans by means of the great Caledonian Canal, cut from the Moray Firth to that arm of the sea termed Loch Linnhe. This extensive vale is bounded on each side by wild and barren tracts, terminating in lofty mountains, of which the celebrated Ben Nevis, whose summit is capped with eternal snow, is elevated 4370 feet above the level of the sea. The district is intersected by numerous rapid streams, which, uniting at various points, form the river Benuly-Foyers, noted for its stupendous falls, Lochy and Spey, with others of minor consideration, all of them well stocked with salmon, trout, and different other kinds of fish. There are evident remains of extensive forests, consisting of several tracts of oak, fir, mountain-ash,

and other wood, and in the neighbourhood of the lakes and rivers are large patches of arable lands, well cultivated, though the farmers are mostly engaged in rearing black cattle and sheep for the southern markets. Springs, impregnated with sulphur and iron, are met with, as are veins of lead, silver, and iron ore, but the absence of coal is severely felt. Gaelic is generally spoken, and is still the most prevalent language. Since the construction of the military stations, Fort Augustus, Fort George, and Fort William, to overawe thelanders, after the expulsion of the Stuarts, the of communication with the south has been equally expeditious and convenient, by the m of various roads and bridges, at the public , which are kept in excellent repair.

imits anciently assigned to this shire, comd the whole of that division of Scotland th of the Grampians, the extent of which t to be considered rather as a vice-royalty secondary division of the kingdom, though her amals of Scotland its kings appear to but a doubtful authority over this part lm, the Norwegian princes then possessing ce of Caithness, with the isles of Orkney and, while the lords of the isles held ver the Hebrides, and the adjacent dis- e main land, and the rest of the country ed by rude and barbarous tribes, who regular authority or government. No to have been taken towards the division s so late as 1633, but in the act passed by rliament of Charles I. against the clan ' sheriffs of Perth, Dumbarton, Angus, dling, Banff, Elgin, Cromarty, &c., &c. r noticed, though there is no mention of thness, Nairn, Ross, and Sutherland, ver, appear to have been all distinct e of Inverness, at the Restoration, and

no material alteration in the limits of the latter have since been made. In Glenelg are the remains of several circular towers, similar to those so common in the Hebrides, with galleries, and flights of steps ascending to the top, which is quite open. Inverness-shire is the country of the clans Cameron, Fraser, Grant, Macpherson, Macdonald, Macintosh, &c. Population, in 1831, 94,997.

The town of Inverness is situated on the southern coast of the Moray Firth, near the mouth of the river Ness, from which it takes its name, and by which it is divided into two parts, connected by a noble stone bridge of seven arches, thrown across the stream, the southern division of the town being the principal and by far the most populous. The harbour has depth of water sufficient not only for the admission of vessels of 200 tons burden, but to enable them to take in or discharge their cargoes alongside its commodious quay; while ships of a superior class and tonnage may ride with perfect safety on the Firth, about a mile below. This town, a century ago, consisted chiefly of barns, granaries, kilns, &c.; and so lately as the rebellion of 1745, presented an appearance little better than a confused heap of ruins; but since that period it has been wholly rebuilt, and is still improving in all quarters. It is now a large, well-built place, containing several spacious streets of handsome houses, three national churches, one Episcopalian church, a Methodist chapel, a court-house, and tolbooth, of elegant design, with a stately tower, surmounted by a spire of beautiful proportions, a general post-office, a public academy of high repute, erected in 1790, and conducted by a rector and four masters; and several other schools, four of which, here and in other parts of the parish, owe their origin to the Society for propagating Christian

Knowledge. Inverness is the capital of the county, indeed, of the Highlands, and displays much of the elegance of a capital, being the residence of many genteel families. Population, in 1831, 14,324.

INVERSION (from the *Latin*), literally *turning in*, is a word variously used. In grammar, it is contradistinguished from *construction*, and means the arrangement of words according to the order in which the ideas follow in the writer's mind, and not according to the usual grammatical construction. The inversion is regulated by the object of the writer or speaker. The French language is the most confined in this respect, and has made the natural construction its first law of arrangement. The Greek and Latin, on the contrary, are extremely free in the use of inversion, and, under certain circumstances, can use almost any order of words. The German is not so free as the Greek, but much freer than the French. Inversion seems necessary for the perfection of a language, though it leads to many aberrations from good sense. As a figure in rhetoric, inversion is used to direct the attention to a particular point, without changing the meaning, as, for instance, 'My peace I give to you,' or, 'The palm of victory he soon hath gained, the faithful warrior.'

Two numbers, powers, or quantities are said to be in an inverse proportion, if one diminishes as the other increases; for instance, the fleetness and the power of a horse are in an inverted proportion.

The term is also used, in tactics, to denote the disordered arrangement of a battalion, when the platoons composing it stand in a reversed order. When the platoon which usually stands on the extreme right becomes, by a manoeuvre, the extreme left, the second platoon from the right becoming the second from the left, and so on, then the man who before stood at the right extremity of the platoon should properly stand at the left; but if, instead of so doing, he still stands at the right, the position of the battalion is inverted. In the following series,

8 7 6 5 4 3 2 1  
q-p | o-n | m-l | k-i | h-g | f-e | d-c | b-a,

let *a, c, e, g, i, l, n, p*, be the men on the right of their respective platoons, when the battalion stands regularly drawn up: then the following order would represent the battalion inverted, thus:

1 2 3 4 5 6 7 8  
b-a | d-c | f-e | h-g | k-l | m | l | o-n | q-p.

Here platoon 1 stands on the left wing, yet *a* stands on the right of his platoon. In both cases, the line is supposed to face the same way.

INVESTITURE, in the feudal law, was the open delivery of a fief by a lord to his vassal, thus, by external proof, affording evidence of property. To use the words of Blackstone, "Investitures, in their original rise, were probably intended to demonstrate, in conquered countries, the actual possession of the lord, and that he did not grant a bare litigious right, but a peaceable and firm possession. At a time when writing was seldom practised, a mere oral gift, at a distance from the spot that was given, was not likely to be long or accurately retained in the memory of bystanders, who were very little interested in the grant." For this reason, investiture was performed by the presentation of some symbol to the person invested, as a branch of a tree, &c. In the primitive church, after the election of a bishop, and his consecration, the early Christian emperors claimed a right of confirmation. The Gothic and Lombard kings exercised the same privilege. In the French monarchy, the Merovingians affected the still greater power of direct nomination,

and their control was supported by means against which the church was wholly inadequate to contend. The estates and honours which composed the ecclesiastical temporalities, were considered to partake of the nature of fiefs, and therefore to require similar investiture from the lord. Charlemagne is said to have introduced this practice, and to have invested the newly consecrated bishop by placing a ring and crosier in his hands. Gratian, indeed, (*Distinct.* 63, cap. *Adrianus*), directly affirms that pope Adrian positively conceded to the emperor the power of electing, even to the papacy, in 774; but neither Eginhard nor any other contemporary writer mentions this fact.

The custom, however, existed, nor does it appear to have been objected to or opposed during the lapse of two centuries from his reign. The disorderly state of Italy, which succeeded the death of Charlemagne, frequently interrupted the exercise of this right by the Carolingians; but even so late as 1047, when the empire had passed to another line, Henry III. received an explicit admission of his prerogative, and repeatedly used it. The investiture in the lesser sees followed as a matter of course. Alexander II. issued a decree against lay investiture in general, which was revived by Gregory VII. (Hildebrand), who, having succeeded in annulling the prerogative of the emperors to nominate or confirm popes, sought to disjoin entirely the ecclesiastical from the civil rule. He complained loudly of the humiliation to which the church was subjected by dependence upon the patronage of laymen, and condemned with far more reason the mercenary and simoniacal exactions, which ecclesiastics suffered from temporal princes as the price of the benefices which they conferred. In the council of the Lateran in 1080, he declared that no bishop or abbot, submitting to lay investiture, should be considered a prelate. The convulsions which followed engendered the Guelf and Ghibeline factions (see *Guelf*), and deluged Italy with blood for a long series of years; for the struggle commenced by Gregory with Henry IV. was zealously continued by his successors, among whom Urban II. and Paschal II. especially distinguished themselves. It was not, however, until the papacy of Calixtus II., in 1122, that the question was terminated, as it appears, materially to the advantage of the holy see. By a concordat then arranged at Worms, Henry V. resigned for ever all pretence to invest bishops by the ring and crosier, and recognised the freedom of elections: the new bishop, however, was to receive his temporalities by the sceptre. In France, even under the papacy of Hildebrand, the right of investiture does not appear to have been made a subject of open quarrel. In spite of the protests of the holy see, the kings exercised the power, but at length relinquished the presentation of the ring and crosier, and contented themselves with conferring investiture by a written instrument, or orally, upon which they were left in peaceable possession of the power. But in England, Paschal II. was engaged in a contest little less fierce than that which he maintained with the emperor. Anselm, the primate, refused to do homage to Henry I. for his see. The king seems to have asserted an unqualified right of investiture, which the pope, who was appealed to, as unqualifiedly denied. After a protracted struggle, and continued threats of excommunication, the controversy ended in England, as it did afterwards in Germany, by compromise. Paschal offered to concede the objections against homage, provided Henry would forego the ceremony of investiture. To this he agreed.

INVOCAVIT; the first Sunday in Lent, so called because the primitive church began their worship, on

that day, with the words of the 91st Psalm, 15th verse, *Invocavit me et exaudivit eum*. It is also called *Quadragesima*, or the fortieth day, because it is forty days before Good Friday, the day when *Jesus* ends.

INVOICE; an account, in writing, of the particulars of merchandise, with their value, customs, charges, &c., transmitted by one merchant to another.

INVOLUTION, in mathematics; the raising of a quantity from its root to any power assigned. Thus  $2 \times 2 \times 2 = 8$ . Here 8, the third power of 2, is found by involution. By continuing the process, we can obtain any power of 2, and so with other numbers.

IO; daughter of Inachus (according to some, of Argus Panoptes) and Peitho; according to others, of Iasus and Leucane. Jupiter fell in love with her. At first, she would not listen to his wishes; but, being enveloped by him with a thick cloud, she yielded herself to his embraces. Juno, notwithstanding, perceived the infidelity of her husband, and resolved to be revenged on both. Jupiter, to protect Io from the jealousy of Juno, changed her into a beautiful white heifer. Juno was not deceived, and begged the helper of her husband. Approaching no evil, he granted her request; but she immediately placed it under the custody of the hundred-eyed Argus. Jupiter now regretted that he had complied with her request, but it was too late; he therefore sent Mercury to kill Argus, and set Io at liberty. This commission Mercury successfully executed, having lulled the watchful Argus to sleep by playing on the flute; but at the moment when Io thought herself again at liberty, the jealous Juno afflicted her with madness, and persecuted her without a moment's rest, through the world. She sprang into the Ionian sea, reached Illyria, passed the Hæmus, went through Thrace, swam over the Thracian Bosphorus to Asia, passed through Scythia, over Caucasus, and came at length to Egypt. She found Prometheus in the Caucasian mountains, who comforted her, and showed her the way she must take. This way is described at length in the "Prometheus" of Æschylus. Her sufferings ended in Egypt. Here she regained her original form, and bore Epaphus, the son of Jupiter. At the instigation of Juno, the Curetes concealed the child, and were, in consequence, struck with lightning by Jupiter. After a long search, Io found her son in Syria, and returned with him to Egypt, where she married the king, Telegonus. She was deified, and, according to some authorities, was the goddess whom the Egyptians worshipped under the name of *Iris*.

IODINE (from *ἰώδης, violaceous*, in allusion to the beautiful violet colour of its vapour) is the name of an undecomposed principle or element in chemistry. It had escaped the observation of chemists until 1812, when a manufacturer of saltpetre, at Paris, detected it in the ashes of sea-weeds, in the following manner. In evaporating the ley from these ashes, to procure the carbonate of soda which they contain, he noticed that the metallic vessels, with which he operated, were powerfully corroded, and that the corrosion was increased as the liquor became more concentrated. Having at hand, one day, a bottle of sulphuric acid, he added some of it to a portion of the mother-water, and was surprised to see a rich violet vapour disengaged; this vapour was the iodine. He at once communicated the observation to M. Clément Desormes, who set about collecting some of the vapour, and, after examining its leading properties, announced it to the royal institute of France as a new body. Its real nature was soon after unfolded through the accurate researches of

Gay-Lussac and Sir H. Davy. Its history proved singularly interesting in modifying the then prevailing theory of chemistry. Sir H. Davy had, a few years previously, promulgated the new theory of chlorine, which was still received with suspicion among chemists. The strong analogies, however, between this substance and chlorine, in their relations to combustibles,—both bodies forming compounds by uniting with them, similar to acids containing oxygen, or oxides,—were conceived to give great weight to the views of Sir H. Davy, and operated completely to overthrow the erroneous hypothesis of oxygenation, invented by Lavoisier. Its investigation, therefore, may be said to have formed a new era in chemistry. The physical properties of iodine are as follow: It is a soft, friable, opaque solid, of a bluish-black colour, with a metallic lustre, usually in scales, but sometimes in distinct crystals of the form of rhomboids or rhomboidal tables, referable to an octahedron, with a rhombic base as their primary form; its specific gravity is 4.946. It possesses an odour somewhat analogous to that of chlorine. It is a non-conductor of electricity, and possesses in an eminent degree the electrical properties of oxygen and chlorine. Iodine enters into fusion at 225° Fahr., and boils at 347°; but when moisture is present, it sublimates rapidly at a temperature considerably below 212°, and gives rise to a dense vapour of the usual violet hue. It is scarcely at all soluble in water, but is readily taken up by alcohol and ether, to which it imparts a reddish-brown colour. It extinguishes vegetable colours, but with less energy than chlorine. It is not inflammable. Its range of affinity for other bodies is very extensive; the most important compounds it forms with these we shall describe after alluding to its natural state and preparation. It exists most abundantly in the various species of fucus, which form the greatest part of the sea-weeds of our coast; it also occurs in the sponge, and in the coverings of many molluscous animals, and has been found in a great number of mineral waters, as those of Sals in Piedmont, Saratoga in New York, &c., and more recently has been detected in some silver ores from Mexico, and in an ore of zinc from Upper Silesia. But it is from the incinerated sea-weed or kelp, that the iodine, in large quantities, is obtained. As the soap-manufacturers are in the habit of obtaining their soda from kelp, iodine may be procured, very economically, from the residuums of their operation, according to the process invented by doctor Ure, which is as follows: The brown iodic liquor of the soap-boiler, or the solution of kelp from which all the crystallisable ingredients have been separated by concentration, is heated to about 230° Fahr., poured into a large stone-ware basin, and saturated with diluted sulphuric acid. When cold, the liquor is filtered through woollen cloth; and to every twelve oz. (apothecaries' weight) of it, is added 1000 grains of black oxide of manganese in powder. The mixture is put into a glass globe, or large matrass with a wide neck, over which a glass globe is inverted, and heat is applied, which causes the iodine to sublime copiously, and to condense in the upper vessel. As soon as the balloon becomes warm, another is substituted for it; and when the second becomes heated, the first is again applied. The iodine is withdrawn from the globes by a little warm water, which dissolves it very sparingly; and it is purified by undergoing a second sublimation. The test made use of for the detection of iodine in any solution, when it is suspected to be present, is starch, with which iodine has the property of uniting, and of forming with it a compound, insoluble in cold water, which is recognised with certainty by its deep blue colour. The solution should

be cold at the time of adding the starch; and, if the colour does not become apparent simply on the addition of the starch, a few drops of sulphuric acid should be cautiously added, when, if any iodine is present, the blue colour will make its appearance. This test is so exceedingly delicate, that a liquid, containing  $\frac{1}{100000}$  of its weight of iodine, receives a blue tinge from a solution of starch.

Iodine has a powerful affinity for hydrogen, which it takes from animal and vegetable substances, in the same manner as chlorine, and, uniting with it, forms hydriodic acid. The following are the methods for obtaining this acid in the gaseous and in the liquid state: Into a flask, to which a recurved tube is fitted, dipping under a jar of mercury, are introduced eight parts of iodine and one of phosphorus, and to the mixture a few drops of water are added; the water is immediately decomposed; the phosphorus, seizing its oxygen, forms phosphoric acid, while the hydrogen combines with the iodine. As there is not water present in sufficient quantity to dissolve the hydriodic acid, it passes over in the gaseous state, and is collected over the mercury. In contact with air, it smokes, or fumes, like the muriatic acid, and, like it, reddens vegetable blues. It is distinguished, however, from that acid, by the superior affinity possessed by chlorine for hydrogen, in consequence of which, if chlorine and hydriodic acid gases are mingled together, the yellow colour of the former disappears, and the violet vapour of iodine makes its appearance, which proves the decomposition of the hydriodic acid by the chlorine. If the decomposition is complete, the vessel will be wholly occupied by muriatic acid gas. To obtain the hydriodic acid in a liquid state, we have only to conduct the gas through water, until it is fully charged with it; or it may be obtained by transmitting a current of sulphureted hydrogen gas through water in which iodine, in fine powder, is suspended. The iodine, from a greater affinity for hydrogen than the sulphur possesses, decomposes the sulphureted hydrogen; and hence sulphur is set free, and hydriodic acid produced. The constitution of hydriodic acid is,

	By Volume.	By Weight.
Iodine . . . .	50	124
Hydrogen . . . .	50	1
	100	125

The solution of hydriodic acid is easily decomposed. Thus, on exposure for a few hours to the air, the oxygen of the atmosphere forms water with the hydrogen of the acid, and liberates the iodine. Nitric and sulphuric acids likewise decompose it by yielding oxygen, the former being converted into nitrous and the latter into sulphurous acid. The free iodine becomes obvious on the application of the above-mentioned test. The compounds of hydriodic acid with the salifiable bases may be easily formed, either by direct combination, or by acting on the basis in water with iodine. Sulphurous and muriatic acids, as well as sulphureted hydrogen, produce no change on the hydriodates, at the usual temperature of the air; but chlorine, nitric, and concentrated sulphuric acid, instantly decompose them, and separate the iodine. The hydriodates of potash and soda are the most interesting of their number, because they are the chief sources of iodine in nature. The latter salt is probably the one which affords the iodine obtained from kelp; while it is believed, that it is the hydriodate of potash, which is most generally found in mineral springs. Hence the necessity of adding sulphuric acid to the residual liquor of the soap-boiler, in order to procure iodine, which requires to be separated from its combination

with the alkali to which it is united, in the condition of hydriodic acid; and peroxide of manganese is also added, in order to facilitate the decomposition of the hydriodic acid.

Iodine forms acids also by uniting with oxygen and with chlorine. When it is brought into contact with protoxide of chlorine, immediate action ensues; the chlorine of the protoxide unites with one portion of iodine, and its oxygen with another, forming two compounds,—a volatile orange-coloured matter, the chloriodic acid, and a white solid substance, which is iodic acid. Iodic acid acts powerfully on inflammable substances. With charcoal, sulphur, sugar, and similar combustibles, it forms mixtures which detonate when heated. It enters into combination with metallic oxides, giving rise to salts called *iodates*. These compounds, like the chlorates, yield pure oxygen by heat, and deflagrate when thrown on burning charcoal. Iodic acid is decomposed by sulphurous, phosphorous, and hydriodic acids, and by sulphureted hydrogen. Iodine, in each case, is set at liberty, and may be detected, as usual, by starch. Chloriodic acid, which is also formed by simply immersing dry iodine in chlorine gas, deliquesces in the open air, and dissolves very freely in water. Its solution is very sour to the taste; and it reddens vegetable blues, but afterwards destroys them. It does not unite with alkaline bases; in which respect it wants one of the characteristics of an acid, and has hence been called by Gay-Lussac a *chloride of iodine*. Iodine unites with nitrogen, forming a dark powder, which is characterized, like chloride of nitrogen, by its explosive property. In order to form it, iodine is put into a solution of ammonia; the alkali is decomposed; its elements unite with different portions of iodine, and thus cause the formation of hydriodic acid and iodide of nitrogen. Iodine forms, with sulphur, a feeble compound, of a grayish-black colour. With phosphorus, also, it combines with great rapidity at common temperatures, attended with the emergence of heat. It manifests little disposition to combine with metallic oxides; but it has a strong attraction for the pure metals, producing compounds which are called *iodurets*, or *iodides*. The iodides of lead, copper, bismuth, silver, and mercury, are insoluble in water, while the iodides of the very oxidizable metals are soluble in that liquid. If we mix a hydriodate with the metallic solutions, all the metals which do not decompose water will give precipitates, while those which decompose that liquid will give none. Iodine, besides being employed for philosophical illustration, is used in the arts, for pigments, dyes, and medicine. The proto-ioduret of mercury is used in England as a substitute for vermilion, in the preparation of paper-hangings; and a compound of hydriodate of potassa 65, iodate of potassa 2, and ioduret of mercury 33, is employed in printing calico. The tincture of iodine, 48 grs. to 1 oz. of alcohol, is a powerful remedy in the goitre and other glandular diseases; but it is so violent in its action on the system as to require great caution in its administration. The hydriodate of potash, or of soda, is also applied to medical uses; and it is inferred, that the efficacy of many mineral springs, in certain diseases, is owing to the presence of one or the other of these salts.

IOLAUS. See *Protesilaus*.

IOLÉ. See *Hercules*.

IOLITE, CORDIERITE, or DICHROITE, is an earthy mineral, commonly massive, though sometimes crystallised in six or twelve-sided prisms, with indistinct cleavages, parallel to the sides of a six-sided prism, which is considered as its primary form; lustre, vitreous; colour, various shades of blue, generally inclining to black; streak, white; transparent or translucent; blue, if viewed in the direction of

the axis; yellowish gray, perpendicular to it; hardness, the same as that of quartz; specific gravity, 2.583. It consists, according to Stromeyer, of

Silica, . . . . .	45.534
Alumina, . . . . .	31.730
Magnesia, . . . . .	11.376
Oxide of Iron, . . . . .	5.696
Oxide of manganese, . . . . .	0.702
Water, or loss, . . . . .	1.649

Before the blowpipe, it melts in a good heat, but with difficulty, and only on its edges, into a glass not inferior to the mineral, either in colour or transparency. It occurs in aggregated crystals, with garnet, quartz, &c., at Cabo de Gata in Spain. A variety found in Bavaria, at Bodenmais, which is generally massive, resembling quartz, and imbedded in iron pyrites, has been called *pelion*. Handsome blue crystals of this species, found at Orijerivi in Finland, have been called *steinheilite*, in honour of count Steinheil. The *sapphire d'eau* of jewellers is a transparent variety of the present species from Ceylon.

ION; 1. a son of Xuthus and Creusa, daughter of Erechtheus, who married Helice, the daughter of Selinus, king of Ægiale. He succeeded to the throne of his father-in-law, and built a city, which he called *Helice*, on account of his wife. His subjects, from him, received the name of *Ionians*, and the country that of *Ionis*. (See *Ionians*) 2. A tragic poet of Chios, who flourished about the eighty-second Olympiad. His tragedies were represented at Athens, where they met with universal applause. He is mentioned and greatly commended by Aristophanes and Athenæus, &c. 3. A native of Ephesus introduced in Plato's dialogues as reasoning with Socrates.

IONA. See *Iotlnkill*.

IONIA; the ancient name of Achæia (hence the *Ionian* sea and *Ionian* islands). By *Ionis* is generally understood that district of Asia Minor, where the Ionians from Attica settled, about 1050 B. C. This beautiful and fertile country extended from the river Hermus to the Mæander, along the shore of the Ægean sea, opposite the islands of Samos and Chios, and was bounded by Caria, Æolia, and Lydia. Commerce, navigation, and agriculture early rendered it wealthy and flourishing, as is proved by the great number of populous cities it contained, among which the most important were Ephesus (the chief place), Smyrna, Clazomenæ, Erythra, Colophon, and Miletus. These free cities formed the Ionian league, but Cræsus, and afterwards Cyrus, made them tributaries. They remained subject to the Persians until they recovered their independence by the assistance of the Athenians and Lacedæmonians, after having previously made an unsuccessful attempt, during the reign of Darius Hystaspes. They were again subjected, and again delivered by Alexander the Great. Ionis, at a later period, became a Roman province, and was totally devastated by the Saracens, so that few vestiges of its ancient civilization remain. The *Ionians* were considered effeminate and voluptuous, but, at the same time, highly amiable. Their dialect partook of their character. (See *Ionian Dialect*.) The arts and sciences flourished in this happy country, particularly those which contribute to embellish life. The Asiatic Greeks became the teachers and examples of the European Greeks. Homer the poet, Apelles and Parrhasius the painters, were Ionians. The Ionic column proves the delicacy of their taste. See *Architecture*, *Ionian Philosophy*, and *Ionians*.

IONIAN DIALECT; one of the Greek dialects, the softest of all, on account of the large proportion of the vowels to the consonants (see the article *I.*)

*naon*), which was particularly spoken in the Greek colonies in Asia Minor and on the islands of the Archipelago. It is divided into the old and new. In the former, Homer and Hesiod wrote. It originally differed little, or not at all, from the old Attic. The new Ionian originated after the Ionians had more intercourse with the other tribes, and planted colonies. Anacreon, Herodotus, and Hippocrates wrote in this dialect. See *Greek Language*, under the head of *Greece and Dialect*.

IONIAN ISLANDS; a republic in the south of Europe, under the protection of Great Britain, situated in the Ionian sea, along the western coast of Greece and Albania. The state is often called the *Republic of the Seven Islands*, on account of the seven chief islands of which it is composed, viz., Corfu, Paxos, Santa Maura, Thiaki or Ithaca, and Cephalonia, lying west of the gulf of Lepanto; Zante, near the western shore of the Morea; and Cerigo, to the south-east of the same peninsula. The other islands and islets of this little state are Merlera, Fano, Samotraci, Anti-Paxos, Calamos, Meganesi, and Cerigotto, which is the most southern and most eastern point of the republic, in 35° 50' lat. N., and 23° 17' lon. E. Merlera, in 39° 57' lat. N., is the most northern, and Fano, in 19° lon. E., the most western point. Most of the inhabitants of the Ionian islands are of Greek origin. A census, in 1814, gave a population of 218,000: at present, it amounts to about 227,000, of whom about 8000 are Italians, and 7000 Jews. There are also some English there. The inhabitants are in general superstitious, and their morals are lax. Until of late, the language spoken here was a corrupt Italian, but modern Greek now prevails. The English and Greek inhabitants have little intercourse, notwithstanding the efforts of the English government. In 1828, there were twenty-nine schools of mutual instruction, a college, and a university, founded in 1823.

The coasts of the islands are rugged, the surface uneven, containing a number of barren rocks and some high hills, interspersed with fertile plains and valleys. The climate is very mild, but subject to sudden changes. The productions are corn, vines, olives, currants, cotton, honey, wax, &c. Vines and olives form the chief source of income to the inhabitants. In 1825, the exports amounted to nearly £150,000. The currants and small dried grapes are exported in large quantities. Since 1815, this state has formed an aristocratic government, under the name of the *United Ionian Islands*, under the protection of Great Britain, and entirely dependent on her. A constitution was granted by Great Britain, in 1817. There is a British high-commissioner at Corfu, the capital of the state, and Great Britain has a right to occupy the fortresses, and keep garrisons. The high commissioner convokes the legislative assembly, appoints the governors of the different islands, and commands the forces. The legislative assembly consists of forty members, and holds its sessions at Corfu. Five senators, chosen by the legislative assembly from their own number, and a president, appointed by the commissioner, for five years, form the senate. The civil law is the law of the land. Revenue, about £150,000; expenditure for the force maintained by Great Britain (6400 men, among whom are four regiments of natives), £100,000.

These islands were inhabited at an early period, and formed small states in the most flourishing period of Greece. They were reduced by Alexander the Great, at a later period by the Romans, and they afterwards formed part of the Byzantine empire. The kings of Naples obtained possession, in the thirteenth century, of Corfu and other islands, but, in

the fourteenth century, the Venetians, then the masters of the Adriatic sea, occupied all the Seven Islands. Corfu placed herself under the protection of Venice, in 1386, and the other islands followed her example. Venice left the government in its former state, merely sending out *provveditori* as heads of the administration. The claims of Naples were extinguished by purchase, and Venice remained in possession of the islands, in spite of the repeated attacks of the Turks, until the republic of Venice was itself dissolved, in 1797. In 1799, the Russians and Turks conquered them; and the emperor Paul, by a ukase of March 21, 1800, declared them a state, under the name of the *Republic of the Seven United Islands*, forming an aristocracy under the protection of Turkey. In 1803, Russia granted a new constitution. In 1807, they were incorporated with the great empire of France; but the French were able to maintain only Corfu. Nov. 5, 1815, it was agreed between Russia and Great Britain (later also Austria), that the islands should form a republic, under the name of the *United State of the Ionian Islands*, and under the exclusive protection of Great Britain. In April, 1819, Great Britain agreed to cede to the Porte the city of Parga, on the continent, which had so long maintained itself against Ali Pacha (q. v.). The greater part of the Pargiots, in despair, emigrated to the Ionian islands. (See *Parga*.) The commercial flag of the Ionian Islands is acknowledged as the flag of an independent nation. See the works of Gell, Dodwell, Hughes, Mustoxodi, and Kendrik; also, *Essay on the Islands of Corfu, Leucadia, Cephalonia, &c.*, by W. Goodisson (London, 1822); *Antiquities of Ionica*, published by the society of Dilettanti, London.

IONIAN ORDER. See *Architecture*.

IONIAN PHILOSOPHY. As Grecian civilization was first developed among the Ionians (see *Ionians and Ionia*), Grecian philosophy also originated among them. The Ionian philosophy started with the question respecting the primitive elements of the world. To the Ionian school (*ai phurici*) belong Thales, Anaximander, Pherecydes, and, in some points, Anaximenes. (See *Philosophy*, and consult Bouterwek, *De primis Phil. Græc. Decretis Physicis*, in the second volume of the *Comm. Soc. Goett.* 1811; Ritter, *Geschichte der Ionischen Philosophie*, Berlin, 1821, and *Geschichte der Philosophie*, volume 1st, by the same, Hamburg, 1829). In modern times, the Ionian philosophy has been revived, in connexion with the atomic system, by Berigard, Magnenus, Sennert, and Gassendi.

IONIAN SEA; ancient name of that part of the Mediterranean which lies between the south part of Italy and Greece.

IONIANS; a tribe of Greeks, deriving its name from Ion (q. v.). They first lived in the Peloponnesus, on the borders of the gulf of Corinth, where they built twelve cities, celebrated for their manufactures and commerce. The Achæans, being pressed by the Heraclides and Dorians, united themselves with them, and the country became insufficient for both people; the Ionians therefore emigrated to Attica, whence Neleus led a colony to Asia. (See *Ionia*.) Those who had remained in Attica were mingled with other tribes, and the Asiatic Ionians alone retained the name.

IONIC FOOT consists of four syllables, two short and two long. If the two short syllables are in the beginning (— — — —), it is called *ionicus minor*: if the two short syllables follow (— — — —), it is called *ionicus major*. Horace used the former.

IOTA; the Greek name for *i*. See *I*.

IPECACUANHA, according to the latest authorities, is the product of two different plants, both

natives of South America. The gray is the root of a species of *richardia*; the other, that of the *cephælis ipecacuanha*. The two roots, however, do not differ in their medicinal properties, and they are much employed indiscriminately. It was first brought to Europe towards the middle of the seventeenth century; but was not generally used till about the year 1686, when it was introduced, under the patronage of Louis XIV. Its taste is bitter and acrid, covering the tongue with a kind of mucilage. It is one of the safest and mildest emetics with which we are acquainted, and is administered as a powder, in the tincture, or infused in wine. It is also less injurious, if it does not operate as an emetic, than antimony, from its not disturbing the bowels as that does.

**IPHICRATES**; a famous Athenian military commander, in the fourth century before the Christian era. He was born in obscurity, but raised himself to eminence in his profession, by his courage and talents, early in life. In the war of Corinth, 395 B. C., he opposed, with success, Agesilaus, the warlike king of Sparta. He afterwards commanded a body of auxiliary troops, in the service of Artaxerxes, king of Persia, in an expedition to Egypt; and, in 368 B. C., he relieved Sparta, when invaded by the Theban general Epaminondas. In the social war, he was one of the commanders of the fleet fitted out by the Athenians, for the recovery of Byzantium, when, being accused of treachery by one of his colleagues, he defended himself with such spirit, that he was acquitted by his volatile countrymen; but, though he lived to a great age, he did not again engage in active service. In the early part of his career, he restored to his dominions Seuthes, king of Thrace, whose daughter he married. Iphicrates was a strict observer of discipline, and was the author of some important improvements in the arms and accoutrements of the Athenian soldiery. He was accustomed always to fortify his camp in the field, even in a friendly country; and, when once asked why he took so much trouble, he answered, "Because, if, contrary to probability, I should be attacked, I may not be obliged to make the disgraceful excuse, that I did not expect it."

**IPHIGENIA**, daughter of Agamemnon and Clytemnestra (according to some, an illegitimate daughter of Theseus and Helen, adopted by Clytemnestra in childhood), was to have been sacrificed to Diana, at the advice of the prophet Calchas, when the goddess, enraged with Agamemnon, because he had slain, in hunting, her consecrated hind, detained the Greek fleet in Aulis by a calm. Under the pretence that she was to be married to Achilles, Iphigenia was taken from her mother, and led to the altar. But, in the moment when the priest was about to give the death blow, Iphigenia disappeared, and, in her stead, a beautiful hind was substituted, whose blood gushed out on the altar. Diana had relented, and conveyed her in a cloud to Tauris, where she became the priestess of the goddess. Conformably with the cruel law of the country, she was obliged to sacrifice every Greek that landed there. Her brother Orestes, coming thither on his wanderings, in despair at the murder of his mother, and wishing to take away the statues of Diana, was likewise condemned to be sacrificed to the goddess. A recognition took place in the temple, and, after deliberating on the means of escape, Orestes succeeded in removing Iphigenia and the statues of Diana. Some nations maintained, that they derived the worship of Diana of Tauris from Iphigenia. She herself is said to have arrived at the island of Leuca, and, after being endowed with immortal youth, and the name of Orilochia, to have married the shade of Achilles. Pausanias says that her grave was shown at Megara. In two famous

operas by Gluck, and Goethe's masterpiece, *Iphigenia auf Tauris* (Iphigenia at Tauris), Iphigenia is the leading character.

**IPHITUS**; king of Elis, in Greece, the son of Praxionidas, and grandson of Oxyliis, measurable as the institutor of the famous Olympic games. They are said to have been originally celebrated by Pelops, or, according to some, by Hercules, in honour of Jupiter; and, after being neglected for several ages, they were restored or re-established by Iphitus. Controversies have arisen as to the age in which the prince lived. Some chronologers place him 884 B. C.; but Sir Isaac Newton has shown that he probably lived a century later, and that the first games of his institution were held 766 B. C.; from which period they were continued, without interruption, for several centuries. See *Olympic Games*.

**IPSARA**. See *Psara*.

**IPSILANTI**. See *Ypsilanti*.

**IRAK ADJEMI**. See *Persia*.

**IRAK ARABI**; the ancient Babylon and Chaldaea.

**IRAN**. See *Persia*.

**IRELAND**; a large and fertile island of Europe, the second in extent of the British islands, is situated in the Atlantic ocean, between lon. 5° 19' and 10° 28' W., and lat. 51° 15' and 55° 23' N. It is separated from Great Britain by the Irish channel or George's channel, and the North channel. The channels vary much in breadth. The least breadth is between the Mull of Kintyre, in Argyleshire, and Torhead, in the county of Antrim, the distance between these two places being about fourteen miles. The nearest land to Ireland on the west is America, on the south Galicia, in Spain; and on the north, the Hebrides.

*History*.—The beginning of the history of Ireland is enveloped in fable. The historians of the country speak of Greek and Phœnician colonies, give lists of kings, &c., for which there is no historical foundation. The vernacular language of the Irish proves that they are a part of the great Celtic race, which was once spread all over Western Europe. (See *Gaul*.) An Irish manuscript has been found more ancient than the tenth century. The oldest and most authentic Irish records were written between the tenth and twelfth centuries; some of them go back, with some consistency, as far as the Christian era; but there is no evidence that the Irish had the use of letters before the middle of the fifth century, when Christianity and Christian literature were introduced by St Patrick. The new faith did not flourish till a century later, when St Columba erected monasteries. In the eighth and ninth centuries, the scholars of Ireland were among the most distinguished at the courts of the Saxon kings, and of Charlemagne. But when the Northmen commenced their descents on the coast, the ecclesiastics took to flight; and it is evident from the condition of the people at a later period that the learning of the Irish clergy never extended beyond the walls of the monasteries. Divided more a number of barbarous and hostile chiefs, Ireland had been for a long time torn by internal wars, and for nearly two centuries, ravaged by the Danes, when, in the beginning of the eleventh century, Bras Borrhoimi, or Borroimh (the Conqueror), united the greater part of the island under his sceptre, restored public tranquillity, and expelled the northern invaders. In 1155, Henry II, king of England, obtained a bull from Adrian IV., granting him the possession of Ireland. In 1169, English troops under the earl of Pembroke (Strougbow) landed in the country, which was soon partially reduced by the invaders, aided by the mutual hostilities and jealousies of the native chiefs. The country over, which the English

actually ruled included the four counties of Dublin, Meath, Louth, and Kildare, and was called the *pale*. In the rest of the island, the native chiefs still maintained their independence. In 1310, Edward Bruce, brother of the king of Scotland, landed in Ireland, at the head of a Scotch force, and caused himself to be crowned king of the island; but, not being vigorously supported by the Irish, who had invited his assistance, he was defeated by the English, and the Scotch were obliged to return without accomplishing any thing. There still remained one independent prince, in the province of Ulster, whose daughter and heir having been married to the duke of Clarence, son of Edward III., that province came into the hands of the English in 1361. A parliament, held at Kilkenny in 1367, forbade intermarriages with the Irish, the use of their language, &c., under severe penalties, and thus contributed to widen the distinction between the two nations, which it should have been the policy of the English government to amalgamate. In the reign of Henry VI., Richard, duke of York, was appointed chief governor; and an attachment to his descendants continued to influence the Anglo-Irish during the reign of Henry VII., as appears in the affair of Lambert Simnel. In his reign (1495) was passed *Poyning's act* (so called from Sir Edward Poyning, lord-deputy of Ireland), which provided that all former laws passed in England should be in force in Ireland, and that no Irish parliament should be held without previously stating the reasons on account of which it was to be summoned, and the laws which it was intended to enact. When Henry VIII., in the sixteenth century, embraced the reformation, the Irish continued to adhere to the Catholic religion. But, in 1541, Henry received from the Irish parliament the title of *king of Ireland*, instead of *lord*, which he had before borne, as a vassal of the pope. The monasteries were suppressed, the tribute to the papal see abolished, and, to reward the chieftains for their submission, O'Neil, O'Brien, and De Burgo were created earls; they were the oldest peers of Irish descent. Under Edward VI., the deputy proposed to the Irish parliament the adoption of the reformation. Three archbishops and seventeen bishops left the assembly; most of the clergy fled the country, and those of the lower clergy who remained, being deprived of their incomes, lived on the charity of their parishioners. Elizabeth, in 1560, caused the measures adopted in the reign of Mary to be abrogated, and replaced every thing on its former footing. She endeavoured to improve the condition of Ireland, and employed able men to effect her purposes, yet her reign was marked by a series of ravages, which finally terminated in a general war against England, usually called the *rebellion*. O'Neil, earl of Tyrone, instigated by the pope, and supported by the Spaniards, was the leader in this war, which, though successfully begun, ended with the reduction of the whole island (1603). In 1613, the first national parliament was held in Ireland; but of 226 members of the house of commons, 125 were Protestants, and the upper house consisted of twenty-five Protestant bishops and twenty-five temporal lords, of whom but few were Catholics. The reign of James (1603—25) was, on the whole, favourable to Ireland; the arbitrary power of some of the chieftains was restrained, the administration of justice improved, &c.; but religious troubles were occasioned by the disabilities to which the Catholics were subjected. On the accession of Charles I., Wentworth, afterwards earl Strafford, was appointed lord-lieutenant; and his administration was beneficial to the country. But the republican inclinations of the English residents, the hate which existed between them and the Irish Catholics, the influence of the Irish clergy, who

were educated in foreign countries, with other circumstances, led to an attempt to shake off the English yoke. Dr Lingard says of this insurrection, that it has been usual for writers to paint the atrocities of the natives and to omit those of their opponents, but that revolting barbarities are equally recorded of both, and that if among the one there were monsters who thirsted for blood, there were among the other those who had long been accustomed to deem the life of a mere Irishman beneath their notice. After the death of Charles, Cromwell was appointed lieutenant of Ireland, and, with his usual energy and promptitude, but with great cruelty, soon reduced the whole country. All the possessions of the Catholics were confiscated, about 20,000 Irish were sold as slaves in America, and 40,000 entered into foreign service, to escape the severity of the conqueror. Charles II. restored the fourth part of the confiscated estates to the Irish, and James II. appointed Tyrconnel, a Catholic, lord-lieutenant of Ireland, and filled the parliament with Catholics.

But the sudden deposition of James from the English throne changed the face of matters. Almost at the same time that information was received that William had ascended the English throne, and meant immediately to send troops and supplies into Ireland, intelligence came that James had landed in Munster with an army. On the 24th of March 1689, he entered Dublin. His promises of protection to the Protestants were rendered very suspicious, by the solemn procession with which the Catholic clergy welcomed him into Dublin, and, in a very short time, were unequivocally proved to be insincere. As the Protestant strength lay chiefly in the north of Ireland, James resolved to direct his march thither. Londonderry was to be first reduced. In this city Lundy commanded, a man suspected of attachment to James, but to whom William, in the midst of his embarrassments, had been obliged to commit this important place. The suspicion that attached to him was too well founded. He refused to defend the town; and had it not been for the skill and intrepidity of George Walker, a clergyman, James would instantly have gained admittance into it. The inhabitants, encouraged by him, resolved to defend the town, and elected Walker, and a Major Baker, their governors. The garrison consisted of 7361 men; but there was not one well mounted cannon, no engineer, no person who possessed any considerable degree of military skill. The fortifications too, originally not strong, were by no means in a good state, the stores were few; and besides the garrison, there were 30,000 people, who could be of little or no use, to maintain. Under such circumstances, they determined to defend their town against James's army, consisting of 20,000 men, well equipped in every respect, prepared for the siege, and led by him in person. It is not to be supposed that Walker and his brave associates were qualified to defend the town according to the rules of military art. They depended solely on zeal, perseverance, and courage. Their sallies were frequent, fierce, and destructive to the besiegers; and so confident were they in themselves, that they always kept the gates open, in order that they might sally forth whenever an opportunity occurred; and when James's army battered the walls, they told them that was useless, as they might enter by the gates if they were so disposed. The prospect of reducing this place, so defended, appeared to James so distant, that after having continued his assaults for eleven days, he returned to Dublin, leaving his forces with orders to continue the siege. From force, there seemed now no chance of gaining the town. The besiegers, therefore, resolved to wait patiently till famine forced it to surrender. Of the approach of

this, the inhabitants were not unapprehensive; but they trusted that supplies of forces and provisions would speedily arrive from England; and, in the mean time, the clergy in the town, both of the establishment and belonging to the dissenters, by daily addressing the people in the cathedral, kept up and even increased their determination never to yield.

The town had been first assailed on the 17th of April. On the 30th of July, three ships were seen in Loch Foyle, part of some which had before appeared there. On these vessels the eyes both of the besiegers and besieged were anxiously fixed. The attempt to approach the town was extremely difficult and hazardous; and the besiegers now did every thing in their power to increase the difficulty and danger. Where the lake narrowed, its shores were lined with batteries, and a boom formed as strong as it could be made, was stretched across this narrow part. This boom consequently must be broken, before the vessels could possibly approach. One of them came near it. All eyes were fixed on the event. Sailing with considerable velocity, she broke the boom. The besieged were almost intoxicated with joy, when the next moment their joy was changed to despair, on observing the vessel on shore, in consequence of the rebound given her in breaking the boom. The next moment the recoil of her guns, which were fired on the besiegers as they attempted to take possession of her, again set her afloat. The garrison were now relieved from famine; and as on famine alone the besieged had trusted for success, they immediately retired, having lost 8000 men. Of the 7360 of which the garrison consisted, 4300 survived; but a large portion of these were incapable of service.

As soon as the Protestants of Enniskillen learned the issue of the siege, they went in pursuit of the enemy, and not only harassed them, but by their rapid excursions, struck terror even to the capital. At length three different armies were sent against them. Two of these they defeated, and the third, under the duke of Berwick, they obliged to retreat.

The Protestants had long looked for effectual succours from England. At length they arrived under Schomberg and Solmes. From Bangor, in the county of Down, where Schomberg landed, he advanced to Dundalk, taking possession of Belfast, Antrim, Carrickfergus, &c. on his route. His encampment at Dundalk was very injudiciously chosen in a low and damp spot, by which sickness attacked his troops. Against him, thus encamped, the army of James marched, commanded by him in person. The situation of Schomberg, though unhealthy, was strong; so that James, after making a show of immediate and general attack, retired to Ardee. The people of England having indulged in great hopes from the operations of Schomberg's army, were loud in their expressions of disappointment and indignation, when they learned that his plan seemed rather defensive than offensive; and William resolved, in order to pacify the people, to go himself into Ireland; and he accordingly landed at Carrickfergus on the 14th of June, 1690.

Having put himself at the head of his forces, the army of James retired before him to the southern side of the Boyne, near Drogheda, where it halted; James, who had joined it from Dublin, declaring his resolution to try the fate of a battle. The hostile armies were nearly equal, that of James consisting of 33,000 men, and that of William of 36,000 men. The army of the former was composed of French and Irish; that of William of Dutch, Danes, and other foreigners, among whom were some Huguenots, and English and Irish; the last were principally Enniskillen Protestants. The position of James's army

was strong; but William, after having reconnoitred it, resolved to cross the Boyne and attack him. For this purpose, he formed his army into three divisions, with orders to pass the river in three different places. The right wing crossed early in the morning of the 1st of July, 1690, without opposition, and, by their manœuvres, soon put to flight those of the enemy with whom they had to contend. The passage of the centre division was not effected so easily; and, after it was effected, the Huguenots were thrown into disorder. To retrieve which, Schomberg put himself at their head, and being taken prisoner, he was accidentally killed by the fire of his own troops. Nearly at the same time fell George Walker, the heroic defender of Londonderry. The object of William himself, who headed the third division, was, after crossing the river, to take the enemy in flank; but the English cavalry under his immediate command, could not withstand the impetuous attack of their opponents, and were forced to give way. In this dilemma, the Enniskilleners immediately advanced, charged the enemy in the most brave manner, and thus afforded time for the cavalry to rally. The infantry of James now gave way; and James himself, alarmed at the danger, put himself at the head of a regiment of cavalry, and gained the pass of Duleek, three miles to the south of the field of battle. The rest of his forces having also passed through this defile, formed again, and effected their retreat in good order. The loss of the vanquished is said to have been 1500, and that of the victors 500.

James fled with such rapidity, that he reached Dublin that night. He stopped there a very short time; and after having advised his partisans to submit to William, he continued his route, and embarked at Waterford for France. His army also retreated by Dublin; but they directed their march towards Athlone and Limerick.

William did not at first pursue the defeated army; but having received the submission of the garrison of Drogheda, he advanced slowly to the south, and encamped about two miles from Dublin. A proclamation was immediately issued, promising pardon and protection to the lower orders of men who had remained at home, or should return thither, and give up their arms; but expressly excluding from pardon the leaders of the rebellion. Commissioners were also appointed to seize all forfeitures arising from the rebellion.

As the enemy's forces had retreated to Athlone and Limerick, it became necessary to take measures for following and reducing them. Accordingly, after William had permitted his army to rest a short time, he detached ten regiments of infantry, and 600 of horse, towards Athlone, while he himself marched southward with a large force. Athlone was first attacked; but William's troops being repulsed, their commander judged it prudent to give up the enterprise, and to march to join the king. The great object of the monarch was the reduction of Limerick. He began his approaches to this city which was very strong, on the 9th of August. The garrison was commanded by Boileau, a Frenchman, who took every measure that skill and experience could suggest for the defence of the place. One of his first enterprises was to intercept an escort, and succeeding in this, he gave fresh spirit to his troops, and an earnest to William of the difficulties he might expect to encounter. The king, however, was naturally of a temper not easily daunted or dispirited. He proceeded in his plans, and on the 18th of August, was enabled to open his batteries. On the 27th, having effected a breach, an assault was ordered; but after this attempt had been carried

on for the space of three hours, William was obliged to retreat, with a loss of 500 killed and 1000 wounded; and soon afterwards he ordered the siege to be raised, and his army to retreat to Clonmel. Thence he himself proceeded to Waterford, and embarked for England. On his departure, the command of the forces was left to count Solmers and Ginckle, and the care of the civil government to two lords justices.

The earl of Marlborough had, before William raised the siege of Limerick, sailed from Portsmouth with 5000 men; and, landing near Cork, he reduced this place and Kinsale. This event, so prejudicial to the cause of James, was almost immediately followed by the departure of Boileau and his French soldiers from Limerick, between whom and the Irish there had long been much jealousy. The Irish were not, however, dispirited by these events. On the contrary, they prepared for an attack on the garrison at Mullingar, and, for this purpose, had collected forage for 5000 cavalry for five days at Athlone. Ginckle, on learning this, resolved to anticipate the attack, and, marching at the head of 3000 men from Mullingar, he attacked a considerable body of the Irish, who were encamped at Ballymore. The attack succeeded; the enemy fled; but, rallying at a place called Grenoge, they again gave battle, and were again defeated, and thrown into complete disorder. By this defeat, their plan of offensive operations against the English garrisons was frustrated.

The partisans of James would probably have given way to despair, had not their hopes been kept up by the promise of supplies from France; but only officers came, and among them Saint Ruth, who was empowered by James to take the command of all his troops in Ireland. This general, after having learnt the number of the forces which he was to command, and of those by which he would be opposed, deemed it prudent to act solely on the defensive; and he therefore strengthened his posts on the west side of the Shannon, while with his main army he took his station behind Athlone. Against Saint Ruth thus situated, Ginckle resolved to commence offensive operations. On the 18th of June, he came in sight of the town; a breach was soon made in the wall of what is called the English town, and that part was taken by storm; but it seemed impossible to reach the Irish town, the bridge being broken down, and the Shannon being here extremely deep, and at the same time very narrow. Ginckle, under these circumstances, twice attempted to repair the bridge, but the works were destroyed. His officers and troops, instead of being discouraged, were eager to ford the river, notwithstanding the obstacles and dangers to which they would be thus exposed; and the general giving way to their impetuosity, they rushed into the stream, gained the opposite shore, and in spite of the enemy's incessant fire, in half an hour were masters of the town. This disaster increased the mutual hatred of the Irish and French; and of it, and the hatred thus increased, Ginckle endeavoured to take advantage, by issuing a proclamation, offering pardon to those who would desert James. This offer, however, produced little effect; and it was evident that the cause must be entirely decided by force of arms.

Saint Ruth, immediately on the reduction of Athlone, retired with his army, which consisted of 25,000 men, to the heights of Kilcommedeen. Here he took up a strong position, and awaited the approach of Ginckle, who was not slow in following him, notwithstanding his army consisted of only 18,000 men. This inferiority, however, was amply compensated by the spirit by which his soldiers were animated. Indeed a most bloody contest was about

to take place. The first effort of Ginckle was to force a pass on the right of the enemy; and this having been effected, his whole left wing advanced through it; and attacked the right of the Irish. The contest was severely contended; and the Irish, even after they were obliged to give way, retired only to flank their assailants in their turn. Saint Ruth, as soon as he was informed of the attack on his right, drew great part of his cavalry from his left to support it. Advantage was immediately taken of this, and orders given to force the pass of Aghrim castle, on the left of the enemy by the cavalry, while the infantry made a movement to support this attack. The latter charging with impetuosity, the enemy designedly gave way, and the assailants, pursuing too far, were overpowered by a charge on the front and flank at the same time. The cavalry, however, had succeeded in their object, which induced Saint Ruth to make them the principal object of his attack. But, while he was giving orders to that effect, he was slain by a cannon ball. The disputes between the French and Irish now produced the most fatal results; for Saarfild, the Irish general, being totally unacquainted with Saint Ruth's plans, was unable to follow them up, and, before he could decide in what manner to act, the English were victorious. Their loss was only 700 killed, and 1000 wounded, whereas the Irish lost 7000, besides 450 prisoners, and all their cannon, ammunition, &c. Allowing his troops a few days' repose, Ginckle marched against Galway, which soon surrendered, on condition that its garrison should be permitted to march to Limerick. The terms in other respects were liberal as well as politic; for, as soon as they were known, considerable numbers deserted the cause of James. Still, however, his partisans were numerous, and such as remained firm, were animated by a most determined spirit of resistance.

No place of consequence now remained to James except Limerick, and thither Ginckle directed his march. Recollecting, however, the ill success of his master before this place, he resolved to proceed with the utmost caution. He took measures to prevent the garrison receiving supplies by sea, and to secure his own communication with Kerry, in case he should be obliged to take up his winter quarters there. As the garrison was equal in numbers to his own army, it would have been madness to have attempted to have taken the town by assault. Instead, therefore, of wasting his time in making breaches in the walls, he resolved to cut off their provisions, by cutting them off from the county of Clare, whence they were drawn. This enterprise was successfully performed, to the surprise and consternation of the Irish, who, when they saw the batteries dismounted, thought that the siege was about to be raised. The next object of the general was to gain possession of Thomond Bridge and King's Island, which lie to the north of what is called the English Town. The Shannon was crossed, the works that protected the bridge were approached and stormed, and, after a desperate resistance, the English made a lodgment within ten yards of it. Ginckle was surprised at his own success; but a general engagement which the enemy ought to have hazarded on this occasion, was prevented by the disputes between the Irish and the French. This dissension, together with the success of the English, produced an offer to capitulate; and Ginckle here, as at Athlone, gave the most liberal terms. In a few days after Limerick was thus reduced, a French fleet appeared in the Shannon, with such supplies of troops, &c. as must have rendered it impossible, if they had got into the city, to have taken it.

The articles of Limerick, as they are called, that is, the terms on which this city, and all the other

posts in possession of the adherents of James, were surrendered, were in substance as follows: "That the Catholics should enjoy such privileges in the exercise of their religion, as were consistent with law, or such as they had enjoyed in the reign of Charles II.: That their Majesties, as soon as their affairs would permit, should summon a parliament, and endeavour to procure from it such further security as might preserve them from being troubled on account of their religion: That all the Irish in the kingdom in the service of James, should be pardoned, and exempted from all actions for debt, on account of plunder committed by them in the course of the war: That they should be reinstated in their property, and in their rights and titles, as soon as they took the oath of allegiance, enjoined by an act of the English parliament in the first year of king William's reign: That every lord and gentleman, who was included in this capitulation, should be allowed to carry arms for defence or amusement: That the garrisons should march away with all the honours of war: And that those who might choose to leave Ireland, should be permitted to carry off their effects to any country except Britain, ships being provided for that purpose by the British government. Fourteen thousand Irish availed themselves of this article, and left their native country."

As William was now completely master of Ireland, it was hoped and expected that he would immediately summon an Irish parliament, but this he did not do till 1692, when he wanted money. In the mean time the English parliament legislated for Ireland; the most important of their acts was one to substitute other oaths, instead of the oath of supremacy, which, in fact, excluded Catholics from both houses of parliament. In 1692, when the Irish parliament met, it became evident that the commons were disposed to stand up for the rights of their country much more firmly than William wished or expected; they even went so far, as to contend that Poyning's law did not extend to money bills, and rejected one that was sent over to them from England, expressly because it had not originated with them. This parliament was therefore dissolved, in the hopes that the next would be less sturdy in the maintenance of their privileges.

In 1695, a new parliament was assembled, which, among other things, explained and confirmed the act of settlement, and confirmed the articles of Limerick, but not without such modifications and alterations as were by no means consonant to their spirit, and therefore were not justifiable: this parliament also passed some penal statutes against the Catholics. The great majority of its members were by no means disposed to question the authority of the English parliament; but some of the members of the commons stood resolutely up, not merely for the independence of the Irish upon the English parliament, but even for the independence of the kingdom of Ireland upon the kingdom of England.

The reign of queen Anne, so far as it regards Ireland, was distinguished principally by the severe penal statutes which were passed in the Irish parliament against the Catholics. It never seems to have occurred, that excessive severity only tended to increase the bigotry and ignorance against which it was directed, and that mild measures, aided by endeavours to enlighten the Catholics, and adopted in the spirit of charity, without a constant reference to the state of Ireland as a conquered country, would much more effectually have promoted the object which the British government, and, under their influence, the Irish parliament, professed to have in view. But, besides the irritation which was thus produced among the Irish Catholics, the Irish nation

in general were constantly reminded, in the most galling and unnecessary manner, of the dependence of their parliament upon that of England; and the violence of party—always great in Ireland—was augmented by the English government, to serve the paltry purposes of political intrigue.

In 1724, dean Swift distinguished himself by the Drapier's letters, the object of which was to point out the consequences that would result from a patent granted to a man of the name of Wood, for supplying Ireland with a copper coinage. Such was the ferment occasioned by these letters, that the patent was revoked next year. It is now pretty well ascertained that Swift was not the patriot he was then considered, and that Wood's coinage (though the granting him a monopoly was improper and unjust) would by no means have been the source of profit to himself, or so prejudicial to the people, as was represented in the Drapier's letters. But Ireland, at this period, was admirably adapted to be the scene of every kind of political imposture and intrigue. She was miserably governed; her interests were never consulted, but always sacrificed either to the interests of England, or, what was worse, and more provoking, to the interests of such individuals as the British ministry wished to oblige. The viceroy only came over once in two years. The effective power was with the lords justices, and their time and thoughts were occupied in forwarding the plans of the British cabinet, and promoting their own private interests.

The privileges of the Catholics, already greatly curtailed, were still further encroached upon, by an act passed in 1727, by which they were totally deprived of the elective franchise. Such, however, was their attachment to their native soil, that, though a scarcity, reaching almost to a famine, drove thousands of Protestants to America, scarcely any Catholics emigrated.

In 1745, when a rebellion raged in the heart of Britain, and when the British ministry, conscious of the harsh and unjust manner in which they had treated Ireland, were apprehensive that she also would encourage the Pretender, they sent over the celebrated earl of Chesterfield, who so well discharged his duty, that he discountenanced all party distinctions; gave to the Catholics the full protection of the laws; and, by similar conduct in other respects, prevented the Irish even from indulging a wish to support the Pretender; so that the unexpected and singular spectacle was exhibited, of Ireland tranquil and loyal, at a time when Scotland, and even England, teemed with favourers of the exiled family.

In 1749, the power of the Irish parliament was again brought under discussion, in consequence of the intended application of the surplus of the hereditary revenue of the crown towards the payment of the national debt. The question was, whether the right of disposing of this surplus was vested in the king or the Irish house of commons; or, in other words, whether his majesty's previous consent was necessary. At this time the English party gained their point; but when the question was renewed in 1753, the patriots were victorious.

In 1750, Britain and Ireland were alarmed with the preparations for invasion making in the French ports; but no landing took place, except that of Thurot with 600 men at Carrickfergus, and he re-embarked in the course of a few days. The conduct of the Irish troops, as well as of the peasantry, on this occasion, proved that they were much more loyal and worthy of confidence than they were allowed to be by those who calumniated them, for they were eager to rush to the defence of their country; and such as were engaged behaved with surprising zeal and multiplicity.

We now come to the time of the first appearance of those associations of the peasantry, and others of a higher class, for purposes of outrage, or of effecting political objects, by which the history of Ireland is henceforth so much distinguished. In 1762 the Whiteboys first created alarm. They took this name, which succeeded that of Levellers, from the circumstance of their covering their ordinary dress by a shirt or white frock. They consisted of labourers in the woollen manufacture, who had been driven out of employment by its decline; and of labourers in husbandry, who had been reduced to the same state, in consequence of the general conversion of arable into pasture land. To add to their distress, at this time a spirit of enterprise and improvement had recently promoted the enclosure of commons, on which these people had previously enjoyed the right of commonage. The outrages of the Whiteboys were dreadful; and the alarm was greater than even they warranted, in consequence of a suspicion that they were instigated by, and connected with, the Catholics. The next year an insurrection arose in Ulster. In this only Protestants were concerned. The cause of this was the hardships under which, it was alleged, the poorer classes laboured with regard to keeping the roads in repair. The insurgents called themselves *Boats of Oak*, from wearing oaken branches in their hats. They soon, however, carried their views beyond their original object; and, on their proceeding to interfere violently with respect to this, and the rent of land, they were put down by an armed force.

The first circumstance, after the accession of George III., connected with the history of Ireland, that deserves our notice and record, was the passing of the octennial bill, in 1768. The parliament of Ireland, unlike that of Britain, continued in existence as long as the monarch lived, being dissolved only by his death taking place. In 1761, an attempt was made by Lucas and others of the patriotic party, to limit the duration of the Irish parliament, and to place it on the same footing, in this respect, as the British parliament; this, however, did not succeed, and it is even doubtful whether the British government intended that the measure should be carried in 1768; for the British privy council returned the heads of a bill transmitted to them for limiting the duration of the Irish parliament to seven years, with an alteration which extended the duration to eight years; probably expecting that, by this interference, the Irish parliament would be induced to reject the bill altogether; but the Irish parliament, with great temper and good sense, passed the bill as returned to them.

At this period, lord Townshend was lord-lieutenant. His favourite and principal object was to destroy the power of the Irish aristocracy, and to take out of their hands the influence and distribution of places and pensions, which had been hitherto allowed them, in consequence of the supposed necessity of courting their favour and votes. This was a difficult point; but the viceroy carried it, though not by the most justifiable means. From this time, the lord-lieutenant, or in other words, the British government, was regarded and treated as the only source of honours or emoluments. During the administration of this nobleman, who was very popular among the Irish, not merely on account of his public measures, but also on account of his disposition and manners, open and convivial, and thus highly congenial to those of the people over whom he was placed, some disturbances broke out in Ulster, in consequence of a system introduced there of letting land on fines. As the great majority of the small farmers and peasantry were totally unable to pay these fines, and were consequently deprived of their farms, they became des-

perate, and committed such violent outrages on those who had taken their lands, that government was obliged to have recourse to military force. The insurrection was thus quelled; but the distressed inhabitants, deprived of the means of subsistence, were driven to America in great numbers.

The breaking out of the American war, produced a remarkable change in the language and conduct of the British government as they related to Ireland; proposals were made in the British house of commons in favour of Irish commerce; and some of the penal statutes against the Catholics were annulled. They were now enabled to acquire full property in land, and a son could no longer force a settlement from his father by conforming to protestantism, provided the Catholics subscribed an oath of allegiance and a declaration, which were prescribed. Still, however, Irish commerce and trade languished, and the patriots of Ireland aimed at much greater privileges with respect to it, and to their political state in general, than had yet been granted. The means by which their views might be forwarded were at hand. The American war had drawn from Ireland nearly all her regular forces, and her coasts, thus unprotected, were exposed to invasion. In consequence of the town of Belfast not receiving a garrison adequate to their protection, the inhabitants, in 1779, entered into armed associations to defend themselves against the enemy. This gave rise to the system of volunteers, which soon spread over the whole country. The Irish now began to feel their strength, and even the house of commons unanimously passed a resolution, on the first day of their session this year, that, in their address to the king, it should be represented to his majesty, that "it was not by temporary expedients, but by a free trade alone, that Ireland could now be saved from impending ruin;" and in order to give effect to this address, they voted their supplies only for six months. A motion was also made, that the granting of new taxes would at that time be inexpedient, which was carried by a large majority. Thanks were voted, unanimously, in the house of commons, and, with only the dissentient voice of the lord chancellor, in the house of lords, to the volunteers, for their exertions in defence of their country. Lord North, who was at this time prime minister, now found himself obliged to give way; but hoping that the Irish would be content with the removal of commercial restrictions, he carried a bill through the British parliament, which in some measure effected that object. But the Irish looked to greater objects; and, unfortunately for his own views, lord North, in order to induce the British manufacturers and merchants to agree to his commercial concessions, had represented them as a boon resumable at pleasure. The Irish thus learned, that what had been granted, had been granted, either through fear, or as a matter of favour, and not as their right, and they became sensible that they could not be secure, unless they had an independent legislature of their own. Resolutions to this effect were published by the different volunteer corps, who, in order that they might act with more effect, formed a union among themselves, and they were not only animated by the same spirit, but, in all their resolutions and proceedings, directed to the same object.

This spirit animated all ranks and classes: it was no longer an association confined to one part of the kingdom, composed of ignorant and poor men, without talents or influence, and aiming at some local and temporary object. At the head of the Dublin volunteers was the duke of Leinster; and, on the 9th of June, 1780, with him in the chair, they resolved, "That the king, lords, and commons, of Ireland, only, are competent to make laws binding

the subjects of this realm; and that they would not obey or give operation to any laws, save only those enacted by the king, lords, and commons, of Ireland, whose rights and privileges, jointly and separately, they were determined to support with their lives and fortunes." The house of commons, which had hitherto gone along with the sense of the nation at large, seems now to have been placed under ministerial influence, or at least to have been of opinion that the nation were proceeding too rapidly and too far; for a motion made by Mr Grattan, that no power on earth, save the king, lords, and commons, of Ireland, had a right to make laws for Ireland, was withdrawn; and the Irish parliament, acting in the spirit which caused this motion to be withdrawn, passed into laws two bills which had been altered by the British cabinet. Hence the parliament became very unpopular.

In 1781, the force of the volunteers had been augmented to 50,000 men. By forming committees of correspondence and a national committee, they gave to their system a single animating spirit, by which their power was wonderfully increased; and as the British government still obstinately refused to comply with their requests, a crisis seemed to be at hand. At this period, that administration which had lost Britain her American colonies, resigned; and they were succeeded, in March, 1782, by a Whig administration, at the head of which was the marquis of Rockingham. The duke of Portland was immediately appointed lord-lieutenant. Mr Grattan moved an address to the king, in the house of commons, which was unanimously carried in both houses, in which it was declared, that "the crown of Ireland was an imperial crown, inseparably annexed to the crown of Great Britain; but that the kingdom of Ireland was a distinct kingdom, with a parliament of her own, the sole legislature thereof; that in this right they conceived the very essence of their liberty to exist; that in behalf of all the people in Ireland, they claimed this as their birthright, and could not relinquish it but with their lives; that they had a high veneration for the British character; and that their determination was in sharing the freedom of England, to share also her fate, and to stand or fall with the British nation." The lord-lieutenant assured parliament that the British legislature had concurred in a resolution to remove the causes of their discontents, and that his majesty was graciously disposed to give his royal assent to acts calculated to fulfil their wishes. As an earnest of the sincerity of this declaration, a law was passed, by which all interference of the British privy council to alter Irish bills was abolished, and the parliament of Ireland thus placed on the same footing as that of Britain. Acts were also passed for the limitation of the law against mutiny to two years; for the right of habeas corpus, and for the independence of the judges; and the act by which the Irish house of peers had been deprived of their supreme judicial power in their own country, was repealed. These concessions, however, were not deemed sufficient by some patriots, particularly by Mr Flood, who brought in a bill, declaring the sole and exclusive right of the Irish parliament to make laws in all cases whatsoever, both internal and external, for the kingdom of Ireland: only six members voted for this motion. Mr Grattan opposed it; and the volunteers of Leinster, Ulster, and Connaught, were likewise inimical to it.

The volunteers having accomplished the objects which they originally had in view, did not disband themselves, but directed their views and exertions to a reform in parliament. In order to act with vigour and effect, they followed their former plan of a national convention, which they appointed to be held

in Dublin on the 10th of November, 1783. On the 29th of the same month, a motion was made in the house of commons by Mr Flood, founded on the resolutions of this convention, which, after a long and warm debate, was rejected by a very large majority. This termination, instead of rousing the volunteers to perseverance, as it would have done, when they had their original object in view, seems to have disconcerted and alarmed them; for the convention adjourned to an indefinite period, after having passed a resolution to carry on individually, their efforts for a parliamentary reform; and having agreed to address the king, expressing their loyalty, and beseeching him not to ascribe their efforts to restore the constitution to its pure and pristine form, to any love of innovation, or want of attachment to his government or power. Soon after this the volunteer system declined, ministers hastening its decline by raising fencible regiments, into which they drew the officers of the volunteers by pecuniary inducements.

The cause of parliamentary reform, though no longer supported by the volunteers in their associate character, was not deserted by the people, or by its advocates in parliament; and their hopes were raised by the circumstance, that Mr Pitt, who had been its most strenuous supporter, was now prime minister. It was soon found, however, that Mr Pitt was no longer of the same opinion; and Mr Flood's motion for leave to bring in a bill to reform the Irish house of commons, was negatived, though not till after a long debate. The advocates for this measure, out of doors, were not cast down; the citizens of Dublin, legally convened by the sheriffs, voted a series of resolutions in favour of this measure, and also appointed a committee to prepare an address to the people at large, and a petition to the king. The people were invited to form a national congress, composed of five persons from every county and large town; and the meeting of this congress actually took place in Dublin, on the 25th of October, 1784, notwithstanding the endeavours of government to prevent it, which were carried, at least, as far as the law warranted.

The system of tithes has always been a source of ill will, even where those who paid them were of the established religion; but it seemed very hard and unjust to the Catholics, that they should pay towards the support of a clergy whose services they did not need, nor wish for. Besides, the tithes pressed hard on the poor renters of a piece of ground, perhaps scarcely large enough to support a man and his family, even if he had received the whole produce. From this feeling with regard to the oppression of tithes, arose, in 1786, a species of insurrection in the south of Ireland, carried on by persons who styled themselves Right-boys. They administered oaths, binding the people not to pay more as the tithe of an acre, than a sum they fixed—to permit no proctor—and not to allow the clergyman to take his tithes in kind. Not being sufficiently opposed in this outrage, they proceeded farther; to fix the rents of land—to raise the wages of labour—and to oppose the collection of the tax called hearth-money. This called forth the attention of the legislature, and in 1787 an act was passed, to prevent tumultuous assemblies and illegal combinations.

At the breaking out of the French revolution it was natural that those in Ireland, who had been so long and so ardently endeavouring to gain for their own country what they deemed its rights, and essential to its prosperity, should rejoice at the event when it began, and that they should feel, by it, inspired to renew their attempts to obtain their favourite objects of parliamentary reform and Catho-

lic emancipation. The mode in which they might hope to attain these objects seemed pointed out to them: by the volunteers,—by union and associations they had prevailed, and thus also they might be equally successful. Accordingly, in June 1791, there appeared at Belfast the plan of an association, under the name of United Irishmen; and in November this association was actually instituted at Dublin: their declared object was, “the forwarding a brotherhood of affection, a communion of rights, and a union of power, among Irishmen of every religious persuasion, and thereby obtaining a complete reform in the legislature, founded on the principles of civil, political, and religious liberty.” Such were their avowed objects; but there is reason to believe, that, even at the first formation of this association, the leading members looked further; or, at least, that they had determined, if it should be necessary, to obtain their professed objects by means inconsistent with public tranquillity, and with their duty as subjects. That they had such a necessity in contemplation, is evident from the formation in Dublin of national guards, distinguished by a green uniform, and by buttons with a harp under a cap of liberty instead of a crown. The 9th of December 1792 was appointed for the general muster of these guards, and all the volunteer companies were invited to attend; but the muster never took place, in consequence of the strong measures of precaution adopted by government. Thus prevented from assembling, the leading men among the United Irishmen put forth a paper, signed by Archibald Hamilton Rowan as their secretary, in which they expressed their expectation that the volunteers would resume their arms for the maintenance of tranquillity against foreign and domestic enemies, and the Protestants generally to choose deputies to a national convention, with which, when formed, the Catholics might act. The Catholics, as might be supposed, were not indisposed to take advantage of this state of the country. Besides the grievances which were common to them and the Protestants, they had various grievances of their own, arising from their religion; and from the declaration of the United Irishmen, they were led to hope that the Protestants, so far from opposing their claims, would now co-operate with them in their endeavours to obtain them. Accordingly they also had their convention, which assembled on the 3d of December, 1792, in Dublin. After voting a petition to the king, and appointing a permanent committee for the management of Catholic affairs during the recess, they adjourned. That the real nature of the claims which they put forth might be understood, and the objections generally urged against their claims being complied with might be removed, they abjured the dangerous tenets which they were commonly supposed to entertain—that excommunicated princes might be murdered or deposed by their subjects; that the murder of heretics is lawful; that no faith is to be kept with them; that they could be absolved from their oaths of allegiance; that the pope had any jurisdiction within the realm; or that any human power could forgive sins, without sincere repentance. They also renounced all claims to the estates of their ancestors, which had been forfeited; and disavowed all designs of subverting the religious establishment of Ireland.

The government seemed to think, that the safest conduct for them to pursue was to avoid both extremes; they were not disposed to grant all the Catholics wished, nor to withhold every thing. In conformity with this determination, in 1793, the legislature admitted the Catholics to the practice of the law—to intermarry with Protestants—and to an unrestrained education. The legislature, during this session of parliament, also passed a law to prevent

the election, or other appointment, of conventions, or other unlawful assemblies, under pretence of preparing or presenting public petitions, or other addresses, to his majesty or parliament. This act was directly aimed at a proposed meeting of a national convention of the United Irishmen at Athlone, which was prevented. A report of a secret committee of the house of lords threw much light on the views and proceedings of the United Irishmen, as well as on those of a description of insurgents called Defenders. The latter were Catholics in Armagh, Louth, Meath, and the adjacent counties, who, having first associated to defend themselves against the ill treatment inflicted on them by gangs of Presbyterians, called Peep-of-day Boys, became afterwards the assailants.

We have mentioned that Archibald Hamilton Rowan was secretary to the United Irishmen at the time their manifesto was published; he was on that account arrested, and in 1794 brought to trial. It was suspected at the time of his trial, that the views of the United Irishmen went farther than they avowed, and that the utter subversion of the constitution, and the separation of Ireland from England, was in their contemplation, and the object of their meetings and schemes. This was afterwards proved on the trial of an English clergyman of the name of Jackson, for a treasonable correspondence with the agents of the French government; for Rowan, who had been condemned to a fine, and imprisonment for two years, contrived to escape out of prison, and fled out of the country, conscious that, on the trial of Jackson, evidence of his real designs would be brought to light. Jackson was condemned, but he took poison, and expired before he was removed from court. Two others, who were leading men among the violent democratic party, Napper Tandy and Theobald Wolfe Tone, the principal framer of the United Irishmen, also fled from their country. Indeed, there was now too much reason to believe, that the United Irishmen not only aimed at a separation from Britain, but aimed at this object by means of the co-operation of France,—a method at once most dangerous to that liberty which they professed themselves so anxious to secure, and utterly at variance with real patriotism or enlightened views.

It was not to be supposed that the French government was ignorant of the state of Ireland, or indisposed to take advantage of it in their war with Great Britain. Indeed it was matter of surprise that they had not attempted to land troops in a country so disturbed, and in which there was avowedly so numerous and active a part of the inhabitants desirous to throw off the British yoke, and for that purpose, to accept any foreign assistance that might present itself. An agreement was in fact made between the leading men in the Irish Union, and the French directory, for the landing of a French force in Ireland, on condition that the invading army should act as auxiliaries, receiving their pay and instruction from the Union. As soon as this arrangement was settled, preparations for the invasion of Ireland were made at Brest. The Irish Union, in order to be ready to second the efforts of their new allies, were uncommonly active and zealous in their preparations and plans; but, in the midst of these, they were thrown into a state of uncertainty, and induced to suspend their operations, in consequence of receiving, first, the intelligence that the invasion would take place immediately, that is, in the beginning of the winter of 1796; and almost immediately afterwards, a letter, which they had no reason not to regard as authentic, that the invasion would be deferred till the spring of 1797. The invading fleet, however, anchored in Bantry Bay, on the 24th of December, 1796; but as the general, and a great part of his troops were on board ships that had

not arrived, the admiral, after waiting for him a few days, returned to Brest, having previously ascertained, however, that the country was well defended, and that even the peasantry, towards whom the French had been taught to look for immediate and hearty co-operation, were apparently adverse to them.

A proclamation was issued on the 17th of May, 1797, declaring the civil power inadequate to quell the insurrection; and this proclamation was followed by orders for the military officers to act without waiting for any authority from the civil power. The military, who had previously been highly irritated by the resistance of the insurgents, and who, it is too probable, had entered Ireland, with the belief that it might be treated in all respects as a conquered country, now gave way, in too many instances, to the most oppressive outrages. Under the pretence that arms were concealed, houses were sometimes burnt or plundered; and the military torture of the picket was employed to force a discovery. The United Irish, perceiving that their only chance of success was by assuming the appearance of being reduced to obedience, and conducting their operations in a more secret manner, discontinued their meetings; and the state of the country generally improved so much, that in August, 1797, the administration of justice was again committed to the civil power. But the United Irish were only laying their schemes deeper, and were inactive and tranquil only, that they might burst out with more violence and effect. Hitherto they had been chiefly confined to the northern provinces; but now the associations began to extend to the western and southern parts of Ireland, and the whole organisation to assume a military form. According to their new plan, the lowest societies consisted of twelve persons, who lived near one another, and among whom there was frequent and confidential intercourse. Five of these societies elected each a secretary, and these secretaries formed a baronial committee, which had the superintendence of the first society. Ten of these lower baronial committees elected each a delegate, and the ten delegates composed an upper baronial committee, which directed the business of the ten lower committees. In like manner was the organisation of county, district, and provincial committees effected. The supreme command was lodged in an executive directory, which was composed of five persons, unknown to all except the secretaries of the four provincial committees. From this directory the orders were conveyed in the most secret but efficient and prompt manner; and they were instantly and fully obeyed. Such was the civil organization of the Irish Union. The military resembled it, and, in fact, was grafted upon it. The secretary of each of the lowest societies was its non-commissioned officer; and the delegates of the lower and upper committees were respectively captains and colonels. There was also a military committee appointed by the directory, to contrive plans for the direction of the national force towards the grand object they had in view. In May, 1797, the number of men enrolled as members of the Irish Union in Ulster alone, was nearly 100,000. In the other parts of the kingdom, except Dublin and the counties of Wexford, Kildare, East Meath, West Meath, and King's County, their numbers were comparatively few; but they were using their utmost endeavours to extend the Union all over Ireland.

As soon as the members of the Irish Union found that they could not propagate their views by means of newspapers, they had recourse to hand-bills, which were privately printed and circulated by their agents. In these, abstinence from spirituous liquors was recommended, in order that the revenue might be impaired; and this recommendation, which it might have been

thought no motive would have induced the lower classes of the Irish to follow, was obeyed so generally and faithfully, that their habits were observed to be decidedly more sober than usual. The members were also cautioned against purchasing the quit-rents of the crown, as the bargains would not be valid in case of a revolution. A caution was also given against the acceptance of bank notes. All these circumstances evidently proved that the Irish Union were still in hopes of accomplishing their object by a revolution; but, as they could not hope for this by their own unaided efforts, they again had recourse to France. Assistance was readily promised them; and preparations for the invasion of Ireland were made at Brest and in the Texel; but the expedition from the latter place was rendered abortive, by the defeat of the Dutch fleet at the battle of Camperdown. Still the Irish Union looked towards assistance from the Brest expedition; but the French government appearing to have forgotten their promise, Arthur O'Connor, who was a member of the Irish directory, was commissioned to proceed to France; but, on his passage through England for that purpose, in February, 1798, he was arrested, along with an Irish priest of the name of Coigly, and Binns, a member of the corresponding society of London. They were tried; O'Connor and Binns were acquitted, but detained on another charge of treason; Coigly was condemned and executed. By this time, the number of men sworn into the conspiracy amounted nearly to half a million, and plans were formed for the simultaneous rising of this body. Their object, however, was discovered by a man of the name of Reynolds, who was a delegate for the province of Leinster; and from his information, the members who formed the committee of this province were arrested. Emmet, Marnevin, and Bond, members of the directory, were also arrested. Government, at the same time, by the seizure of papers, were made thoroughly acquainted with all the plans of the Union, and thus were enabled to frustrate them. The Union, thus deprived of their directory, proceeded to elect new members, among whom were two brothers of the name of Sheares; but neither these nor the other members were equal in talents to the former members; and yet greater talents were now requisite, not merely on account of the discoveries made by government, but also because the lower members of the Union, wearied with waiting, and anxious not so much to accomplish the political objects of the Union, as to gratify their own private revenge, could not be managed except by men of the greatest talents and influence.

On the 30th of March, 1798, government issued a proclamation, which proved that they meant to adopt the most vigorous measures which were in their power, for the immediate suppression of the disaffection and disorders in Ireland. At the same time general Abercrombie, who then commanded the forces in Ireland, was directed by the lord-lieutenant to proceed with his army into the disturbed counties, vested with full powers to act as he should think proper. His first object was to restore the discipline of the army, which was in such a state, that it could not be safely trusted with the execution of the orders he meant to issue. Afterwards, on the 3d of April, he published a manifesto, calling upon the inhabitants of Kildare, where his headquarters were fixed, to surrender their arms within ten days, and, in case of non-compliance, threatening that large bodies of troops should live among them at free quarters, promising rewards to those who would give information of concealed arms or ammunition, and denouncing other severities, in case the inhabitants did not return to a state of tranquillity. At the expiration of the ten days, the troops were quartered on those who were

known or suspected to be disaffected; and their behaviour was such as in most instances might be expected from men of their habits and feelings, hitherto little accustomed to strict discipline.

The insurgents did not seem intimidated by these proceedings against them; and as they were ignorant that government were acquainted with their plans, they still persevered in the determination to rise in a body on a fixed day. Before that day arrived, however, government caused lord Edward Fitzgerald, who had contrived the plan of attack, and who was distinguished for his boldness, talents, and influence, to be arrested. He made a desperate resistance, and died soon afterwards of a wound which he received before he was taken. The two brothers Sheares, and other conspirators, were arrested the same month; and, on the 21st of May, the plan of insurrection was announced by lord Castlereagh, secretary to the lord-lieutenant, to the lord mayor of Dublin. The night of the 23d was the time fixed for it. An attack on the troops stationed near Dublin, and on the artillery, was to have been first executed. The castle was, about the same time to have been surprised; after which, the parties engaged in these enterprises were to have united. The stoppage of all the mail coaches on the great roads, was to have been the signal for the rising of the people in the various parts of the country. The scheme was certainly well arranged, and had it not been discovered, might have been attended with the most disastrous consequences.

Even though thus discovered, the insurrection broke out in a manner that caused great alarm, and, for some time, exposed parts of Ireland to all the horrors of a civil war. On the 24th of May, the insurgents, though they were nearly without leaders, and with scarcely any arms except pikes, commenced their operations by an attack on Naas, Carlow, and other places, from which they were repulsed with loss. They had previously destroyed the mail-coaches in their road to Dublin, to give notice to their confederates that they were about to commence their operations, and to retard the communication of them to government. As soon as the first acts of rebellion took place, general Lake, who had succeeded general Abercrombie in the command of the forces, issued a proclamation, in which he expressed his determination to use, in the most summary and vigorous manner, the powers with which he had been entrusted to suppress the rebellion; and commanded all persons of every rank, except officers and magistrates, to remain in their houses from nine o'clock at night till five in the morning. Proclamations were also issued by the lord mayor of Dublin and the lord lieutenant. In the first, all persons in Dublin were ordered to give in a list of their arms, or to surrender them if they had not a license to possess them; and every housekeeper to fix on the outside of his door a list of the names of all persons resident in his house. In the second proclamation it was stated, that orders had been sent to all his majesty's general officers in Ireland, to punish, according to martial law, all persons assisting in the rebellion. The progress of the rebels towards the south-west was checked by their repulse at Carlow; but the city of Dublin was still partially blockaded by them. To complete the plan for its relief, Sir James Duff made a rapid march with 600 men from Limerick, and arriving at Kildare, opened the communication between the capital and the country.

On the 26th of May, the insurrection broke out in the county of Wexford, where it was not apprehended that the insurgents were in great force. They were headed by a priest of the name of Murphy, a ferocious and ignorant fanatic. On the 27th, two bodies of them made their appearance at Oulart and Kiltro-

mas. At the latter place they were defeated by 200 or 300 yeomen; but at the former place, where Murphy himself commanded, they were victorious. Murphy immediately proceeded to Enniscorthy, of which, by the assistance of the Catholic inhabitants, he gained possession. The inhabitants of the city of Wexford were now in great alarm, as they could plainly distinguish the flames of the burning houses at Enniscorthy. As they were little prepared for defence, they resolved to negotiate with the insurgents, or rather, to endeavour to persuade them to return peaceably to their homes. For this purpose, two gentlemen, who had been arrested on private information, were sent to them; but they kept one of these to be their leader, and sent the other back to Wexford. Against this place they now determined to proceed. Its small garrison took a position outside, but afterwards returned into the town, which was almost immediately evacuated, and taken possession of by the rebels. Their force was about 15,000 men; and by the capture of Wexford, the southern parts of the county, as well as the eastern and western, were at their mercy. They now divided into two bodies; one of which directed its march to Gorey, in the northern part of the county, in the hopes of thus forcing a passage to the capital; and the other to New Ross, by reducing which they would be enabled to enter the counties of Kilkenny and Waterford. The inhabitants of Gorey were apprised of their danger, but they trusted it would be averted by the arrival of troops under general Loftus and colonel Walpole, which immediately marched by different routes to attack the insurgents, who were posted on a hill seven miles from Gorey, under the command of a priest of the name of Roche. This man seems to have been possessed of great military talents, for he immediately resolved to quit his position with his whole force, upwards of 10,000 men, and attack Walpole while separated from Loftus's troops. He came up with him at Clough, and, attacking him quite unexpectedly, the British were defeated, with the loss of their artillery. Loftus, in the mean time, following the insurgents to Gorey, ignorant of the defeat of Walpole's corps, found them posted so strongly that he durst not attack them, but retreated into the county of Carlow. The body of the rebels who had marched towards Ross were not so fortunate. They had chosen for their leader a person of the name of Harvey, whom they had liberated from Wexford jail. He formed a plan of attacking three separate parts of the town of Ross at the same time: The attack was accordingly made in a furious but irregular manner. At first the rebels gained some advantages, but they soon were thrown into confusion; and general Johnson, who commanded a strong party of the regular army in the town, took advantage of this circumstance, and, after a desperate resistance from some divisions of the rebels, while others were totally without discipline or management, he succeeded in completely defeating them, and in saving the place. Enraged at this defeat, the rebels massacred in cold blood more than 100 of their Protestant prisoners at Wexford.

On the 9th of June, the insurgents advanced to the north to attack Arklow. The garrison in this place, not conceiving themselves strong enough to defend it against the rebels, left it, but afterwards returned, in consequence of their not attempting to seize it. The rebels, however, changed their plans, and advanced against it; but on the very day of attack, there arrived the Durham fencible regiment. The royal force now consisted of 1600 men, and, being arranged in lines, with artillery in front, they were enabled to cover three sides of the place, a

river protecting the other side. The force of the insurgents amounted to more than 20,000, but only about 4000 or 5000 of these had guns. They advanced with great impetuosity to the cannons' mouths, but they were in every assault driven back with immense slaughter. The battle lasted four hours; and though, during the whole of that time, the Durham fencibles bore the brunt of it, yet they stood firm and undaunted. The pikemen of the insurgents had not, however, yet come into action, and general Needham, apprehensive that the fencibles, wearied out with repeated attacks, would not be able to withstand these formidable assailants, sent directions to colonel Skerret, who commanded the fencibles, to retreat. This, however, he refused to do; and though it was now dark, and the insurgents might have profited by this circumstance, they discontinued the attack, and retreated.

The insurgents of whom we have been hitherto speaking, consisted almost exclusively of Catholics. They hoped to be assisted in their plans by the Protestants of the north of Ireland; but in this they were disappointed. There were, indeed, insurrections in Antrim and Down; but the Protestants who engaged in them, after a few skirmishes with the royal troops, gave up the enterprise, chiefly in consequence of being assured that the rest of the Protestants in the north, though in general well disposed, would not co-operate with them, having learned that the insurrection in Wexford was totally of a religious character, and that the Catholics engaged in it had repeatedly behaved with great cruelty to the Protestants. The insurgents in Wexford were thus left to themselves, and measures were taken by government to crush them effectually and speedily. On the 20th of June, their whole force was assembled on Vinegar-hill, near Enniscorthy. General Lake immediately formed his plan, which was, to surround this post; and for this purpose, all the divisions of the royal army were put in motion. In the mean time, the insurgents were guilty of the most atrocious acts of cruelty, not merely against those who had opposed their plans, but even against those who were known to be favourable to them, in case they were Protestants. These were dragged to Vinegar-hill, where, without trial, they were either shot or transfixed with pikes, or, in some cases, put to death in a still more barbarous manner. At Kilan, the Protestants of both sexes were collected, with an intention of burning them alive in their parish church, when fortunately their design was prevented by the arrival of a body of yeomen.

General Lake had collected nearly 13,000 troops, with a train of artillery proportionate to that number, for the attack on Vinegar-hill. This attack took place on the 21st of June. The town of Enniscorthy was the first object of attack, and the insurgents were driven from their post. They fled through a space of ground which was to have been occupied by the troops of general Needham. These had not come up, whether from missing the road, or some other accidental cause, or, as was supposed, because general Lake wished to leave the insurgents some outlet, is not ascertained. Wexford was taken by the royal troops the same day as Enniscorthy: previously, however, a battle had taken place at Horetown, between the troops of general Moore and the insurgents under Roche. The combat was long doubtful, but at length terminated in the defeat of the rebels. General Moore immediately encamped near Wexford, in order to secure the Protestants in that town from massacre. Before his arrival, however, the rebels in it had committed great outrages. These were principally directed and encouraged by a man of the name of Dixon. While the rebel force con-

tinued in Wexford, this man had not been able to carry his designs into execution; but soon after they marched out against general Moore, Dixon, at the head of a mob, which he had previously inflamed with whiskey, murdered the Protestants in a manner, to which, for wanton cruelty, not even the atrocities of the French revolution can produce a parallel. In the mean time, the battle at Vinegar-hill, though strenuously contended by the insurgents, ended in their complete defeat. They were completely broken, and fled; and their loss in the battle and pursuit was so considerable, that the whole party was completely disheartened.

The movements and proceedings of the insurgents, after the battle of Vinegar-hill, were desultory, without union or plan. One body of them marched to Arklow, and, finding no royal troops there, massacred many of the inhabitants. Another body, under Murphy, who had originally raised the insurrection in Wexford, directed their march towards the county of Carlow, with the design of stirring up the inhabitants there and in Kilkenny; but in this they were disappointed, partly by the measures of the royal forces, and partly by the indisposition of the inhabitants. They now determined to return to Wexford, and on the 26th of June arrived at Kilkenny. Here they again changed their route, and moved towards the Wicklow mountains; but they soon found that they had no other chance of safety but by dispersing into small bodies, being no longer capable of withstanding the forces that were sent against them. After various movements and skirmishes, therefore, they finally dispersed.

Soon after these events, lord Camden, who had been viceroy during the rebellion, was recalled, and earl Cornwallis was appointed his successor. The appointment gave great and general satisfaction: the character of few noblemen, for political honour and humanity, was higher than that of lord Cornwallis, and his appointment seemed a pledge on the part of government, that they meant to pursue a different system in Ireland. He carried with him a general pardon for all who would submit, with very few exceptions; but his arrival could not immediately put a stop to the system which had been hitherto pursued. On the 3d of July, the pardon which lord Cornwallis brought with him was published in the Dublin gazette. His majesty's generals were thereby authorized to give protection to such insurgents as, being simply guilty of rebellion, should surrender their arms, abjure all unlawful engagements, and take the oath of allegiance. In order that this measure might receive the fullest authority and sanction, an act of amnesty was passed in favour of all who had been engaged in the rebellion, except the leaders, those who had been guilty of murder, and those who should not comply with the conditions above specified. From this amnesty were excluded Napper Tandy, and about thirty others who had fled to the continent. Afterwards the chief leaders of the rebellion were allowed to make their terms with government. Seventy-three of them bound themselves to give all the information in their power respecting the transactions of the United Irishmen, so far as it could be done without naming any individual; to emigrate into some country agreed upon, from which they were not to pass into any other country at war with Britain, or to return to Ireland.

The Irish insurgents had been long anxiously expecting assistance from France; at last, when it was too late, a force of about 900 regular troops, commanded by general Humbert, landed at Killybegs, on the 22d of August, and, being joined by some of the Catholic inhabitants, immediately marched to Castlebar. As soon as lord Cornwallis learned their

arrival, a force was collected, and marched against them. General Hutchinson arrived at Castlebar on the 25th, and was immediately joined by general Lake, the chief commander in the west. The British troops were drawn up in an advantageous position between Castlebar and the French, who were advancing towards it. At seven o'clock in the morning of the 27th, Humbert arrived with about 800 of his own troops, and 1000 Irish peasantry. His only artillery consisted of two small guns. The army opposed to him amounted to nearly 3000. Scarcely was the engagement begun, when the royal army were seized with a panic and fled, leaving their artillery, which consisted of six pieces of cannon, and their ammunition, behind them. Their officers in vain attempted to rally them: they fled, without stopping, thirty-eight miles, to Tuam, which they reached that night; and, at one o'clock of the 28th, some of them reached even Athlone, having marched eighty miles in twenty-seven hours. Here they were stopped by the arrival of the viceroy. From Castlebar, the French, after gaining this most unexpected victory, proceeded to the eastward, into the heart of the country, with what design it is impossible to conjecture, unless from the expectation of being reinforced by the peasantry on their march. General Lake and his column followed to watch their movements, while lord Cornwallis, with the chief army, moved towards Carrick, on the Shannon. At length, on September the 8th, general Lake having come up with their rear, at a place called Balaclava, a sharp action took place, which fortunately terminated in the surrender of the French, and the capture or dispersion of the rebels. The troops of Humbert amounted to 748 privates and 96 officers. The Catholic peasantry of the county of Mayo, who had first risen to assist the French, still continued in arms, notwithstanding the surrender of Humbert. They even attacked Castlebar, but were repulsed. They were afterwards obliged to take refuge in Killala, from which, being stormed by the royal forces, they were driven with great slaughter.

The French government at last seemed as if they meant to send assistance to Humbert; and, as a prelude to this assistance, a brig arrived near the north-west coast of Donegal, where it landed its new supplies. Among these was Napper Tandy, who had been constituted general of brigade in the French service. As soon, however, as he learned the fate of the army of Humbert, he re embarked. He was afterwards arrested at Hamburg by the British government, tried in Ireland, pleaded guilty, but was pardoned. Another attempt of the French to revive a cause now desperate was equally unsuccessful. A squadron, consisting of one ship of the line, and eight frigates, with troops and ammunition on board, despatched for Ireland, was fallen in with off the western coast of that island by the squadron of Sir John Borlase Warren, on the 12th of October, who captured the ship of the line and three frigates. Afterwards the rest, except two frigates, were taken. Another squadron, of three frigates, with 2000 troops on board, anchored in the bay of Killala on the 27th of the same month; but, on the appearance of some British ships, they set sail, and escaped.

The plan of a union between Great Britain and Ireland, appears to have been first proposed by the Irish peers, in their address to queen Anne in the years 1703 and 1707, but at this time the British cabinet was averse to it. Afterwards, when the Irish volunteers forced the British government to render the Irish parliament independent of that of Britain, a union was sought for by the British, but it was no longer an object of desire among any classes of the Irish. The almost uninterrupted

insurrections by which Ireland was disturbed after the commencement of the French revolution, seem to have suggested to the British cabinet the idea of seriously bringing about a union. On the 22d of January, 1799, the measure was recommended by the viceroy to parliament. In the house of lords a favourable address was voted by a large majority. In the commons, after a debate which lasted twenty-two hours, there was a majority of only one in favour of the measure. When it was again brought forward the next day, those who opposed the union had a majority of five. Before the conclusion of the session, however, those who were favourable to it had attained a majority; but the detail of the measure was postponed till the next year. In the British parliament, the question had also been introduced during the session of 1799, and, after considerable discussion, but with less opposition than in the Irish parliament, a series of resolutions, recommending a union, had been voted. When the Irish parliament assembled again on the 15th of January, 1800, a motion was made hostile to the measure, which, after a long and animated debate, was negatived by a majority of forty-two. On the 5th of February, lord Castlereagh communicated a message from the lord-lieutenant, in favour of a union, and developed the plan on which it was to be effected. On a division of the house for taking this message into consideration, there appeared 158 in favour of it, and 115 against it. The house of peers were more decidedly in favour of a union. In order to counteract the effects of opposition, government had recourse to those means, which the distribution of places of honour or emolument must always put in their power, and which too frequently have overcome the consciences of those who have been the most loud in their professions of purity, independence, and patriotism. By the active and judicious employment of these means, the majority in the house of commons had been greatly reduced, and the prospect of carrying the measure was rendered every day more favourable. Besides, many of those, both in and out of parliament, who, during the first impulse of their feelings, had reprobated the union, without considering the arguments that might be urged in favour of it, having become cool, and divested themselves of prejudice, resolved to support it.

The subject of the union being again introduced into the British parliament, it was discussed in both houses, and on the 2d of July received the royal assent. The articles of union were partly commercial and partly political. The proportion of revenue to be raised in the two kingdoms was fixed by a comparison of their aggregate imports and exports, by which Ireland was to raise two parts of the revenue for every fifteen raised by Great Britain, during the first twenty years after the union. At the close of that period, the proportion was to be regulated by parliament. One hundred commoners from Ireland were to sit in the imperial parliament, and the proprietors of disfranchised boroughs were to receive a pecuniary compensation. Four lords spiritual, by rotation of sessions, and twenty-eight lords temporal, elected for life by the peers of Ireland, were to sit in the house of lords. The first of January, 1801, was fixed as the commencement of the union.

After the union, the history of Ireland naturally falls into that of Britain. The reader is therefore referred to that article. The union, notwithstanding the many commercial advantages it bestowed on Ireland, did not bring that tranquillity to the country, which its advocates anticipated. The annals of the country are still unhappily marked by instances of insurrection and outrage, proceeding either from national jealousy, religious animosity, the feuds of clans

or families, or from the severe privations to which the peasantry are subjected by the exactions of middlemen and landlords.

Since the union, the most important event for Ireland has been the passing of the Catholic Emancipation bill in 1829, by which the political disabilities under which the Catholics had hitherto laboured were finally removed. In the article *Catholic Emancipation*, the reader will find an account of this bill, with an abstract of the various motions made respecting it, before it was ultimately carried. It is unnecessary, therefore, to enter upon the subject in this place.

**Topography.**—The greatest length of Ireland, measuring from N. E. to S. W., is 306 miles; its greatest breadth 174 miles. The total superficies of the island is, in square miles, according to Wakefield and Arrowsmith, 32,201. A late parliamentary document states it at 19,441,944 statute acres.

Ireland is divided into four large provinces, namely, Ulster, in the north; Munster, in the south; Leinster, in the east; and Connaught, in the west. These are subdivided into thirty-two counties; of which Ulster has nine, viz., Donegal, Londonderry, Antrim, Tyrone, Fermanagh, Monaghan, Armagh, Down, and Cavan;—Munster, six, viz., Waterford, Tipperary, Cork, Kerry, Limerick, and Clare;—Leinster, twelve, viz., Louth, Meath, West Meath, Longford, Dublin, Kildare, King's County, Queen's County, Wicklow, Carlow, Kilkenny, and Wexford;—and Connaught, five, viz., Galway, Mayo, Sligo, Leitrim, and Roscommon. The islands, of all sizes, belonging to Ireland are 196 in number, of which 140 are inhabited, containing a total population of 43,000. Of these islands, eighty belong to Connaught, seventy to Munster, forty to Ulster, and six to Leinster.

The following table exhibits the names of the counties of each province alphabetically arranged, the length, breadth, territorial extent, baronies, parishes, and chief towns of each county, with the distance of each town from Dublin.

PROVINCE OF ULSTER.											
Names of Counties.	Length.	Breadth.	Extent of land in Ir. According to dif. Plan. Acc. Recent authors the number of						Chief Towns.	Chief Towns from Dublin.	
			Parliamentary Returns, 1835.							Distance.	Barony.
			Miles.	Acres.	No.	No.	No.	No.			
These marked with * are maritime Counties.											
Antrim	46	37	397,800	8	14	56	Belfast	60	N.		
Armagh	32	17	151,450	5	5	73	Armagh	62	N.		
Cavan	47	24	301,000	7	8	31	Cavan	54	N. W.		
Donegal	59	36	675,550	4	6	42	Donegal	111	N. W.		
Down	42	34	348,550	9	9	72	Downpatrick	74	N. E.		
Fermanagh	35	25	253,450	8	6	19	Enniskillen	79	N. W.		
Londonderry	32	30	318,000	4	6	31	Londonderry	104	N. W.		
Monaghan	32	22	179,900	5	5	24	Monaghan	62	N. W.		
Tyrone	44	33	664,700	4	4	35	Omagh	87	N. W.		
PROVINCE OF MUNSTER.											
Clare	47	32	478,000	9	9	70	Ennis	119	S. W.		
Cork	50	31	1,048,800	16	32	260	Cork	121	S. W.		
Kerry	54	40	647,600	5	5	63	Trillick	114	S. W.		
Limerick	47	32	478,000	9	9	70	Limerick	94	S. W.		
Tipperary	42	31	504,100	10	11	101	Canterell	75	S. W.		
Waterford	46	33	362,900	7	5	74	Waterford	75	S.		
PROVINCE OF LEINSTER.											
Carlow	35	18	127,050	5	6	59	Carlow	39	S. W.		
Dublin	26	16	142,000	6	9	10	Dublin	0	S. W.		
Kildare	33	21	236,000	4	10	100	Kildare	25	S. W.		
Kilkenny	33	18	304,000	9	9	117	Kilkenny	55	S. W.		
King's County	40	20	242,000	11	12	105	Philipstown	35	S. W.		
Longford	35	16	134,150	6	6	21	Longford	51	N. W.		
Louth	22	14	110,000	4	5	61	Dundalk	23	N. W.		
Meath	36	20	237,000	12	18	147	Trim	22	N. W.		
Queen's County	25	23	228,000	8	9	50	Maryborough	40	S. W.		
West Meath	24	21	211,000	12	18	63	Mullingar	38	S. W.		
Wexford	31	18	142,000	8	8	142	Wexford	61	S.		
Wicklow	30	21	311,000	6	7	55	Wicklow	24	S.		
PROVINCE OF CONNAUGHT.											
Galway	52	32	909,000	16	17	116	Galway	108	S. W.		
Leitrim	42	17	255,000	5	5	17	Carrick	77	N. W.		
Mayo	52	24	1,000,000	9	9	63	Castlebar	114	S. W.		
Roscommon	41	27	416,000	6	6	26	Roscommon	61	S. W.		
Sligo	31	21	277,000	6	7	29	Sligo	103	N. W.		

Ireland is distinguished for the number and extent of its lakes or loughs, its rivers, and its bays. Lough Erne occupies about one-sixth of the county of Fermanagh, measures forty miles in length, but varies in breadth from one mile to nine, and is adorned with about 100 islands. Lough Neagh washes the shores of five different counties, and is of a quadrangular form, 32 miles long by 16 in width. It is now navigated by steam-boats. These are the largest fresh-water loughs in Ireland. Donegal contains many small lakes, contributing to its picturesque scenery; one of them, called Lough Dearg, is celebrated as the theatre where superstitious ceremonies are annually enacted at St Patrick's Purgatory. There are upwards of twenty lakes in the county of Cavan, in one of which the river Erne takes its rise, the source of the great lake of that name. Loughs Melville, Nilly, and Gill, are the most interesting in the north-west angle; and in Connaught, the lakes called Carra, Mask, and Corrib, may be termed inland seas. There are four expansions of the Shannon, lakes Allen, Boin, Ree, and Derg. There are about thirty pools formed in the mountain glens of the county Clare; and Kerry is celebrated for its beautiful lakes at Killarney. The celebrated lakes of Glendalough and the beautiful lough of Luggelaw are numbered in the ten pools of the county of Wicklow; and the county of Westmeath is a region of waters. Here are Lough Ouel, the reservoir of the Royal Canal; Belhaven Lake, and the loughs called Ennell and Sillin, all possessing extensive areas; besides the largest and most beautiful, Derryvaragh. There are, besides, several great inlets or arms of the sea, which it is customary in Ireland to call loughs; the principal are Lough Swilly, Foyle, Larne, Belfast, and Strangford. The lakes of Ireland are so important as mediums of conveyance, that the rivers appear rather less valuable here than in other countries.

Many of the rivers of Ireland are extended through lengthened lines, and navigable for considerable distances. The Shannon is the noblest river in the island; indeed, it is without a rival in the three kingdoms, for size and extent of course. It rises at the foot of Culca mountain, in the county of Cavan, and passing by Carrick, Lanesborough, Athlone, Banagher, Portumna, Killaloe, and Limerick, falls into the sea, after a course of 190 miles, during almost the whole of which it is navigable. Besides a number of minor streams, the Shannon receives the Fergus below Clare and Ennis, the Suck below Ballinacorney, and the Brosna near Banagher. The Inny joins it at Lough Ree, and the Camlin near to Tarmonbarry. It is crossed by bridges at Carrick, Athlone, Banagher, Portumna, Killaloe, and Limerick. That at Portumna is of great length, and built of wood, the others are all of stone. The Suir is the second river in magnitude. It rises in the mountains of Kilkenny, and flowing past the large towns of Cahir, Clonmel, and Carrick, washes the quays of Waterford, and falls into the Atlantic below Dunmore East, after having its waters swelled by those of the Nore and the navigable Barrow. The rapidity and floods of the Nore render improvement in its navigation impracticable; but the Barrow, which rises in the King's County, and takes a southerly course of many miles, affords a valuable line of inland navigation. The Lee rises in the romantic lake of Gougane Barra, in the county of Cork, and after a short course from west to east, and being augmented by numerous rivulets, falls into the harbour of Cove, six miles below Cork city, the head of its navigation. There are three Blackwater rivers in Ireland. The southern is the finest river. It rises in the borders of Kerry and Cork, and flows by Mill Street, Mallow, Fermoy, Lismore, Capoquin, and Youghal, at the last of which

places it is crossed by a wooden bridge of 1400 feet in length. The Slaney may also be ranked amongst the rivers of note in the southern counties; it takes its rise in the county of Wicklow, and passing down into Carlow and Wexford counties, becomes navigable at Enniscorthy, and ultimately falls into Wexford Haven. The city of Dublin occupies both banks of the river Liffey, a stream which otherwise would be little known to geographers. The river flows out of a little pool in the county of Wicklow, called Liffey Head, and meandering into Kildare, turns eastward into Dublin, and running through the middle of the city nearly, falls into Dublin Bay. Few navigable rivers fall into the sea on the eastern coast, although there are many eminently suitable to the erection of mills and application of water power to machinery. The Boyne is navigable naturally as far as Drogheda, one mile from the coast; and a still-water navigation is formed by means of its waters to Navan, where the central Blackwater unites with the Boyne. Art has rendered the rivulet, called the Newry Water, both known and valued; and the Lagan, like the Liffey, derives its consequence from its proximity to Belfast, which stands on its northern bank. The Bann is the first river of note from Belfast to Coleraine. It is divided into two parts, the Upper rising in the Mourne Mountains, and discharging its waters into Lough Neagh, the Lower conveying the surplusage of that great lake into the Atlantic Ocean, a little to the north-west of Coleraine. Lough Foyle is the estuary of the river bearing that name, upon which the city of Derry stands, and as far as which it is navigable by vessels of 500 tons burden. Lighters proceed to Lifford, a distance of twenty-five miles; and an artificial communication renders Strabane accessible by water. The Morne and the Finn are tributaries to the Foyle. The Guibarra is the principal on the Donegal coast, except the outlet of Lough Erne, called the Erne River, known by its famous salmon-fishery. The Moy, which runs by Mulliner and Ardnaree, is navigable for a short distance, and also possesses a valuable salmon-fishery. The coast of Connaught is deficient in deep and navigable rivers, but this loss is amply supplied by an uncommon number of the finest natural harbours in Europe.

Ireland cannot, on the whole, be called a mountainous country, its central districts composing one vast plain, which crosses the country from east to west. It is, however, diversified by ranges of mountains superior in extent to any in England, with the exception of those in Wales. In the province of Ulster, the adjacent counties of Donegal, Londonderry, and Antrim are mountainous. Knocklade in Antrim attains an altitude of 1820 feet. The eastern half of the county of Down abounds also with lofty hills, projecting into the sea, and forming sublime and prominent features in the view. They are usually denominated the mountains of Mourne; and the summit of Slieve Donard, the loftiest, is elevated 2809 feet above the level of the sea. Tyrone and Monaghan are properly speaking, hilly; but Sligo, Mayo, all the west of Connaught province, and particularly the county of Clare, present a continued and unbroken chain of mountain masses, interspersed with fertile valleys and spacious lakes. Benbulbin, in Sligo, reaches a height of 1697 feet. Culkagh, in Cavan, stands 2155 feet high, and Nephin, in Mayo, one of the most remarkable in Connaught, is 2600 feet over the surface of the sea. The most famous of the Connaught range, however, is Croagh Patrick, a cone-formed and conspicuous mountain, overhanging Clew Bay, and rising to an elevation of 2510 feet. An altar or cairn appears on its summit, to which pilgrimages are sometimes made, and on the west

side is discovered the beautiful marble called serpentine. This is the hill so famed in song and story, from which St Patrick is said to have banished all noxious animals existing in the island, and to have "bothered them entirely." The twelve Pins of Connemara are also remarkable landmarks, and enter into the composition of many interesting landscapes. South of the Shannon, the hills of Kerry raise their heads, and continue ascending towards the south, until the lordly Reeks of M'Gillicuddy are seen exalted to their proud pre-eminence; Carran-Tual, the highest, attaining an elevation of 3410 feet. Around stand Mangerton, 2550; Purple Mountain, 2280; and many others of nearly equal heights. The summit of Carran-Tual is the highest point in the kingdom. The chain extends away southward to the wilds of Glengarriff and Bantry, thence easterly to the Bogra hills, and along the south bank of the Blackwater. A little north-east of the Bogra hills are the Galtees, a chain of twenty miles in length, extending from Seefin, near Charleville, to the river Suir. The highest point of this range is elevated 2500 feet. In the King and Queen's counties is the fine range of the Slieve Bloom Mountains, the fruitful source of rivers and rivulets, and admitting of an easy passage from one side to the other in one place only, that is through the Gap of Glandine. Wicklow, in the vicinity of Dublin, is a mountainous region. Some of the hills are lofty, (Lugnaquilla is 3070 feet high,) and many are picturesquely formed.

*Agriculture.* Of the early agriculture of Ireland, very little is known. With a soil singularly prolific in pasture, and rather humid for the easy management of grain, it is probable that sheep and cattle would be the chief rural products for many centuries. In the twelfth century and earlier, various religious establishments were founded, and then it is most probable tillage on something like the Roman mode of culture would be introduced. The monks, says O'Connor, fixed their habitations in deserts, which they cultivated with their own hands, and rendered them the most delightful spots in the kingdom.

There is no evidence of any agricultural improvements having been introduced before the time of Elizabeth, when the enormous demesnes of the earl Desmond were forfeited, and divided amongst a number of English undertakers, as they were called, who entered into a stipulation to plant a certain number of English families on their estates, in proportion to the number of acres. Among others who received portions were, Sir Walter Raleigh, and Spenser, the poet. The former is said to have then introduced the potato.

The reign of James I. was one of comparative tranquillity for Ireland: the power of the judges, and of the English government, was extensively fixed; the Irish laws and customs were abolished, and the English laws were established in all cases without exception, through the whole island. Numerous colonies were also sent from England and Scotland, especially the latter, to occupy the forfeited estates; and seven northern counties were wholly allotted to undertakers. This was called the "plantation of Ulster," and was attended by the introduction of an improved agriculture, and by the linen manufacture, which is still carried on by the descendants of the first colonists in the same counties. The city of London participated in this distribution of land. The corporation having accepted of large grants in the county of Derry, they engaged to expend £20,000 on the plantation; to build the cities of Derry and Coleraine, and at the same time stipulated for such privileges as might make their settlement convenient and respectable. Under a pretence of protecting this infant settlement, or perhaps with a

view of raising money, the king instituted the order of Irish baronets, or knights of Ulster; from each of whom, as was done in Scotland with respect to the knights of Nova Scotia, he exacted a certain sum, as the price of the dignity conferred.

Of the husbandry of Londonderry a curious account was published about a century ago, by the archbishop of Dublin. He states that there was little wheat grown, and that of very inferior quality; the soil being considered as unsuitable to its production. Potatoes remained three or four years in the ground, reproducing a crop, which at the best was a very deficient one. Lime was procured by burning sea shells. The application of them in an unburnt state arose from accident. A poor curate, destitute of the means for burning the sea shells which he had collected, more with a view to remove an evidence of his poverty, than in any hope of benefit, spread them on his ground. The success which attended the experiment occasioned surprise, and insured a rapid and general adoption of the practice. The improvements made since the period of which the archbishop treats, Curwen remarks, are undoubtedly very considerable; and, whilst we smile at the very subordinate state of agriculture at that time, may we not on reasonable ground expect that equal progress will at least be made in this century as in the last?

A considerable impulse was given to the agriculture of Ireland after the rebellion of 1641, which was quelled by Cromwell, as commander of the parliamentary army in 1652. Most of the officers of this army were yeomen, or the sons of English country gentlemen; and they took pleasure in instructing the natives in the agricultural practices to which they were accustomed at home. Afterwards, when Cromwell assumed the protectorship, he made numerous grants to his soldiers, many of whom settled in Ireland; and their descendants have become men of consideration in the country. Happily these grants were confirmed at the restoration. Some account of the state of culture in that country at this time, and of the improvements which it was deemed desirable to introduce, will be found in Hartlib's *Legacy*.

The establishment of the Dublin Society in 1749, gave the next stimulus to agriculture and general industry in Ireland. The origin of the Dublin society may be dated from 1731, when a number of gentlemen, at the head of whom was Prior of Rathdowney, Queen's county, associated themselves together for the purpose of improving the agriculture and husbandry of their country. In 1749, Prior, through the interest of the then lord lieutenant, procured a grant of £10,000 per annum, for the better promotion of its views.

Arthur Young's Tour in Ireland was published in 1780, and probably did more good than even the Dublin Society. In this work he pointed out the folly of the bounty on the inland carriage of corn. His recommendation on this subject was adopted; and, according to Wakefield, "from that hour may be dated the commencement of extended tillage in Ireland."

The soil of Ireland is, generally speaking, a fertile loam, with a rocky substratum; although there are many exceptions to this description, and many varieties. Generally speaking, it is rather shallow; to which cause the frequent appearance of rocks near the surface, or at no considerable depth, is to be attributed. It possesses a much greater proportion of fertile land, in proportion to its extent, than either England or Scotland. Not only is the island blessed with this extent of cultivable ground, but it is almost all of such a quality as to yield luxuriant crops, with little or no cultivation. Sand does not exist except on the sea shore. Tenacious clay is unknown, at

least near the surface. Great part of the land of Ireland throws up a luxuriant herbage, without any depth of soil, or any skill on the part of the husbandman. The county of Meath, in particular, is distinguished by the richness and fertility of its soil. and, in Limerick and Tipperary, there is a dark, friable, sandy loam, which, if preserved in a chaste state, will yield crops of corn several years in succession. It is equally well adapted for grazing as for arable crops, and seldom experiences either a winter too wet, or a summer too dry. The vales in many of the bleakest parts of the kingdom, as Donegal and Tyrone, are remarkable for their richness of soil and luxuriance of vegetation, which may be often accounted for by the deposition of the calcareous soil, washed down by the rains of winter, which spreads the richest manure over the soil below, without subjecting the farmer to any labour.

The bogs, or peat mosses, of Ireland, form a remarkable feature of the country, and have been proved by the parliamentary commissioners to be of great extent. They estimate the whole bogs of the kingdom at 2,330,000 acres, English. These bogs, for the most part, lie together. In form, they resemble a great broad belt, drawn across the centre of Ireland, with its narrowest end nearest to the capital, and gradually extending in breadth as it approaches the western ocean. The bog of Allan is not one contiguous morass, but this name is indiscriminately applied to a great number of bogs, detached from each other, and often divided by ridges of dry country. These bogs are not, in general, level, but most commonly of an uneven surface, swelling into hills, and divided by ridges, which afford the greatest facility to their being drained and improved. In many places, particularly in the district of Allan, the rivulets which these inequalities of surface produce have worn their channels through the substance of the bog, down to the clay or limestone gravel beneath; dividing the bog into distinct masses, and presenting, in themselves, the most proper situations for the main drains, for which purpose, with the assistance of art, they may be rendered effectual.

Farming in Ireland is, generally speaking, in a backward state. With a few exceptions, such as the county of Meath, and some other well cultivated districts, the farmers are destitute of capital, and labour small crofts, which they hold of middlemen interposed between them and the landlord. The fact that in Ireland the landlord never lays out any thing upon repairs or buildings, coupled with the general inability of the farmer to do either in a substantial manner, is very significant as to the state of agriculture. But the worst features of the rural economy of this island are the entire want of capital in the farmers, and the complete indifference of the landlord to the character, wealth, or industry of his tenant. "Capital," says Wakefield, "is considered of so little importance in Ireland, that advertisements constantly appear in the newspapers, in which it is stated, that the preference will certainly be given to the highest bidder. Bargains are constantly made with a beggar, as a new tenant, who, offering next, invariably turns out the old one, however industrious." The rent of land in Ireland, from these causes, coupled with the excessive competition of the peasantry for small farms, as their only means of subsistence, has risen to a great height.

The agricultural implements and operations used in Ireland are of a rude construction. The plough, the spade, the flail, the car, all equally partake of imperfections and defects. The fallows are never attended to; three ploughings are usually deemed sufficient, and, from the imperfection of the plough,

the ground at the end is generally full of weeds. Trenching land is very general; they form it into beds, and shovel out a deep trench between them, throwing up the earth. Wheat is not by any means generally cultivated. The Irish wheat is, for the most part, coarse and of inferior quality, and does not yield so much saccharine matter by twenty per cent, as the English. Barley is more generally cultivated in Ireland than wheat, and is generally sown after potatoes. Oats, however, constitute the species of grain which is most extensively raised; it is calculated that, throughout the whole kingdom, there are ten acres of oats sown for one of any other species of corn. The Irish oats, however, are decidedly inferior to the English. The potatoes of Ireland have long been celebrated, both on account of their quantity and excellent qualities; they are cultivated on every species of soil, either in drills or lay beds.

The dairy is the most extensive and the best managed part of Irish husbandry. Kerry, Cork, Waterford, Carlow, Meath, Westmeath, Longford, and Fermanagh, as well as the mountains of Leitrim and Sligo, are principally occupied by dairy farms. Butter is the chief produce. The average number of cows on a dairy farm amounts to thirty or forty; three acres of land, of middling quality, are deemed necessary for the subsistence of each cow. A cow produces on an average eight quarts in twenty-four hours in summer, and five in winter; four good milkers will yield a quarter of a cwt. of butter in a week. The best butter is made in Carlow; the worst in Limerick and Meath. Generally speaking, the Irish are very cleanly in making this article; and it is exported to England, the East and West Indies, and Portugal. The art of salting butter, Chapuis observes, is better known in Ireland than in any other country. The grazing of Ireland is not, as in England, a part of the regular rotation of crops, but is carried on in a country exclusively devoted to the breeding of cattle, like the highlands of Scotland. Great tracts of the country also are devoted to the grazing of sheep. Roscommon, Galway, Clare, Limerick, and Tipperary are the chief breeding counties for sheep; and Galway, Clare, Roscommon, Tipperary, and Meath are the places where they are fattened. The sheep are of the long-wooled kind, and very large: they are never kept in sheep-folds, and hardly ever fed on turnips; which is chiefly owing to the very limited demand for mutton among the labouring people.

Ireland is divided, by Wakefield, into nine agricultural districts, in each of which the mode of culture is somewhat different from what it is in the others.

The first district comprehends the flat parts of Antrim, the eastern side of Tyrone, Down, Armagh, Monaghan, and Cavan. Throughout this district, the farms are extremely small, and the land is generally dug with a spade. Potatoes, flax, and oats are the crops usually cultivated, and these are grown till the land is exhausted, and suffered to "lie at rest," as they term it, till its strength is recruited by the cow, the goat, two or three sheep, and the poultry lying upon it for some years. The ploughs used in this district are of the rudest structure, and perform their work in the most slovenly manner. Three or four neighbours unite their strength to each plough, every one bringing his horse, his bullock, or his cow. All the other operations of agriculture are performed in an equally slovenly manner. The little wheat that is raised is "lashed," as they call it; that is, the grain is knocked out by striking the sheaf across a beam placed above a cloth: it is, however, afterwards threshed with a flail. The operation of threshing usually takes place in the highway, and it is

dressed by letting it fall from a kind of sieve, which, during a pretty strong wind, is held breast-high by a woman. Many cotters in this district have a cabin with no land attached to it. They hire an acre or two, for grass or potato land, from some cotter in their vicinity. The custom of hiring labourers is unknown. The neighbours all assist each other in their more considerable occupations, such as sowing and reaping. The dwellings here are miserably small; often too small to contain the numerous families that issue from their doors. Land is every where divided into the most minute portions.

Under the second district may be comprised the northern part of Antrim, Londonderry, the north and west of Tyrone, and the whole of Donegal. Agriculture here is in a worse state than in the preceding district. There is no clover, and hardly any wheat.

The third district comprehends the northern parts of Fermanagh. Here the farms are much larger than in the former, and the agricultural system pursued far superior. They plant potatoes on a lea, twice reversing the lands; and flax, oats, and weeds constitute the course. Some wheat is grown, but oats still form the prevalent crop. In the neighbourhood of Enniskillen, the farmers are so rich as to be able to eat butcher's meat daily, and drink smuggled wine.

The fourth district comprehends Sligo, Mayo, Galway, Clare, and parts of Roscommon and Longford. In some parts of this district the spade culture is pursued; but, in general, the land is cultivated by a plough drawn by four horses abreast. In Roscommon, the old custom of yoking the horses by the tail is still continued; although, as early as 1634, an act of parliament was passed against this absurd practice. Oats are chiefly raised in this district, and, along the coast, barley is cultivated. A large portion of the rent depends on the illegal distilleries, and much of the district is let on lease to several persons jointly, according to the village system.

In the fifth district, which comprehends Limerick, Kerry, the south side and northern part of Cork, and the county of Waterford, cultivation is in a very rude state; little corn is grown here, with the exception of the southern part of Cork. Land is extremely divided, and the farms very small. The greater part is a grazing country.

The sixth district includes the southern parts of Cork. The spade culture is here almost universal, and the farms unusually small. Hogs constitute the main support of the poor.

The seventh district includes part of Tipperary, with Queen's county and King's county. The best farming in Ireland is observable in this district; a systematic course of husbandry being pursued, by which the land is kept in good heart. Oxen and horses are used in the plough, and hedgerows and good wheat fallows are to be seen. Near Roscrea the cultivation of turnips is followed, and they succeed well. Ninety acres are considered a large farm. Leases are generally for three lives.

The eighth district comprises Wexford and a part of Wicklow. Beans are here sometimes introduced into cultivation, but they are sown broadcast, and never hoed. The mode of ploughing is very awkward: one man holds the plough, another leads the horse, and a third sits on it to keep it down.

The ninth district comprehends the northern part of Kilkenny, Kildare, the cultivated parts of Westmeath, Meath, and Louth. Wheat here enters into the system of culture, but the preparatory fallows are very bad. Clover has been introduced into the district, but under the bad system of sowing it upon land exhausted, and covered by weeds. Farms are large, and the mode of culture similar to the English.

STATEMENT of the SUPERFICIAL CONTENTS, and whether CULTIVATED or otherwise, of each COUNTY in IRELAND, together with the Estimated Annual Value thereof, the Amount of County Presentments, and the Population as enumerated in 1831.

COUNTIES.	Cultivated Land.	Uncultivated Moorland and Bogs.	Lands.	Total Contents.	Estimated Value.	Average Value per Acre.	Amount of County Presentments, 1831.	Population, 1831.
Antrim	166,361	225,970	60,790	749,321	£ 1,105,243	14s 6d	£ 25,000	111,000
County of the Town of Carrickfergus	16,442			16,442	£ 25,000	15s 0d	£ 1,000	10,000
Armagh	167,317	42,452	18,304	328,073	£ 179,000	54s 0d	£ 22,000	179,000
Carlow	189,500	21,500		211,000	£ 165,000	78s 0d	£ 10,000	85,000
Cavan	421,492	38,500	21,000	481,000	£ 207,741	43s 0d	£ 20,000	200,000
Clare	324,111	200,000	15,000	539,111	£ 431,000	80s 0d	£ 30,000	200,000
Cork	1,024,000	700,760		1,724,760	£ 1,105,243	64s 0d	£ 60,000	700,000
County of the City of Cork	41,000			41,000	£ 60,000	14s 6d	£ 10,000	40,000
Down	200,000	100,000	100,000	400,000	£ 210,000	52s 0d	£ 10,000	200,000
Dublin	200,000	100,000	100,000	400,000	£ 210,000	52s 0d	£ 10,000	200,000
County of the City of Dublin	2,000			2,000	£ 3,000	15s 0d	£ 1,000	10,000
Fermanagh	320,000	100,000	10,000	430,000	£ 210,000	49s 0d	£ 10,000	100,000
Galway	100,000	100,000	10,000	210,000	£ 100,000	47s 0d	£ 10,000	100,000
County of the City of Galway	10,000			10,000	£ 10,000	100s 0d	£ 1,000	10,000
Kerry	200,000	100,000	10,000	310,000	£ 140,000	45s 0d	£ 20,000	200,000
Kildare	200,000	100,000	10,000	310,000	£ 140,000	45s 0d	£ 20,000	200,000
Kilkenny	200,000	100,000	10,000	310,000	£ 140,000	45s 0d	£ 20,000	200,000
County of the City of Kilkenny	20,000			20,000	£ 30,000	15s 0d	£ 1,000	10,000
King's County	200,000	100,000	10,000	310,000	£ 140,000	45s 0d	£ 20,000	200,000
Leitrim	200,000	100,000	10,000	310,000	£ 140,000	45s 0d	£ 20,000	200,000
Limerick	200,000	100,000	10,000	310,000	£ 140,000	45s 0d	£ 20,000	200,000
County of the City of Limerick	20,000			20,000	£ 30,000	15s 0d	£ 1,000	10,000
Londonderry	372,000	150,000	10,000	532,000	£ 310,000	58s 0d	£ 20,000	200,000
Longford	100,000	100,000	10,000	210,000	£ 100,000	47s 0d	£ 10,000	100,000
Louth	100,000	100,000	10,000	210,000	£ 100,000	47s 0d	£ 10,000	100,000
County of the City of Drogheda	10,000			10,000	£ 10,000	100s 0d	£ 1,000	10,000
Mayo	200,000	100,000	10,000	310,000	£ 140,000	45s 0d	£ 20,000	200,000
Meath	200,000	100,000	10,000	310,000	£ 140,000	45s 0d	£ 20,000	200,000
Monaghan	200,000	100,000	10,000	310,000	£ 140,000	45s 0d	£ 20,000	200,000
Queen's County	200,000	100,000	10,000	310,000	£ 140,000	45s 0d	£ 20,000	200,000
Roscommon	200,000	100,000	10,000	310,000	£ 140,000	45s 0d	£ 20,000	200,000
Sligo	200,000	100,000	10,000	310,000	£ 140,000	45s 0d	£ 20,000	200,000
Tipperary	200,000	100,000	10,000	310,000	£ 140,000	45s 0d	£ 20,000	200,000
Tyrone	200,000	100,000	10,000	310,000	£ 140,000	45s 0d	£ 20,000	200,000
Waterford	200,000	100,000	10,000	310,000	£ 140,000	45s 0d	£ 20,000	200,000
County of the City of Waterford	20,000			20,000	£ 30,000	15s 0d	£ 1,000	10,000
Westmeath	200,000	100,000	10,000	310,000	£ 140,000	45s 0d	£ 20,000	200,000
Wexford	200,000	100,000	10,000	310,000	£ 140,000	45s 0d	£ 20,000	200,000
Wicklow	200,000	100,000	10,000	310,000	£ 140,000	45s 0d	£ 20,000	200,000
Totals	11,661,473	5,310,736	451,279	17,423,488	£ 12,715,528	72s 6d	£ 500,000	7,750,000

STATEMENT of the QUANTITY and VALUE of each Description of AGRICULTURAL PRODUCE IMPORTED into LIVERPOOL from Ireland, in each of the Years 1831 and 1832.

Description of Produce.		1831.			1832.		
		Quantity.	Price.		Quantity.	Price.	
			L.	s.		L.	s.
Cows	Number	90,715	10	0	88,694	11	0
Calves		1,196	20	0	1,094	0	0
Horses		206	20	0	679	20	0
Mules		243	15	0	365	10	0
Sheep		134,768	25	0	225,500	10	0
Lambs		25,725	20	0	24,077	20	0
Pigs		156,001	75	0	193,000	10	0
Eggs		2,516	20	0	6,097	10	0
Wheat	Quarters	27,040	60	0	23,649	56	0
Oats		380,679	20	0	225,720	19	0
Barley		21,378	3	0	14,066	34	0
Rye		613	10	0	213	30	0
Beans		8,423	40	0	7,927	24	0
Peas		1,724	40	0	1,323	32	0
Malt		6,550	50	0	6,090	50	0
Meal	Loads	149,816	25	0	109,817	24	0
Flour	Sacks	50,174	45	0	177,252	46	0
Beacon	Bales	13,099	5	0	10,771	6	0
Pork	Barrels	14,444	60	0	11,555	65	0
Half do.		4,86	25	0	2,400	35	0
Beef	Tierces	6,391	65	0	7,843	20	0
Butter	Barrels	1,109	60	0	1,211	65	0
Ham	Hhls	500	20	0	1,100	20	0
Butter	Barrels	2,000	40	0	1,100	40	0
Half do.		19,217	25	0	13,061	27	0
Lard	Tierces	465	8	0	3,720	9	0
Half do.		4,542	20	0	10,000	20	0
Total							
Total Value at the Average of 1831		L.		L.			
Do.		4,591,290		13			
Do.		1832		4,444,500		6	
Difference				146,790		7	

**Manufactures.**—The manufactures of Ireland are not so extensive as the resources of the country might justify. The most important is the linen manufacture, but in point of antiquity the woollen takes precedence. It existed in Ireland at a very early period, and was the object of legislative enactment so far back as the 31 year of Edward IV. (A.D. 1462.) The jealousy of the English manufacturers, however, checked and depressed its increase by a variety of prohibitory acts, which they got passed through parliament at different periods, and which were only repealed at the Union. The manufacture is confined to the production of the coarsest description of goods; as yet, no fabric of superfine cloth has been successfully made. Flannels are made in Wicklow, blankets in Kilkenny, and broad cloths at Middleton and Cork. The spinning of wool into yarn is much followed by the women in the north-west parts of the island. There are at present employed in establishments for the manufacture of woollen cloths upwards of 6,500 persons; worsted stuffs, near 3000, and flannels about 3000, making a total of 12,500 individuals.

The foundation of the linen manufacture in Ireland was laid by the unfortunate earl of Strafford, in the reign of Charles I., and during the time he resided in that country as chief governor. He sent to Holland for flax-seed, and to the Netherlands and France for competent workmen. The flax was sown, and succeeded according to expectation; spinners and looms were set to work; and his lordship, to animate others, embarked himself in the business, and expended in promoting it, £30,000, of his private fortune. Afterwards, the duke of Ormond supported very much the linen manufacture of Ireland, but it had not gained much ground at the time of the revolution, the woollen being the true and natural staple of the Irish, their climate and extensive sheep-grounds ensuring to them a steady and cheap supply of the raw material, much beyond the home consumption: and it appears from the preamble to the English statute of 10th and 11th William III., chap. 10, that they were at the time possessed of a profitable export of it. This export was supposed to interfere, and very probably did, with the export from Great Britain; and a plan was in consequence undertaken there, to annihilate the woollen trade of Ireland, and to confine the Irish linen manufacture in its place. Accordingly, an act was passed in England, 1698, for inviting foreigners to settle in Ireland, as the preamble recites, and with that view, enacting, that the import of all sorts of hemp and flax, and all the productions thereof, should from thence be admitted duty free from Ireland into England; giving a preference, by that exemption from duty, to the linen manufacture of Ireland, over the foreign, estimated at the time, as a report of the Irish house of commons, on the 11th of February, 1774, states, to be equal to 25 per cent.

The board of the trustees of the linen manufacture of Ireland was constituted in the reign of queen Anne, and met for the first time in the beginning of the year 1710. It has always been composed of the principal personages of Ireland and Great Britain, who were entitled the trustees of the linen manufacture of Ireland. A system of laws was framed for the regulation of the linen manufactures, and the prevention of fraud, which for wisdom, penetration, and an attention which extended to the most minute articles, would do honour to the most enlightened country. Considerable sums (from £18,000 to £25,000 per ann.) was intrusted by parliament to the distribution of the trustees in premiums, for extending and encouraging the linen manufacture. Under this auspicious influence it flourished and grew apace, whilst every day new proselytes to industry were induced to take shelter under its benignant shade.

The following table exhibits the amount of linen and linen yarn exported from Ireland to all parts of the world from 1710 to 1823, with the official value of the same.

GRAND TOTAL OF THE LINEN EXPORTED.					
Grand Total from the Year	Linen.		Official Value of Linen Exported.		
	Plain and Coloured.	Yarn.	Plain and Coloured.		Total Official Value.
			L.	Yarn.	
1710 to 1719	18,812,816	121,942	1,137,354	1,122,669	2,260,023
1720 to 1729	38,259,347	117,238	1,912,959	872,307	2,785,266
1730 to 1739	52,179,563	150,139	3,294,519	548,762	3,843,281
1740 to 1749	74,916,255	204,537	3,169,551	1,251,248	4,420,799
1750 to 1759	127,139,229	260,944	8,167,714	1,163,677	9,331,391
1760 to 1769	160,874,400	333,900	10,713,291	2,063,538	12,776,829
1770 to 1779	203,109,197	317,525	14,434,318	1,905,175	16,339,493
1780 to 1789	251,892,458	321,553	16,818,992	1,941,346	18,760,338
1790 to 1799	494,723,984	294,837	27,309,717	1,220,051	28,529,768
1800 to 1809	381,636,867	156,572	25,564,239	779,434	26,343,673
1810 to 1819	418,378,079	130,950	27,919,743	773,880	28,693,623
1820 to 1823	176,851,345	29,664	11,709,988	177,994	11,887,982
1710 to 1823	2,315,298,462	2,353,831	15,241,395	14,463,374	168,704,771

Distillation is another branch of industry characteristic of Ireland, but by no means attended with the same happy effects. It has hitherto been carried on chiefly in defiance of the revenue and government, and has given birth to a vast system of contraband, equally destructive of morals and of public order. All the mountains, bogs, and deep valleys of the north and west abound with illicit stills, in spots where the most diligent search can scarcely discover them; and where detected, they can scarcely be seized without the aid of an armed force. When the troops are seen advancing, concerted signals are made, and the small light stills are soon conveyed to a distant quarter. The farmers and proprietors encourage illicit distillation as the most ready mode of affording a market for their grain. The quality of the spirit was long much superior to that produced by the legal distillers, owing to the injudicious restrictions imposed on the latter; so that, in selling, it was considered the highest possible recommendation to give assurance that it "never paid duty." Even in the regular distilleries established in the great cities, Mr Wakefield gives reason to think that, through a purchased collusion on the part of the officers, not more than half the produce paid duty. He calculates the entire loss on them to be £856,000, and that on the illicit distillation nearly as much; so that, instead of a revenue of £2,280,000, which ought to have entered into the treasury, the amount was only £664,000. The most rigorous laws were enacted in vain, for they only rendered the people concerned in this practice more desperate and determined. Of late, however, the system has been entirely new-modelled; the duty, as in Scotland, has been reduced to two shillings a gallon, and free exportation permitted; and the strictest measures have been taken to put a stop to abuses in the collection of the revenue. The effect has been remarkable; the quantity of spirits paying duty, which from 1818 to 1822 varied from 3,000,000 to 4,000,000, rose in 1824 to 7,800,000, and in 1832 to 8,657,000; thus warranting a presumption that the contraband fabrication of this article has been greatly diminished; yet doubts may be entertained if the cheapness of a commodity of which the excess is so pernicious be on the whole beneficial to the country.

The killing and salting of beef and pork for sale forms a great branch of Irish commerce. During the American war, the number of oxen and cows slaughtered amounted to about 50,000 annually; but Mr Wakefield supposes them reduced in 1808 to about 18,000; partly owing to the extended tillage, and partly to the great increase in the export of live cattle. Each animal is found to produce upwards of

six cwt. of beef, seven stones of tallow, and nearly one cwt. of hide. The despatch with which the animals are slaughtered, the meat cut up and salted, and afterwards packed, is astonishing. The beef is packed in three different forms, called planter's beef, India beef, and common beef; the first two having the coarse pieces taken out, and charged four shillings additional per cwt. While the export of salt beef has diminished, that of pork has of late been much extended.

The cotton manufacture, since 1822, has spread through Ireland in a very surprising manner, particularly in the counties of Antrim, Down, Louth, and part of Dublin. The coarser linen fabrics are disappearing before it, and proceeding to the westward and southward, retaining still an equal hold of the kingdom in general. More recently this fabric has rather declined, and linen has regained the ascendancy.

Fishery is a branch of industry for which the extended shores and deep bays of Ireland would be peculiarly adopted. Nor do the inland waters, the rivers and lakes, less abound in the species of fish appropriate to them. The diligence of the Irish in taking fish for immediate consumption is considerable, being urged on by the frequent abstinence from other food which their Catholic profession enjoins. Their trout and salmon are distinguished both for size and taste: the salmon are caught by weirs, stake-nets, and other contrivances, but with so little precaution that their number has been sensibly diminished. The eels also are delicate and attain a great size; and the use of eel-weirs, a practice but partially known on this side of the Channel, is very general. These processes, however, do considerable injury by flooding the adjoining lands. Dublin, and the other great towns, obtain a regular supply of sea-fish, though at prices so high as to place the consumption beyond the reach of the lower orders. The curing of fish has made very little progress, when compared with the opportunities which the coasts of Ireland afford. In 1809, parliament appointed a board of commissioners for the promotion of Irish fisheries, placing at their disposal a sum of £5000 to be employed in erecting small piers, fitting out commodious boats, and providing other facilities. Since that time, the curing of fish has made considerable progress, though Ireland still cannot come into any sort of competition with Scotland. In 1824, the herrings produced by the coast fishery amounted to 34,201, on which was allowed a bounty of £6726. The open sea fishery produced 7638 barrels, on which a bounty was given of £17,300. There were also cured 2934 cwt. cod, 2645 cwt. ling, 9500 cwt. hake. The last is chiefly caught on the coasts of Waterford and Cork. There is supposed to be a most extensive bank, extending from its western coast as far as Newfoundland.

**Commerce.**—With the exception of the linen manufacture, the manufactured products of Ireland are quite inconsiderable. She has, however, very great facilities for the production of raw materials; and it is in all respects more suitable for her, as well as for England, that she should direct her efforts to this department, and import manufactured articles from Britain, than that she should attempt to enter into an unequal competition with the latter in manufacturing industry. Previously to 1806, there were several restrictions on the importation of corn from Ireland into England; but these were wholly abolished, and since that epoch her exports of corn to this country have increased from less than 400,000 to above 2,600,000 quarters! In 1825 the other restraints on the intercourse between Ireland and Great Britain were mostly abolished; and owing to this circumstance, and to the establishment of a regular inter-

course by steam packets between Liverpool, Glasgow, Bristol, and the principal towns on the east and south coasts of Ireland, the trade between the two countries has been vastly increased. This has been productive of much advantage to both parties, but principally to Ireland; and, notwithstanding the agitation of which she is the prey, it is not to be doubted that she has made very considerable advances in the way of improvement within the last half dozen years. Owing to the trade between the two countries being now placed on the footing of a coasting trade, no account has been kept, later than 1825, of the reciprocal imports and exports of each, except in the case of corn.

The shipping interest of Ireland is on a very small scale when compared with that of the sister island. On the 31st December, 1830, she had 1424 vessels; the tonnage of which was 101,820, navigated by 7761 men and boys. In 1832 there were built twenty-five ships, of 1909 tons. There were entered inwards, in 1831, 14,499 ships, of 1,420,362 tons; outward, 9801 ships, 1,073,545 tons. Of this were employed in trade with Great Britain, 13,584 ships, and 1,262,221 tons, inwards; 9029 ships, 921,128 tons, outwards; in foreign trade, 915 ships, 158,161 tons, inwards; 772 ships, 152,417 tons, outwards.

**Church.**—The conversion of the Irish to Christianity is generally ascribed to St Patrick, a native of Scotland, who is said to have received his mission from pope Celestine, and to have been raised to the archiepiscopal chair of Armagh. It appears that till the twelfth century, the pope had no authority in Ireland, (Ledwich, p. 78.), and that long before that time, a regular hierarchy had been established there, with numerous bishops; every church almost having one, besides those which were appointed to each see. The learned antiquary Ledwich remarks, that until the arrival of the English in Ireland, the number of its sees, and the succession of its bishops, as well as the history of its ecclesiastical affairs, are involved in great obscurity.

The number of clergymen of the established church consisted of 1,700, viz., 4 archbishops, 19 bishops, 33 deans, 24 archdeacons, 500 canons, prebends, &c. The total dignitaries being 867, and working clergy 1,113. Total general, 1,700. By an act, however, recently passed, two archbishoprics are to be converted into bishoprics, and ten bishoprics are to be abolished. The aggregate revenue of the ecclesiastical establishment of Ireland is estimated by several authors, as not exceeding £1,000,000 per annum.

The Roman Catholic church of Ireland is composed of four archbishops and twenty-two bishops. The archbishops take their titles, as in the established church, from Armagh, Dublin, Cashel, and Tuam. Of the bishops eight are suffragans of Armagh, and are those of Ardagh, Clogher, Derry, Down and Connor, Dromore, Kilmore, Meath, and Raphoe. Dublin has but three suffragans, Leighlin and Ferns, Kildare, and Ossory. Six are suffragans to Cashel, viz., Ardferret and Aghadoe, Clonfert, Ross, Cork, Killaloe, Limerick and Waterford, and Lismore. Four are subject to Tuam, viz. Achery, Clonfert, Elphin, and Killalla. There is besides the bishop of the united dioceses of Kilmacduagh and Kilfenora, the one in Connaught, the other in Munster, who is alternately suffragan of Tuam and Cashel. As in the established church, there is also a dignitary in Galway called a *Warden*, who has nearly episcopal jurisdiction, and is no farther subject to higher powers than that he is liable to the triennial visitation of the archbishop of Tuam. Every bishop has a vicar-general of his own appointment, who holds his office only *durate brachio*, and whose jurisdiction ceases on the death of the

prelate. Every diocese has also a dean, who has the peculiar direction of all ecclesiastical matters appertaining to Ireland, and also an archdeacon, named by the bishop. These are two mere nominal dignities, having neither power nor emolument annexed to them. On the death of a bishop, the clergy of the diocese are empowered by the canon law to elect a *vicar capitular*, who is invested, during the vacancy of the see, with episcopal jurisdiction; but if such election does not take place within a specified number of days after the demise of the bishop has been notified to them, the archbishop of the province may appoint of his own authority, the vicar. The clergy, in the mean time, assemble, and fix their choice on one of their own body, or sometimes on a stranger, that he may be appointed to the vacant see. The bishops also of the province consult each other, and unite in presenting two or three men of merit, one of whom is usually appointed. The appointment of the Irish bishops takes place on Monday, and on the following Sunday is submitted to the pope, who may confirm or annul the nomination at will.

The parish priest is supported by voluntary contributions, if that can be called voluntary which is established by ancient custom and general prevalence. His income springs from various sources. From *Easter* and *Christmas* dues. These consist in a certain sum paid by the head of every family to the parish priest for his support, and in consideration of his trouble in catechising, instructing, and hearing the confessions of his family. The sum is greater or smaller in proportion to the circumstances of the parishioner. In the country parishes it is generally a shilling at Easter, and a shilling at Christmas; some give half a crown, some a crown, and some few a guinea a year. There is no general ecclesiastical law to enforce the payment of these trifles; but as the mode was struck out in what has been denominated the council of Kilkenny, under Rinnuccini, it has continued ever since to be practised, and from custom has acquired the force of law. The sum to be paid at weddings is different in different dioceses. The parochial fee for each christening is two shillings or half a crown, besides which the sponsors usually give something more. Some trifle is generally given for visiting the sick; a shilling usually in the country.

The estimate of the income of clergymen who are not of the established church amounts annually to £264,000, and the number of clergymen, 2,378, at an average of £110 each. The number of hearers is 6,600,000, computed as follows: Catholics, 5,500,000 Presbyterians, 800,000, and Methodists and other sects, 300,000. The places of worship amount to 2,378. The number of all the clergymen is thus given in the Dublin Evening Post, of 14th March, 1822. Catholic clergy, 1,994—Presbyterian 239, and other sects 145. Total clergymen, 2,378. And the established church clergy 1,697. Grand total of all sects of clergymen, 4,075.

In some parts of the country custom has established, that a certain quantity of hay and oats is sent by the more opulent parishioners to the clergyman, that his turf should be cut, his corn reaped, his meadow mowed, &c., gratis. The general stipend of the curate is the third part of the general receipts of the parish; but in some instances he receives half the parochial emoluments.

The following is a statement of the incomes of the dignitaries of the Established Church.

	Gross Income.	Net Income.
Archbishop of Armagh,	L. 13,169 16 7	L. 9,994 0 3
— of Dublin with Kildare,	9,320 12 9	7,746 18 0
Bishop of Meath,	5,220 10 6	4,968 10 7
— of Down, Connor, and Downmore,	5,805 0 7	4,204 17 3
— of Derry and Raphoe,	8,033 3 9	5,999 3 6
— of Kilmore, Armagh, and Elphin,	7,477 17 0	6,225 9 8
— of Ferns, Leighlin, and Ossory,	6,550 2 10	5,730 15 5
— of Cabel and Emly, Waterford and Lis-		
more,	7,354 2 0	6,308 5 2
— of Limerick, Ardfer, and Aghadoe,	5,368 13 5	4,973 9 1
— of Cork, Ross, and Cloyne,	5,108 18 10	4,091 7 10
— of Killaloe and Killenora,	4,342 9 1	3,966 9 11
— of Tuam, Killalla, and Achonry,	5,020 1 3	4,018 17 9
Total of Archbishops and Bishops,	L. 84,932 6 1	L. 67,368 4 9

In order that the reader may have before him a full view of the present condition of church property in Ireland, we subjoin a series of Tables which have been constructed by the Clerical Society, and are founded upon authentic and ample returns. These tables show how little ground there is for the assertion that the clergy of the established church are paid chiefly by the Roman Catholic population. The proportion of composition to which Protestant property is liable exceeds nearly twenty times that which is payable out of lands of which the fee is in Roman Catholic proprietors.

TABLE FIRST.

Total No. of benefices.	No. of benefices for which returns have been received.	Total No. of acres.	Total amount of composition.	No. of acres belonging in fee to Protestants.	Amount of composition thereupon.	No. of acres belonging in fee to Roman Catholics.	Amount of composition thereupon.
1,412	1,077	11,762,854	£459,324 13s. 0½d.	11,047,807	£438,423 3s. 11½d.	715,047	£20,901 9s. 1d.

TABLE FIRST CONTINUED.

Total No. of Tithe-payers.	No. of acres. Liability undertaken by the landlords.	Amount of composition thereupon.	No. of payers thus struck off.	No. of acres. Liability devolved upon the landlords.	Amount of composition thereupon.	No. of payers thus struck off.	Total No. of acres either undertaken or devolved.
280,146	2,169,133	£68,102 19s. 0½d.	100,869	1,111,513	£38,728 17s. 11½d.	45,260	3,280,646

TABLE FIRST CONTINUED.

Total amount of composition thereupon.	Total No. of payers ascertained where the liability rests.	No. of acres unascertained where the liability rests.	Amount of composition thereupon.	No. of payers whose liability consequently remains doubtful.	Average per acre is
£106,831 17s. 0d.	146,129	8,482,206	£352,492 16s. 0½d.	234,019	d. 9½ 4p682 100000

TABLE SECOND.

No. of benefices whose income has been always paid, and is likely to continue so from the undertakings of the landlords and liability devolving, &c.			No. of benefices whose payment has ceased, owing to the direct interference of the late government, lord Althorp's speech.			No. of benefices whose payment has ceased, owing to the action of priests, local magistrates, &c. &c.		
Benefices.	Acres.	Composition.	Benefices.	Acres.	Composition.	Benefices.	Acres.	Composition.
321	4,389,636	£128,922 19s. 8½d.	58	642,001	£25,543 19s. 9½d.	524	5,539,931	£220,729 1s. 2d.

TABLE THIRD.

No. of benefices averaging 4d. per acre and under.				No. of benefices exceeding 4d., and not exceeding 6d. per acre.		
Benefices.	Acres.	£	s. d.	Benefices.	Acres.	£ s. d.
105	2,435,179	25,968	9 7	55	1,739,875	26,488 6 6½

TABLE THIRD CONTINUED.

No. of benefices exceeding 6d., and not exceeding 1s. per acre.				No. of benefices exceeding 1s., and not exceeding 1s. 6d. per acre.		
Benefices.	Acres.	£	s. d.	Benefices.	Acres.	£ s. d.
337	3,987,844	149,326	6 5½	201	1,622,286	97,274 8 11½

TABLE THIRD CONTINUED.

No. of benefices exceeding 1s. 6d., and not exceeding 2s. per acre.				No. of benefices exceeding 2s., and not exceeding 2s. 6d. per acre.		
Benefices.	Acres.	£	s. d.	Benefices.	Acres.	£ s. d.
93	566,649	48,329	16 2¼	37	127,783	14,121 3 9½

TABLE THIRD CONTINUED.

No. of benefices exceeding 2s. 6d., and not exceeding 3s. per acre.			No. of benefices exceeding 3s. per acre.			The results of tables two and three do not refer to tables one and four, being of an earlier date than the two last mentioned.
Benefices.	Acres.	Composition.	Benefices.	Acres.	Composition.	
15	57,875	£7,917 7s. 8½d.	15	33,968	£6,169 2s. 4½d.	

TABLE FOURTH.

No. of benefices whose income is 50l. and under per annum.	No. of benefices exceeding 50l., and not exceeding 100l. per annum.	No. of benefices exceeding 100l., and not exceeding 150l. per annum.	No. of benefices exceeding 150l., and not exceeding 200l. per annum.	No. of benefices exceeding 200l., and not exceeding 250l. per annum.	No. of benefices exceeding 250l., and not exceeding 300l. per annum.	No. of benefices exceeding 300l., and not exceeding 350l. per annum.	No. of benefices exceeding 350l., and not exceeding 400l. per annum.	No. of benefices exceeding 400l., and not exceeding 450l. per annum.
39	68	86	94	94	103	83	57	68

TABLE FOURTH CONTINUED.

No. of benefices exceeding 450l., and not exceeding 500l. per annum.	No. of benefices not exceeding 500l. per annum.	No. of benefices not exceeding 700l. per annum.	No. of benefices not exceeding 800l. per annum.	No. of benefices not exceeding 900l. per annum.	No. of benefices not exceeding 1,000l. per annum.	No. of benefices not exceeding 1,000l. per annum.	No. of benefices not exceeding 1,500l. per annum.
70	82	68	44	36	29	21	18

TABLE FOURTH CONTINUED.

No. of benefices not exceeding 1,300l. per annum.	No. of benefices not exceeding 1,400l. per annum.	No. of benefices not exceeding 1,500l. per annum.	No. of benefices not exceeding 1,600l. per annum.	No. of benefices not exceeding 1,700l. per annum.	No. of benefices not exceeding 1,900l. per annum.	No. of benefices not exceeding 2,000l. per annum.	No. of benefices not exceeding 2,400l. per annum.	No. of benefices not exceeding 2,900l. per annum.	Total No. of benefices.
6	3	5	3	3	2	2	1	1	167

**Government.**—The government of Ireland, before the Union, was formed strictly on the model of that of Great Britain; the lord-lieutenant representing, in a great measure, the person of the king, and the houses of lords and commons being exactly similar to that of the British. Since the Union, a near approach has been made to the system by which the affairs of Scotland were regulated on the like occasion; but advantages have been conceded to Ireland in the representation, and in the establishment of a court, with a resident viceroy.

The first establishment of the office of viceroy of Ireland is to be found in the reign of Henry II.; but when the extension of British power in Ireland rendered such an officer permanently necessary, it was provided by a statute.

#### LORD LIEUTENANTS OF IRELAND FROM 1361 TO 1835.

1361 Lionel, earl of Ulster	1715 Nov. 1st, Charles Fitzroy, duke of Grafton
1371 Edmund Mortimer, earl of March	1716 Charles lord viscount Townshend
1378 Pt. Courcy, lord lieut., but the lord Berghamham personal	1717 March 21st, Charles Paulet, duke of Bolton
1384 Robert de Vane, earl of Oxford, &c.	1721 August 28th, Charles Fitzroy, duke of Grafton
1394 King Richard II., in person	1724 Oct. 22nd, John, lord Carteret
1395 Roger Mortimer, earl of March and Ulster	1725 Sept. 11th, Lionel, Cranfield, Sackville, duke of Dorset
1398 King Richard II., in person (second time)	1727 Sept. 7th, William Cavendish, duke of Devonshire
1401 Thomas, earl of Lancaster	1745 August 21st, Philip Stanhope, earl of Chesterfield
1402 John, duke of Bedford	1747 Sept. 12th, William Stanhope, earl of Harrington
1403 Edward, earl of March	1751 Sept. 9th, Lionel, Cranfield, Sackville, duke of Dorset
1415 Sir John Talbot	1755 May 26th, William Cavendish, marquis of Salisbury
1416 Thomas, earl of Lancaster	1757 Sept. 25th, John Russell, duke of Bedford
1417 Sir John de Grey	1761 Oct. 6th, George Dunk, earl of Halifax
1418 Sir Vernon, lord Dudley	1763 Sept. 22nd, Hugh, earl of Northumberland
1419 Thomas Stanley	1765 Oct. 18th, Francis, earl of Hertford
1420 Lord and Wells	1767 Oct. 14th, George lord viscount Townshend
1421 James, earl of Ormond (first time)	1772 Nov. 26th, Simon Harcourt, earl of Harcourt
1422 James, earl of Shrewsbury	1773 Jan. 25th, John Hobart, earl of Buckinghamshire
1423 Edward, duke of York	1780 Dec. 23rd, Frederick Howard, earl of Carlisle
1424 Prince Edward, son to Richard III.	1782 April 14th, W. H. Cavendish Bentinck, duke of Portland
1425 James, earl of Lincoln	1782 Sept. 15th, George Nugent Grenville Temple, earl of Temple
1426 Jasper, duke of Bedford	1783 June 2nd, Robert Henly, earl of Northampton
1427 Gerald, earl of Kildare (first time)	1786 Feb. 24th, Charles Manners, duke of Rutland, died 21th Oct. 1787
1428 Henry, duke of York, afterwards Henry VIII.	1787 Dec. 16th, George Nugent Grenville Temple, marquis of Buckingham
1429 Gerald, earl of Kildare (second time)	1790 Jan. 6th, John Fane, earl of Westmoreland
1430 Thomas Howard, earl of Surrey	1794 Earl Fitzwilliam
1431 Henry, duke of Richmond	1795 Earl Camden
1432 John, earl of Sussex	1796 Marquis Cornwallis
1433 Robert, earl of Essex	1801 May 24th, Philip, earl of Hardwicke
1434 Sir Charles Blundell, lord Mountjoy	1806 Earl of Powis, (did not go over)
1435 Thomas, lord viscount Wentworth, earl of Stafford	1808 March 20th, John, duke of Bedford
1436 James, marquis of Ormond	1807 April 19th, Charles, duke of Richmond
1437 Oliver Cromwell	1812 August 26th, Charles viscount Whitworth
1438 James Butler, duke, marquis and earl of Ormond	1817 Oct. 9th, Charles, earl of Talbot
1439 John Roberts, lord Roberts	1821 Dec. 29th, Marquis of Wellesley
1440 Butler, lord Berkeley	1822 July do. do. do.
1441 Henry Capel, earl of Essex	1823 Duke of Northumberland
1442 James Butler, duke of Ormond	1824 Marquis of Anglesley
1443 Henry Hyde, earl of Clarendon	1824 Marquis of Wellesley
1444 Richard Talbot, earl of Tyrconnel	1824 Earl of Harrington
1445 Henry Sidney, lord Sidney	1830 Earl Mulgrave
1446 Henry Capel, lord Capel	
1447 Lord, Byde, earl of Rochester	
1448 James Butler, duke of Ormond (first time)	
1449 Thomas Herbert, earl of Pembroke	
1450 Thomas Wharton, earl of Wharfedale	
1451 July 2nd, James Butler, duke of Ormond (second time)	
1452 Oct. 28th, Charles Talbot, duke of Shrewsbury	
1453 Charles Spencer, earl of Sunderland	

The lord lieutenant of Ireland corresponds with the secretary of state for the home department, by whose directions he is supposed to regulate his conduct; his salary amounts to £27,000 per annum. His residence is in Dublin castle, built in 1220. The officers of the lord lieutenant's household are a private secretary, a steward, a comptroller, a chamberlain, a gentleman usher, a master of the horse, with gentlemen of the chambers, pages, &c.

Ireland has a privy council, of which the chief officers of state are members. The lord lieutenant is president. The number of members of the privy council is between fifty and sixty. Next to the lord

lieutenant the secretary is considered the principal efficient officer.

**Revenue.**—The revenue of Ireland is small. With a population of nearly one half of Great Britain, the revenue seldom exceeds five million pounds, or not one-twelfth of the total revenue of the former, while the expenses and charges upon collection are much greater in proportion. In January, 1817, the exchequer of Ireland was united with that of Great Britain, and the charge for interest and management on the loans raised in England was consolidated with the public debt on that date.

**Social State.**—Since the year 1825, five parliamentary committees have sat on the state of Ireland, and have published five folio volumes on the subject. Much information has also been recently laid before the public by the travels and investigations of private individuals. And from all sources, abundant evidence is brought to prove, that a great amount of crime and misery prevails even at this day over the country. In 1833, there were 17,800 crimes perpetrated in Ireland, for which persons were committed to jail. In England, if there had been the same ratio between crime and population, there should have been 34,000 crimes: there were only 20,000. In Scotland, there should have been 4,000: there were but 2,000. A great proportion of these crimes consisted of personal acts of violence or outrage, arising from the brawls of factions, or disputes about the possession of lands. "A small Irish county town, during assizes," says Mr Inglis, who travelled through Ireland in 1834, and who has published a very sensible and dispassionate book on the subject, "presents a spectacle that is never seen in England; for even supposing the calendar to be as long, in an English as in an Irish county,—which it never is,—the difference in the character of the cases to be tried, materially affects the aspect of the town and its population. In England, a case of murder or manslaughter, brings to the county town only the near relations of the party to be tried,—and perhaps, of the party prosecuting; but in Ireland, things are on a different scale. The English murder is a private act, perpetrated by some ruffian for the sake of gain: the Irish homicide has been committed for no reason at all; and not by one cold-blooded ruffian, but by a crowd of demi-barbarians, who meet for the purpose of fighting; and who have no other reason for fighting, than because one half of the number are called O'Sullivan, and the other O' something else; so that when a manslaughter is to be prosecuted at an Irish assize, the case does not bring up merely the accused and his one or two witnesses; but it brings half the "boys" in the county who bear the same name as the accused; and as many more, of the same name as the man who was killed,—every one of the former, ready to kiss the book, and swear, that the boy accused of the homicide, never handled a shillelah, or lifted a stone, or was seen in a "scrimmage" in his days; and every one of the latter as ready to swear, that the boy that was killed, was the most peaceable boy that ever bore his name, and that he was killed for no reason at all. Besides these homicide cases, which are peculiar to an Irish assize, prosecutions of any kind bring together a greater number of persons than in England,—for be it a robbery, or a rape, or any other crime, of which a man is accused, all his relations come forward to swear an alibi. It may be easily conceived, therefore, what a motley crowd fills the streets of an Irish county town at the time of an assize. The most numerous class of cases at most Irish assizes, is that which is facetiously denominated *fair murders*; that is, homicides committed at fairs; and I do not know any means, by

which so much insight is to be obtained into the character of the Irish peasantry, and into the condition of the country, and state of things among the lower classes of society, as by listening to these prosecutions for *fair murders*. There were many of these prosecutions at the Ennis assizes; and, although I had already heard much of the factions, into which the peasantry are divided, I had no conception of the extent of this evil, nor of the bitterness with which this spirit of faction is attended. However these factions may have originated, there is now no distinction among their adherents, excepting that which arises from the possession of a different name. The O'Sullivans are as distinct a people from the O'Neils as the Dutch from the Belgians. The factions have chiefs, who possess authority. Regular agreements are made to have a battle; the time agreed upon is generally when a fair takes place; and, at these fights, there is regular marshalling, and "wheeling;" and, as for its being a crime to break a "boy's" head, such an idea never enters the brain of any one. The spirit of faction is brought into court by almost every witness in these prosecutions. I saw a witness, a woman, brought in support of the prosecution for a homicide committed on some cousin, who, on being desired to identify the prisoners, and the court-keeper's long rod being put into her hand, that she might point them out, struck each of them a smart blow on the head. As for finding out the truth, by the mere evidence of the witnesses, it is generally impossible. Almost all worth knowing, is elicited on the cross-examination; and it is always by the appearance and manner of the witness, more than by his words, that the truth is to be gathered. All the witnesses, examined for the prosecution, were, by their own account, mere lookers-on at the battle; nor stick, nor stone had they. *Their* party had no mind to fight that day; but, in making this assertion, they always take care to let it be known, that, if they had had a mind to fight, they could have handled their shillelahs to some purpose. On the other hand, all the witnesses for the prisoner aver just the same of themselves; so that it is more by what witnesses won't tell, than by what they do tell, that truth is discovered. Half the witnesses called, on both sides, have broken heads; and it is not unfrequently by a comparison of the injuries received on both sides, and by the evidence of the doctor, that one is helped to the truth. To save a relation from punishment, or to punish any one who has injured a relation, an Irish peasant will swear anything. This would be called, by some, hatred of the law; but, although, in swearing falsely, the Irish peasant wishes to defeat the ends of justice, he does not do so merely because he hates justice and the law, but because he thinks he is bound to save his relation, or any one of his faction. If the name of the man who was killed be O'Grady, then every witness who comes up to be sworn for the prosecution is also an O'Grady; or, if they be women, they were O'Grady's before they were married; and, if the name of the prisoner be O'Neil, then all the witnesses for the defence are O'Neils; or, if there be any exceptions in name, still there is a relationship of some kind."

But the destitution and misery existing among the Irish peasantry is still more appalling than the extent of crime. "The great mass of the labouring class in Ireland," (to use the same authority), "have no constant employment. Throughout the greater part of Leinster, Munster, and Connaught, a large majority of the labouring poor are unable to find constant employment. With the exception of Belfast, and in some few places where public works had created a temporary demand, I found nowhere full

employment for the people. As for their means of subsistence, when out of employment, little suffices. If they have not, themselves, a patch of potato land, they, or their wives, beg among the farmers round the country; relations, who have a little to spare, help them; and the priest also does something for them. The diet of those who are in employment consists of a scanty meal or two of potatoes, with, in addition, at times, of a little buttermilk. The case of the far greater number who are not in employment, consists of as many dry potatoes as serve just to sustain life. In Ulster, things are rather better: there are fewer of the latter class; and the farmers have more plentiful meals. As for clothing, an English beggar would not lift off the ground the clothes worn by old and young of the lower class of Leinster, Munster, and Connaught. The poor can scarcely be said to be clothed at all. Excluding the large towns, such as Belfast, Cork, and Limerick, and the labour employed on the domains of a very few resident noblemen, penance, without diet, at the highest wages ever given for constant employment: ninepence and eightpence is the more usual rate; and, in some places, sixpence is willingly accepted, for constant employment. With constant sixpence is the usual sum given. The wages of occasional employment vary with the occasion: seasons of particular demand, one shilling, or more, even, may be given; but, at all other times, the number of labourers may be hired, by the week, at eightpence, and even lower. The labour of women and children is scarcely wanted, where half the male population are unemployed. Women employed in agricultural labour, are generally some part of the family of the landholder. Where not one half of the people are in constant employment, it would be unfair to state the average amount of employment obtained by a labourer throughout the year, to be more than for one half of the year: during that half-year, his wages cannot be fairly stated at more than 8d. for four months; and for the other two months, seed and harvest times, 1s. The hundred and ten working days, at 8d. are £3 9s. 4d.; and the first two days, at 1s.; added to this, make £6 1s. 4d. which is all the labourer, obtaining an average amount of employment, may earn in a year: this sum, divided by 365—the number of days what the labourer has to support himself and his family—gives him, per day, not quite FOURPENCE! I am quite confident, that if the whole yearly earnings of the labourers of Ireland were divided by the whole number of labourers, the result would be under the sum,—FOURPENCE a day for the labourers of Ireland. Early marriages and a numerous progeny are universal. If the labourer has four children also: work, the probability is, that he has at least two younger children to support: the occasional labour and scanty remuneration paid for the labour of a child, will certainly not do more than suffice for its own support throughout the year; and when we consider the general dearth of employment, and the large families of the Irish peasants, we may fairly conclude, that the labourer has to support himself and two children by his own labour, which we have seen averages 4d. per day. With respect to the yearly expense of food, two stone and a half of potatoes, no more than suffice for the daily support of a labourer, his wife, and two children: not taking the average price of potatoes at 3d. per stone, a very low average, mere subsistence cannot be purchased with the whole amount of wages, supposing the whole amount available for subsistence: but rent has to be paid. Formerly the pig was sufficient for this; but the market has so fallen, that something is wanted besides the pig to make

up the rent. Where no land is attached to the cabin, the average rent of it being 35s., at least 20s. of this sum must be made up from wages; so that the 4l. per day suffers a diminution of nearly three farthings. Where a little potatoe land is attached to the cabin, the value of the potatoes may be considered an equivalent for the amount of the rent. In the country, the landlords of cabins are generally small farmers, who are quite as hard set to make up their own rent, as their humbler dependents are to pay theirs. In the suburbs of the towns, great landowners, and often noble lords, are the landlords. In Wicklow, Wexford, Waterford, Kilkenny, and Tipperary counties, 30s. and 40s. is the usual rent of a cabin, either altogether without land, or with so inconsiderable a patch, that its value is scarcely any set off against the rent. In the more western and more northern parts of Ireland, with the same rent, a little potatoe land generally accompanies the cabin, excepting in the suburbs of the towns. The only difference between the best and the worst of the mud cabins, is, that some are water-tight and some are not; air-tight I saw none; with windows, scarcely any; with chimneys, that is, with a hole in the roof, for the smoke to escape through, as many, perhaps, with it as without it. As for furniture, there is no such thing; unless a broken stool or two, and an iron pot, can be called furniture. I should say, that in the greater part of Leinster and Munster, and in the flat districts of Connaught, bedsteads are far from general; and bed clothing is never sufficient. In the greater part of Ulster, cabins, and their furniture, are considerably superior."

This is a most melancholy picture of a people starving in a land of fertility—a land surpassed by no other in its physical adaptation both to agricultural and commercial purposes. Into the causes of the condition of Ireland, it would be difficult to inquire in a limited space. Hundreds of volumes have been written on the subject, and thousands of speeches spoken. It has been the leading theme of every magazine and review since the beginning of the century, and the favourite topic of every orator; yet the question is still unsettled. The most popular method of accounting for the miseries of Ireland used to be to attribute them all to the injustice or oppression of the British government; but however much Ireland may have suffered from England in former days, she has now little cause of complaint against this country. She is much more moderately taxed than Britain, and the parliamentary grants annually bestowed on her much exceed the proportion of those bestowed on any other part of the empire. Ireland, in short, for many years back, has received almost the exclusive patronage of both Tory and Whig administrations, and its interests have occupied more of the attention of parliament and the press than the interests of all the rest of the empire put together. The only public evil of which the Roman Catholic part of the population have now to complain is the exaction of tithes for the support of a protestant clergy; but, as will be seen from tithes given in a previous page, the Catholics, in reality, have all along borne a very slender portion of this burden, and of late years have refused altogether to pay their modicum, in which refusal government has acquiesced. The entire abolition of tithes in Ireland would do good, in as far as it might tend to lessen the asperities which exist between Protestants and Catholics; but it is questionable if it would be otherwise beneficial to the country. The landlords would receive the sole advantage of it; for it is evident, that the rental of land would rise in proportion to the removal of the burden, and the

only change would be, that the tithe, instead of going into the pockets of a resident clergyman of character and education, disposed to look after the interests of the people, would go into the pockets of absentee landowners, the great body of whom have ever shown the utmost indifference regarding the welfare or comforts of their tenantry. Where, then, are we to look for the causes of that extent of crime and misery which unhappily characterizes the condition of Ireland, and where for the remedies? One of the great causes of the disturbances which take place in Ireland is the animosity which exists between Protestants and Catholics, or Orangemen and Ribbonmen. In England and Scotland, fortunately, no such animosity exists, or is limited to very small sections of zealots; but in Ireland, the feeling is universal, and often breaks out in acts of open hostility. Whatever might tend to soothe this feeling—to eradicate the unchristian spirit with which Catholics and Protestants there view each other—would be conducive to the peace and consequent prosperity of Ireland; but so far from any means being adopted to this end, it seems to be the object of the leading men of both parties to aggravate the feeling, and even to extend its baleful influence into England and Scotland, by the establishment of hostile associations.

The numerous factions into which the peasantry of Ireland is divided—factions independent of religious or political feeling—prove, also, prolific sources of outrage and disturbance. As in Scotland, in former times, these factions are generally only distinguished from each other by family surnames: the O'Sullivan's, the O'Neils, the O'Grady's, the Macshanes, and the like, consider themselves as distinct people, and would hold it very unbecoming to meet at a fair or a funeral without a fight. More bloodshed, according to Mr Inglis, and more savage brutalities arise from them than from either political or religious causes. With an extended education of the people, and an increase of their comforts, there is every reason to hope that these foolish factions would speedily become extinct. One hundred years have not passed since similar factions, distinguished either by names or by parishes, were prevalent in Scotland, and nothing was more common, at fairs or markets, than to see parties belonging to different villages or districts pitted against each other, and fighting with a ferocity not to be exceeded by the Irish. Such scenes are not now to be met with; and may we not hope that, with an improved condition of the people, both physically and morally, they would become as rare in Ireland as they are in Scotland.

But one of the greatest evils of Ireland—the source of more outrage than either religious animosity or factional feuds—is the view which the peasantry entertain regarding the possession of land. "The peasantry," says Mr Barrington, a crown solicitor, in his examination before a committee of the house of commons, "have always had objects connected with the land. I have traced the origin of almost every case I prosecuted, and I find that they generally arise from the attachment to, the dispossession of, or the change in, the possession of land." The outrages of 1775 arose from associations of peasants formed to regulate the prices of land. Many of the combinations, both of the last and present century, had for their object the reduction of rent. How many instances are there of the people preventing the ejection of an old tenant, or of murdering a new comer! In 1820, the middlemen pressed on the tenantry, and they, to the number of 1500, rose in Galway, and ravaged the country. In 1821, severe exaction of rent on the Courtenay estate roused a tenant of the name of Dillane. This man was the

celebrated captain Rock, and he excited a general opposition to rent over Clare, Limerick, Kerry, and Cork. In 1822, the peasantry rose in a body for the reduction of rent; and most of the cases of outrage subsequent to that period have been connected with land. The Carders, the Righters, the Shanavats, the Caravats, the Whiteboys, the Peep-o'-day boys, the Thrashers, the Riskavallas, the Rockites, the Whitefeet, the Blackfeet, the Lady-Claras, and Terry-Alts, are all varieties of the same gang, and have all, more or less, originated in the enforcement of rents or the ejection of tenants.

In seeking for the causes of these and other evils that afflict Ireland, and that prevent it from taking that place among the prosperous and civilized kingdoms of Europe which its many natural advantages, and the warm-hearted and quick-witted character of its inhabitants, so eminently entitle it to do, the reader may be surprised to learn, that the extensive cultivation of the potatoe in that country has been considered by some economists as its greatest curse. This startling doctrine was, we believe, first advanced by Mr J. R. Macculloch; and is supported by him with so much apparent reason, that we cannot close the subject better than by quoting his own words. After demonstrating that an acre of potatoes will feed at least double the number of individuals that can be fed from an acre of wheat, Mr Macculloch proceeds to say that,

"On the most moderate estimate, the population of a potato-feeding country may become, *other things being about equal*, from two to three times as dense as it could have been, had the inhabitants fed wholly on corn. But it is exceedingly doubtful whether an increase of population, brought about by a substitution of the potato for wheat, be desirable. Its use as a subordinate or subsidiary species of food is attended with the best effects—producing both an increase of comfort and security; but there are certain circumstances inseparable from it, which would seem to oppose the most formidable obstacles to its advantageous use as a *prime* article of subsistence.

"It is admitted on all hands, that the rate of wages is principally determined by the species of food made use of in a country. Now, as potatoes form that species which is produced at the very least expense, it may be fairly presumed, on general grounds, that wages will be reduced to a minimum wherever the labouring classes are mainly dependent on potatoes; and the example of Ireland shows that this conclusion is as consistent with fact as with principle. It is clear, however, that when the crop of potatoes happens to be deficient in a country thus situated, the condition of its inhabitants must be in the last degree unfortunate. During a period of scarcity, men cannot go from a low to a high level: if they would elude its pressure, they must leave the dearer, and resort to cheaper species of food. But to those who subsist on potatoes this is not possible; they have already reached the lowest point in the descending scale. Their wages being determined by the price of the least expensive sort of food, they cannot, when it fails, buy that which is dearer; so that it is hardly possible for them to avoid falling a sacrifice to absolute want. The history of Ireland abounds, unfortunately, in examples of this sort. Nothing is more common than to see the price of potatoes in Dublin, Limerick, &c., rise, because of a scarcity, to five or six times their ordinary price, and the people to be involved in the extreme of suffering; and yet it rarely happens, upon such occasions, that the price of corn is materially affected, or that any less quantity than usual is exported to England.

"It may be said, perhaps, that had potatoes not been introduced, wheat, or barley, or oats, would

have been the lowest species of food; and that whenever they happened to fail, the population would have been as destitute as if they had been subsisting on potatoes. It must, however, be observed, that the proportion which the price of wheat, or any species of grain, bears to the price of butcher's meat, tea, beer, &c., is always decidedly greater than the proportion which the price of potatoes bears to these articles: and it therefore follows, that a people, who have adopted wheat, or any species of corn, for the principal part of their food, are much better able to make occasional purchases of butcher's meat, &c., and will consequently be more likely to have their habits elevated, so as to consider the consumption of a certain quantity of animal food, &c. as indispensable to existence. And hence it appears reasonable to conclude, that a people who chiefly subsist on corn, would, in most cases, subsist partially on butcher's meat, and would enjoy a greater or less quantity of other articles: so that it would be possible for them, in a period of scarcity, to make such retrenchments as would enable them to elude the severity of its pressure.

"But though the population in corn-feeding countries were dependant on the cheapest species of grain, not for a part only, but for the whole of their food, their situation would, notwithstanding, be less hampered than that of a population subsisting wholly on potatoes.

"In the first place, owing to the impossibility, as to all practical purposes at least, of preserving potatoes, the surplus produce of a luxuriant crop cannot be stored up or reserved as a stock to meet any subsequent scarcity. The whole crop must necessarily be exhausted in a single year; so that when the inhabitants have the misfortune to be overtaken by a scarcity, its pressure cannot be alleviated, as is almost uniformly the case in corn-feeding countries, by bringing the reserves of former harvests to market. Every year is thus left to provide subsistence for itself. When, on the one hand, the crop is luxuriant, the surplus is of comparatively little use, and is wasted unprofitably; and when, on the other hand, it is deficient, famine and disease necessarily prevail.

"In the second place, the general opinion seems to be, that the variations in the quantities of produce obtained from land planted with potatoes, are greater than the variations in the quantities of produce obtained from land on which wheat, or any other species of grain, is raised.

"And lastly, owing to the great bulk and weight of potatoes, and the difficulty of preserving them on shipboard, the expense of conveying them from one country to another is so very great, that a scarcity can never be materially relieved by importing them from abroad. In consequence, those who chiefly depend on potatoes are practically excluded from participating in the benevolent provision made by nature as equalizing the variations in the harvests of particular countries by means of commerce, and are thrown almost wholly on their own resources.

"We should, therefore, be warranted in concluding, even though we were not possessed of any direct evidence on the subject, from the circumstance of the potato being a crop that cannot be kept on hand, from its natural fickleness, and from the incapacity of importing it when deficient, or of exporting it when in excess, that the oscillations in its price must be greater than in the price of wheat; and such, as point of fact, is the case. The oscillation in wheat is thought great when its price is doubled; but in a scarce year the potato is not unfrequently as dear as in a plentiful one! And the comparatively frequent recurrence of scarcities in Ireland, and the destitution and misery in which they involve the

population, afford but too convincing proofs of the accuracy of what has now been stated.

"It is, therefore, of the utmost consequence to the well-being of every people, and to their protection in years of scarcity, that they should not subsist principally on the potato. In this country the pressure of a scarcity is evaded by resorting to inferior species of food, such as potatoes, and a lower standard of comfort; but if our people were habitually fed on the potato, this would be impracticable. The chances of famine would thus be vastly increased; while, owing to the low value of the potato as compared with most other things, the labourers would have less chance of preserving or acquiring a taste for animal food, or other necessities and luxuries; and, consequently, of changing, at any future period, their actual condition for a better."

*Population.*—The reader will find in the table at page 126, a list of the population of the various counties of Ireland. By a recent Report of the Commissioners of Public Instruction, it is estimated that there are about six millions and a half of Catholics in Ireland, and one million and a half of Protestants. The Protestants are very unequally distributed; for while Ulster has 1,100,000, being about one half the entire population of that province, the other three provinces have but 400,000 Protestants in a population of above five millions.

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IRENÆUS, St; presbyter, and at a later period, bishop of Lyons, towards the end of the second century, a pupil of Polycarp and Papias; a man of considerable learning, and animated with an ardent zeal for Christianity. He was violent in his opposition to the heretical Chiliasts. His works are all lost, except his *Libri V. adversus Hæreses*, and these are extant only in a translation. He suffered martyrdom (after 202), and is honoured as a saint. His day is April 6. His works have been edited by Federarient (Paris, 1596, folio), Grabe (Oxford, 1702, folio), Massuet (Paris, 1710.). His fragments have also been collected by C. M. Pfaff (Hague, 1715).

There are several other martyrs of this name, and three men of the same name are mentioned in the Greek Anthology.

IRENE; 1. in mythology, one of the Hours (see *Hours*), denoting peace.

2. An empress of Constantinople, alike famous for talent and beauty, and for her crimes; was born at Athens, and, in 769, married Leo IV., after whose death, by poison administered by her, she raised herself (780), and her son, Constantine VI., who was then but nine years old, to the imperial throne, with the aid of the nobles. She believed it necessary to strengthen herself in this dignity by new acts of violence, and caused the two brothers of her murdered husband, who had formed a conspiracy against her, to be executed. Charlemagne at that time menaced the Eastern empire. Irene at first delayed him by promises. She at last went so far as to oppose him, arms in hand; but he totally defeated her army in Calabria, in the year 788. Two years before, she had convened two general councils at Nice, in which the Iconoclasts were particularly attacked. (See *Iconoclasts*.) When

Constantine had grown up, he refused to permit her to participate longer in the government, and actually reigned alone seven years, when he was arrested at the order of his mother, his eyes plucked out, and himself finally murdered. Irene was the first female who reigned over the Eastern empire. Her entrance into Constantinople on a triumphal car of gold and precious stones, her liberality to the people, the freedom which she bestowed on all prisoners, and other artifices employed by her, were not sufficient to secure her from the consequences of her criminal accession. She had ordered many nobles into banishment, and, to secure yet more firmly the possession of the throne, had just resolved to marry Charlemagne, when Nicephorus, who was placed on the imperial throne, exiled her, in 802, to the isle of Lesbos, where she died, in 803.

IRETON, HENRY; an eminent commander and statesman, of the parliamentary party, in the civil wars of Charles I. He was descended from a good family, and was brought up to the law; but, when the civil contests commenced, he joined the parliamentary army, and, by the interest of Cromwell, whose daughter Bridget he married, he became commissary-general. He commanded the left wing at the battle of Naseby, which was defeated by the furious onset of prince Rupert, and he himself wounded and made prisoner. He soon recovered his liberty, and took a great share in all the transactions which threw the parliament into the power of the army. It was from his suggestion that Cromwell called together a secret council of officers, to deliberate upon the disposal of the king's person, and the settlement of the government. He had also a principal hand in framing the ordinance for the king's trial, and sat himself as one of the judges. Ireton accompanied Cromwell to Ireland, in 1649, and was left by him in that island as lord deputy. He reduced the natives to obedience with great vigour, but not without cruelty. He died in Limerick, in 1651. Hume calls him a memorable person, celebrated for vigilance, capacity, and a rigid exercise of justice, during his unlimited command in Ireland. After the restoration, his body was taken up, and suspended from the gallows, with that of Cromwell, and was buried in the same pit.

IRIA; a Basque word, signifying *town, city*.

IRIARTE, or YRIARTE, THOMAS D'; a Spanish poet, born in 1752, and died in 1803. As a poet, he is known by his Literary Fables (1782), which have been translated into English, his poem *La Música* (1784, 4to.), dramas, &c. His works were published in 8 vols., at Madrid, in 1805.

IRIDIUM; the name of a metal discovered in 1803, by Mr Tennant, in the black residuum from the solution of the ore of platinum. Its name was bestowed in allusion to the rainbow (*iris*), in consequence of the changeable colour it presents while dissolving in muriatic acid. Its colour is white; it is brittle, and very difficult of fusion; specific gravity, 18.68. Its greatest specific gravity in the unfused state is stated by Dr Turner to be 15.8628. Berzelius estimates its prime equivalent at 98.8. Iridium is the least fusible of all metals, and the last mentioned chemist failed in all his attempts to bring it to a state of fluidity; but Mr Childron succeeded in procuring a small globule, by means of his powerful galvanic apparatus. It is acted upon with difficulty even by the nitro-muriatic acid; but, when oxidized by digestion with it, it unites with other acids, and with the earths, particularly with alumine. It combines with sulphur, by heating a mixture of ammonia, muriate of iridium, and sulphur: the compound is a black powder, consisting of 100

iridium and 33.3 sulphur. Lead unites with this metal easily, but is separated by cupellation, leaving the iridium on the cupel, as a coarse black powder. Copper forms with it a very malleable alloy, which, after cupellation, with the addition of lead, leaves a small proportion of the iridium, but much less than in the preceding instance. Silver forms with it a perfectly malleable compound, the surface of which is merely tarnished by cupellation; yet the iridium appears to be diffused through it in fine powder only. Gold remains malleable, and little altered in colour, though alloyed with a considerable proportion; nor is it separable either by cupellation or quartation. Dr Wollaston has observed, that, among the grains of crude platinum, there are some scarcely distinguishable from the rest, but by their insolubility in nitro-muriatic acid. They are harder, however, when tried by the file, not in the least malleable, and of the specific gravity of 19.5. These he concluded to be an ore consisting entirely of iridium and osmium.

**IRIS**; daughter of Thaumass and Electra (daughter of Oceanus), the sister of the Harpies, and the fleet, golden-winged messenger and servant of the gods, especially of Jupiter and Juno, who, in reward of her services, as tradition runs, transported her to heaven, in the form of a rainbow. She is represented as a beautiful virgin, with wings and a variegated dress, with a rainbow above her, or a cloud on her head exhibiting all the colours of the rainbow. The physical appearance of the rainbow is the foundation of this fable, conformably with the custom of the Greeks. The rainbow was believed to draw vapours up to the clouds from the sea and land, and to drink up the rivers with the head of an ox. The ring of the eye, or the coloured circle around the pupil of the eye, is also called *iris*; and *iris-stones* are specimens of crystal or quartz, which exhibit the colours of the rainbow.

**IRIS, FLAG, or FLOWER-DE-LUCE**; a genus of plants comprising upwards of eighty species, remarkable for their pointed, sword-shaped leaves, and their large and beautiful flowers. They constitute one of the chief ornaments of the northern regions of the globe, and usually grow in wet places, bearing flowers of various colours, but the prevailing tint of which is blue. Nine species are natives of the United States, some of which possess active cathartic properties.

**IRKUTSK**; a Russian government in Asia, formerly containing two and a half million square miles, with a population of from 5 to 600,000 inhabitants. The present government, formed in 1823, is the eastern part of the former government; it contains 400,000 inhabitants, and reaches from 95° 40' E. longitude to the Northern Frozen ocean and the Pacific ocean, forming the Russian frontier towards China. The soil is chiefly sterile, the climate cold. The mountain chains Sayanskie and Stanovoi render the face of the country uneven. The seas of Kamtschatka and Okotsk, into which many promontories project, wash its coasts. In the warmest summer months only is navigation possible, and the communication with other countries is very much interrupted. The rivers are the Lena, Olonek, Anabara, Kolyma, Indigerka, which empty into the icy sea; the Anadyr, Kamtschatka, Argoun, Schilka, which empty into the Pacific ocean. The climate is various, but the winter is every where long. In the southern part, grain is raised, and some vegetables are produced in every district. The woods abound in bears; few cattle are raised; the reindeer are numerous, as are also sables, foxes, and sea-otters. Swarms of mosquitoes molest man and beast. The waters contain many salmon, which make part of

the food of the bears and wolra. The mineral kingdom is not destitute of precious metals, but they are little worked. The inhabitants are Russians, Tartars, Mongols, &c., in a low state of civilization. A circle of the government is also called Irkutsk, and the capital of both bears the same name. It was built in 1669, is situated on the Angara, and contains thirty-three churches, a theatre, several schools (a Japanese gymnasium, a garrison school, a seminary for priests, a printing-office, a library with 3000 volumes, &c.), soap boileries, manufactories of cloth, salt works, and has considerable commerce, as the entrepot for the fur trade with China. Population, 20,000. It is connected by its position with three commercial routes—that of Kiakta, that of eastern Siberia and Kamtschatka, and that of western Siberia and Russia. The commerce carried on here is valued at £180,000 annually. The furniture, ornaments, &c., from China, give this city a Chinese air. Lat. N. 52° 16' 41"; long. E. 104° 11' 41."

**IRMINSUL** (German *Irmensäule*); a statue worshipped by the ancient Saxons, which represented a man completely armed in the fashion of the ancient Germans, with a banner in his right hand and a lance in his left. This statue was then most sacred idol, and is said to have stood in a holy grove at Eresburg, a principal fortress of the Saxons (near the present Paderborn). Charlemagne demolished this fortress in 772, and with it that monument of antiquity. The history and meaning of the Irminsul is very obscure; according to common opinion, it was erected in honour of Hermens, the deliver of Germany (see *Arminius*); but it was probably the image of some distinguished divinity, perhaps of Woden himself, and the name of *Irmis* or *Hermann*, which signifies *man of war*, was attached to it, because Woden was the god of war.

**IRON** is the most valuable of all the metals. Though mentioned in the Pentateuch, we have reason to believe, from the facts that the fabrication of steel was unknown to the ancients, and that they were wholly destitute of metallurgical skill, that its uses were little known in the earlier periods of society. The Romans employed, as a substitute for it in their armour, an alloy of copper and tin. Its use has followed the progress of civilization in the world; and the amount of it consumed by any nation, at the present day, indicates very truly the degree of its advancement in the arts and sciences. The alchemical name of iron was *Mars*. In treating of this metal, we shall adopt the following order: its ores; their reduction to the metallic state; the chemical history of iron.

**Ores of Iron.** Iron exists in nature under four different states—the native state; that of an oxide, in combination with combustible bodies, particularly sulphur; and, finally, in the state of salts, as the sulphate, phosphate, and carbonate, of iron.

1. **Native Iron.** Natural malleable iron is a rare production of this globe, nearly all that has ever been found upon it having come to us from the atmosphere. It occurs in the form of a ramose stalactite, covered by brown, fibrous oxide of iron, mingled with quartz and clay, in a vein traversing a mountain of gneiss, near Grenoble, in France; also with spathic iron and heavy-spar, at Kamedorf, in Saxony. More recently, it has been found in three places in the United States—at Canaan, in Connecticut, Pennsylvania, and North Carolina; at the latter place, it was found loose in the soil, in a mass weighing more than twenty pounds. In neither of these cases was the iron perfectly pure. That from Saxony, besides 92.50 of iron, contained 6.0 of lead and 1.5 of copper; that of Canaan was slightly

intermingled with carbon, so as occasionally to lose its malleability, approximating it to the character of steel; and that of Pennsylvania was alloyed with 1.56 per cent. of arsenic. A piece, weighing 7 oz. from the large mass of North Carolina, was crystallized in the form of the regular octahedron, the surfaces of which exhibited a plated structure: it was examined for other metals without success, though its imperfect malleability left no doubt of its containing a small proportion of arsenic. The meteoric iron differs very considerably from the terrestrial, native iron, its colour is a light steel-gray, resembling platinum; it is easily cut with the knife, and it is flexible and perfectly malleable when cold. Specific gravity, 7.768. It occurs in large masses, sometimes of many tons weight, marked externally by impressions, like those produced by the hands and feet upon a soft, plastic mass; also in small globular and filiform masses, disseminated through meteoric stones. Occasionally, it presents imperfectly-formed octahedral crystals. A crystalline texture becomes visible, however, in cutting the large masses, and exposing the surfaces produced to the action of nitric acid, or allowing them to tarnish by heat. It invariably contains from 3 to 12 per cent. of nickel, and often traces of cobalt, neither of which metals have ever been found alloying terrestrial native iron. Meteoric iron is contained in all meteoric stones; in some, it exists in a very feeble proportion; in others, it forms one quarter of their weight; and again in others, it constitutes nearly the entire mass; while the largest masses of it ever found consist of it wholly, without the smallest mixture of foreign matters. In the two first-mentioned conditions, it has often been seen to fall from the heavens, while in the solid state, it never has been observed, by credible witnesses, to fall, but on one occasion, at Agram in Croatia. Some of the largest masses of meteoric iron known, are the following: that found by Pallas, in Siberia, weighing 1680 Russian pounds; that discovered by Rubin de Celis, in the district of Chaco-Gualambia, in South America, and which weighs 15 tons; and that found near Red River, in Louisiana, weighing 3000 pounds, and which is now deposited in the collection of the lyceum of natural history in New York. Besides these, other very considerable pieces have been noticed in Africa, Mexico, and Bohemia. Meteoric iron has been worked, as an object of curiosity, into knives, swords, and other instruments. For additional particulars concerning meteoric iron, and its origin, see *Meteoric Stones*.

2. *Magnetic Iron Ore, or Oxydulated Iron*, is of an iron-black colour, more intense than belongs to metallic iron; its powder is of a pure black. It occurs crystallized, in the form of the regular octahedron, which is its fundamental form; it usually, however, presents itself in large lamelliform masses, with distinct octahedral cleavages, in granular concretions, or compact. It is brittle, has the hardness of feldspar, and a specific gravity of 5.094. It exerts a decided action on the magnetic needle; and certain specimens, especially of a compact variety, attract and repel, alternately, the poles of a needle, according as we present the same point of a fragment of the ore to one or the other of the extremities of a needle. This variety, which is found in several countries, is called *native loadstone*. Its magnetic virtue strengthens by exposure to the air. The magnetic iron consists of 28.14 protoxide of iron, and 71.86 of peroxide of iron. It is infusible before the blowpipe, but assumes a brown colour, and loses its attractive power, after having been exposed to a great heat. It is soluble in nitric acid, and may be obtained crystallized by fusing it, as often happens in

the roasting of it, in furnaces, to effect its reduction. It occurs in primitive rocks, chiefly in gneiss, mica-slate, hornblende-slate, and chlorite slate, and rarely in limestone, when it forms veins, beds, or even entire mountains. It also composes the chief ingredient of certain sands, which have been washed and deposited by the same currents which separated it from its original beds. The different varieties of this ore are exceedingly rich in metal, often yielding eighty per cent. of iron, and are every where explored, when found in sufficient quantities, and connected with abundance of fuel and facility of transportation. In Sweden, it forms the object of numerous important explorations, among which may be cited that of the mountain of Taberg, near Jonkoping, in Smoland, where it is so abundant as to be worked under the open sky; that of the island of Utöe, where excavations extend to a great distance under the contiguous sea; that of Dannemora, in Upland, which is at present under the control of the British; that of Gallivara, beyond the polar circle, where the ore forms an entire mountain; and, finally, those immense deposits of ferruginous sand which are so extensively wrought in Dalecarlia, in Smoland, and in Wermeland. The oxydulated iron is also explored at several places in Siberia, Piedmont, and the kingdom of Naples. In the United States, it exists in the greatest abundance, and is wrought at numerous localities. The primitive range of mountains upon the western side of lake Champlain, affords numerous veins and beds of it, sometimes more than twenty feet in thickness, and little intermingled with foreign substances. The principal works for its reduction are at Peru, and near Crown Point. A valuable deposit of the compact magnetic iron, precisely similar to that worked at Dannemora in Sweden, occurs at Franconia in New Hampshire, and is worked extensively at Munroe, Hamburg, and many other places. The present ore forms the best iron which is made for the manufacture of steel; and hence the employment of Swedish iron by the English for this purpose.

3. *Chromated Oxide of Iron (Chromate of Iron)* is found crystallized in regular octahedra, and massive. Lustre, imperfectly metallic; colour, between iron-black and brownish-black; streak, brown; opaque, brittle; hardness, the same with the preceding species; specific gravity, 4.498. Vauquelin and Klaproth make it consist of

Oxide of chrome, . . . . .	43.00 . .	55.50
Protoxide of iron, . . . . .	34.70 . .	33.00
Alumina, . . . . .	20.30 . .	6.00
Silica, . . . . .	2.00 . .	2.00

Alone, before the blowpipe, it is infusible, but acts upon the magnetic needle, after having been exposed to the reducing flame. It is dissolved when heated with borax, to which it imparts a beautiful green colour. It was first found in the department Du Var, in France, in the form of nodules and kidney-shaped masses. It was afterwards discovered in Stiria and Scotland; at the former place, imbedded in serpentine, at the latter, in limestone. In the United States, it exists abundantly in Maryland, near Baltimore; also, in small quantities, in Connecticut, near New Haven, in limestone, with serpentine. It is a highly valuable mineral, when it occurs in quantity, for extracting the oxide of chrome, which is employed either alone or in various combinations with the oxides of other metals, as cobalt, lead, mercury, &c., both for painting on porcelain, and for painting in oil. The quantity of chromate of lead, or chrome yellow, manufactured in Baltimore annually, is estimated at 50,000 pounds. See *Chrome*.

4. *Specular Iron Ore, and Red Iron Ore*. This species, scarcely less interesting than the last in economical importance, presents many difficulties to the

mineralogist, in consequence of the complicated forms of its crystals, and the diversified appearance of its compound varieties. It is crystallised in a great number of forms, whose fundamental figure is a slightly acute rhomboid of  $86^{\circ} 10'$  and  $93^{\circ} 50'$ , which may be derived from its crystals by cleavage. The general tendency of its secondary forms is to hexagonal prisms and irregular octahedra. Lustre, metallic; colour, dark steel-gray, iron-black; streak, cherry-red, or reddish brown; surface of the crystals frequently tarnished; opaque, except in very thin laminae, which are faintly translucent, and show a deep blood red colour; brittle; hardness, the same with the preceding species; specific gravity, 5.251. Its action upon the magnet is feeble; it never attracts iron filings, or offers magnetic polarity. Besides occurring in distinct crystals, and in lamelliform and compact masses, with a metallic lustre, it also presents itself in reniform, botryoidal, and stalactitic shapes, and earthy-looking masses, where, from the smallness of the individuals, no signs of the metallic appearance are discernible. These varieties have received distinct names, and have often been treated of, in mineralogical systems, as belonging to a distinct species, which, on account of their colour, has been designated *red iron ore*. But this distinction is now given up, as an uninterrupted transition has been noticed between all the varieties of the red iron ore and the crystalline specular iron. The following are some of the varieties of the present species, according as they have acquired distinct appellations in mineralogical books, and among mankind in general: that in distinct crystals is called *specular iron*; that in thin, lamellar concretions, with a metallic lustre, is called *micaceous iron*; the rest, with a metallic lustre, is denominated *common specular iron*. Those varieties which have lost their metallic appearance, are included within, 1, the red iron ore, divided into *fibrous red iron ore*, or *red hematite*; *compact and ochrey red iron ore*, which are massive, and consist of impalpable granular individuals, more or less firmly connected; and *scaly red iron ore*, or *red iron froth*, consisting of very small, scaly, lamellar particles, which, in most cases are but slightly coherent: 2. clay iron ore, divided into *reddle*, which possesses an earthy, coarse, slaty fracture, and is used as a drawing material; *jaspers*, clay iron ore, which has a large, flat, conchoidal fracture, and considerable hardness when compared with the other varieties of red iron ore; and *columnar and lenticular clay iron ore*, which are distinguished, the first by the columnar form, the latter by the flat-tish, granular form of its particles. The micaceous iron, analysed by Bucholz, and the red hematite, analysed by D'Aubuisson, have been found to consist of

Peroxide of iron,	100.00	90.00	94.00
Oxide of manganese,	0.00	a trace	a trace
Silica,	0.00	2.00	2.00
Lime,	0.00	a trace	1.00
Water,	0.00	2.00	3.00

The proportion of metal to that of oxygen, in the species, is as 69.34 : 30.66. The clay iron ores, being more or less mixed with earthy substances, vary in their contents, and several of their properties are dependant upon the nature of these admixtures. The specular iron is infusible before the blowpipe, but melts with borax, and forms a green or yellow glass, like pure oxide of iron. It is likewise soluble in heated muriatic acid. The specular iron (in the crystalline, lamelliform, and compact varieties, with a metallic lustre) forms very powerful beds, and even entire mountains, which are traversed by a multitude of fissures, and cavities lined with small, but exceedingly brilliant crystals of this substance. It yields,

in the ordinary operations of reduction, sixty per cent. of metal. Its most celebrated locality is the island of Elba, which has afforded iron for sixteen centuries. Its mines are still believed to be inexhaustible. They annually yield 32,000,000 of French quintals of ore, which are transported for reduction into Tuscany, the Roman states, Liguria, and the kingdom of Naples. It is also found at Framont in the Vosges (where its exploration occupies 200 miners), in Saxony, Bohemia, Sweden, Siberia, and in the United States of America. Wherever it exists, it is explored with profit. It deserves to be mentioned, also, that specular iron, in exceedingly brilliant crystals and scales, occurs very frequently among the ejected matter of volcanoes, as in the lavas of Vesuvius and Auvergne, where it is, undoubtedly, a product of sublimation. The red hematite is found in beds and veins, in primitive and secondary countries. It occurs abundantly in Saxony, the Harz, Silesia, and in England. It affords excellent iron, and often in the large proportion of sixty per cent. Most of the plate iron and iron wire of England are made of it. In Scotland, it is used, along with the ore of that country, at the Carron and Glasgow works. The ochrey red iron ore usually accompanies the other varieties of this species, and is treated conjointly with them. In places where it is found in considerable quantities, it is sometimes collected, washed, and employed as a polishing substance. The compact red iron ore is found in France and some other European countries, where it is reduced, and affords a good soft iron, yielding fifty per cent. of metal. But its most important use is as a polisher. It forms, when perfectly compact, the burnisher of the button-maker, by means of which he imparts to gilded buttons the highest polish of which they are capable. The best specimens for button-polishers command a very high price, and usually come from little pebbles and rolled masses of this ore, found in secondary countries. The following table exhibits a mineralogical analysis of nine specimens of iron ore found in the district of Clydesdale.

	(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)
Water	22.52	0.19							
Carbon	32.63	31.06	30.76	35.20	33.18	36.39	30.17	30.57	
Protoxide of iron	35.23	45.94	43.15	35.96	36.77	47.33	42.72	40.08	40.09
Protoxide of manganese	0.00	0.23	0.00	0.07	0.17	0.12	0.00	0.00	
Lime	0.00	1.90	4.93	3.30	1.97	2.90	0.16	0.00	0.72
Magnesia	0.19	3.90	4.10	6.70	2.70	2.30	3.77	1.37	3.77
Silica	0.36	9.72	10.57	19.30	0.62	0.70	1.40	0.00	0.00
Alumina	5.24	2.53	3.77	6.30	0.00	4.30	1.10	0.00	0.00
Peroxide of iron	1.16	0.00	0.00	0.20	0.00	0.00	0.47	0.00	0.00
Calcium or bituminous matter	2.13	1.00	2.22	1.57	2.10	1.70	1.30	2.00	0.00
Sulphur	0.00	0.00	0.00	0.10	0.00	0.00	0.00	0.00	0.00
Moisture and loss	-	-	-	-	1.91	2.30	2.30	1.47	1.00
	100.37	100.00	100.37	101.95	100.00	100.00	100.00	100.00	100.00

(a) From Crossbasket, about seven miles south-east from Glasgow. Colour light grayish, or greenish-black. Fracture fine-grained even to coarse-grained, uneven, very easily frangible, soft, easily scratched by the knife. Specific gravity taken in distilled water at the temperature of  $69^{\circ}$  - 3.1720.

This is the highest and also the least valuable of the Crossbasket strata of ironstone, which are at present raised for the use of the blast furnace. The thickness of the stratum is from three to three and a half inches.

(b) From Crossbasket. Colour light grayish-black. Fracture fine-grained, earthy, slightly uneven. Rather tough, but particularly soft. Specific gravity 3.3001.

This ore is found at a distance of four feet under the ground. It constitutes a stratum of about nine inches in thickness, and is esteemed the purest and most valuable of the Crossbasket ores.

(c) From Crossbasket. Colour light grayish-black. Fracture fine-grained, earthy, slightly uneven. Rather tough, but more easily frangible, and softer than the last-mentioned ore. Specific gravity 3.2399. The average thickness of the stratum is from six to eight inches.

(d) From Crossbasket. Colour brownish-black. Fracture earthy, fine-grained, uneven. Easily frangible and soft. Specific gravity 3.1175.

This stratum of ironstone is situated next under that from which the preceding specimen was taken, and forms the lower

which is at present wrought at Crossbasket. It varies in thickness from ten to fourteen inches. Both it and the preceding are reckoned of good average quality. This ore furnishes a curious instance of the rapacious and seemingly unaccountable alterations that are liable to take place in every chemical manufacture, whose fundamental principles are little understood, and in some, perhaps, does this happen more frequently than in the smelting of iron. Although it forms the thickest of all the Crossbasket strata, and therefore holds out powerful inducements, in an economical point of view, to the iron smelter, it was at one period regarded at the Clyde iron-works as an ironstone totally unfit for the manufacture of good iron; and having once received an unfavourable character, it was allowed to remain unworked for a long course of years. It is only of late that its employment has been again resumed; but, so far from being held in low estimation, it is now considered to be little inferior in quality to any of the Crossbasket ores, and is used very extensively in the blast furnace.

Immediately above this stratum there is situated a bed of schist, containing a regular stratification of very large nodules of ironstone. Being extracted by the miner simultaneously with the subjacent ore, they are used to a considerable extent in the blast furnace, and are esteemed an ironstone of uncommon quality. The black bituminous substance which occurs sporadically in nodular ironstone, exists very generally distributed throughout this stratification of schist.

(e) A specimen found in the neighbourhood of Clyde iron-works, which are situated about four miles south-east from Glasgow. Its mineralogical details are the following:—Colour pale, between brocoli-brown and clove-brown. Fracture rather fine-grained, uneven. Not particularly hard, easily scratched by the knife. Specific gravity 3.1482. The thickness of the stratum is about two inches and a half. It is considered at the works to be an ore of a very inferior quality, and is seldom smelted.

Immediately above this ore there is situated a bed of schist, which contains an immense number of petrifications of different kinds of bivalve shells: they consist of a very pure ironstone, resembling in appearance the subjacent land.

(f) Their forms are remarkably perfect, and they contain no visible remains of the original shell.

(f) As ore lying under the last-mentioned stratum, and in close contact with it. Colour between yellowish-grey and hair-brown. Fracture fine-grained, earthy, even. Rather hard; scratched with some difficulty by the knife. Specific gravity 3.1100. The stratum to which it belongs is situated above the splint coal, with the intervention of only four inches of schist, and both minerals are therefore worked out together with great advantage to the smelter. It is the most valuable ore in all the beds around Glasgow, except that called the *black ironstone*, which is at present smelted at the Clyde iron-works. The thickness of the stratum is between one and a half and two inches.

(g) This specimen was procured from Easterhouse, near the line of the Monkland canal, and about six miles east from Glasgow. Colour clove-brown. Fracture fine-grained, rather uneven. Somewhat tough and hard, but easily scratched by the knife. Specific gravity 3.3109.

This ore exists in precisely the same relative situation, with regard to all the other accompanying minerals, as the two ores from the Clyde iron-works, which have just been described; and wherever it makes its appearance, it seems to have been produced by the concurrence of these two strata. This compound stratum has always a uniform texture and composition throughout. Its average thickness is two and a half to three inches. It is used pretty extensively in the blast furnace, and is esteemed an ore of good average quality.

(h) From the neighbourhood of Airdrie, about ten miles east from Glasgow. Colour clove-brown, the intensity of the shade varying considerably in streaks which are parallel to the direction of the stratum. When reduced to powder the colour is brown. Fracture fine-grained, earthy, rather uneven. Tough, and difficultly powdered; communicating a feeling of elasticity under the pottle. Rather hard; scratched by the knife. Adheres slightly to the tongue, a property which did not appear to be possessed in a sensible degree by any of the ores already described. Specific gravity 3.0553. Numerous bivalve shells, of a pale wood-brown colour, occur scattered through the mass of the ore, and form a strong contrast with its darker shade. This is one of the most valuable iron ores of Scotland, where it is familiarly known under the name of *black ironstone* or *Musket's black sand*. The latter appellation has been given from the circumstance that it was first smelted by Mr Musket, to whom we have already referred as the metallurgist most distinguished for his practical skill.

It lies about fourteen fathoms below the fifth Glasgow coal-bed, or splint coal, and constitutes a layer about fourteen inches in thickness. It is remarkable that it has hitherto been found nowhere except in the neighbourhood of Airdrie; although several attempts have been made in other localities to reach it by boring. At the Clyde iron-works, it is justly regarded as the richest and most valuable ore which they at present possess.

(i) From a stratum situated in the vicinity of Crossbasket. Colour bluish-grey. Fracture, in the great, even; in the small, very fine-grained, earthy; rather hard.

The foregoing table and remarks are taken from Dr Colquhoun's paper, in Brewster's *Edinburgh Journal* for 1827-8.

5. *Hydrous Oxide of Iron, and Brown Iron Ore.* The present is a species nearly parallel to the foregoing, in the quantity of iron it affords to society.

It is very rarely observed in distinct crystals, more usually occurring in botryoidal and stalactitic masses, consisting of closely aggregated fibres, in which respect it resembles the most common varieties of the specular iron. The crystals are very small, externally black and brilliant, and in the shape of right rectangular prisms. The general character of the species is as follows: lustre, adamantine; colour, various shades of brown, of which yellowish-brown, hair-brown, clove-brown, and blackish-brown are the most common; streak, yellowish-brown; brittle; no action on the magnet; scratched by feldspar; specific gravity, 3.922. Besides occurring in crystals, and in globular stalactitic and fruticose shapes, it is found in masses whose composition is impalpable; sometimes also, the particles are so slightly coherent, that the mass appears earthy and dull. It differs, chemically, from the specular iron, in containing a quantity of water, not merely interspersed through its substance by simple absorption, but intimately combined with it by chemical affinity. According to D'Aubuisson, it consists of (in two analyses)

Peroxide of iron, . . . . .	82.00 . .	84.00
Water, . . . . .	14.00 . .	11.00
Oxide of manganese, . . . . .	2.00 . .	2.00
Silica, . . . . .	1.00 . .	2.00

the proportion of peroxide of iron and water being as 85.30 to 14.70. Before the blowpipe, it becomes black and magnetic. It melts, with borax, into a green or yellow glass, and is soluble in heated nitromuriatic acid. The division introduced among the varieties of the present species, is somewhat similar to that which has been given to red iron ore. *Crystallized hydrous oxide of iron* embraces the small black crystals, which sometimes occur in fibrous and radiating bundles. *Crystallized brown iron ore* is that variety which presents itself in the form of the cube, rhomboid, or some modification of these forms, and does not properly belong to this species, being decomposed varieties of iron pyrites and spathic iron, to which they are more correctly referred. The *fibrous brown iron ore*, or *brown hematite*, contains the fibrous varieties, in stalactitic, reniform, and other imitative shapes. *Compact brown iron ore* comprehends those imitative shapes and massive varieties, in which the composition or fibrous structure is no longer observable; while *ochrey brown iron ore*, or *bog iron ore*, is applied to those which have an earthy texture and are friable. As impure varieties of the species, we must consider some of the clay iron ores, such as the *granular*, the *common*, the *pisiform*, and the *reniform* clay iron ore. The granular variety is composed of compact, roundish, or globular masses; the reniform one, of alternating coats, of different colour and consistency, disposed in a reniform surface. In the pisiform variety, we meet with a similar composition, only in small globules, parallel to the surface of which the lamellæ are disposed. The compact pisiform clay iron ore, however, does not belong to the present species, but it is decomposed iron pyrites, as is demonstrated, not only by the crystalline forms which it affects, but likewise from the nucleus of the undecomposed pyrites, which the largest specimens of it often embrace. The crystallized hydrous oxide of iron is found, in limited quantities, in England, France, and Siberia; it either occurs in quartzose geodes, in the form of mamillary masses, or is enclosed in quartz crystals. The fibrous brown iron ore is the most abundant and widely dispersed of all the varieties of this species. It is commonly found in large beds, in gneiss or mica-slate, and very frequently in immediate connexion with granular limestone. It is also found in Saxony and Thuringia, in beds and veins, embraced, in some instances, in newer rocks. It is uncommon in the northern countries of Europe;

but in Germany, France, and the Austrian dominions, it is wrought in great abundance. Its most remarkable deposit in the United States, is at Salisbury in Conn., where it has been wrought for nearly 100 years; the amount of pig iron yielded annually, at present, is about 2000 tons. The iron which this variety affords is superior in malleability to that yielded by the red ore of iron, and is much esteemed, also, on account of its toughness and hardness. The pig iron obtained from melting its purer varieties with charcoal, in particular, may be easily converted into steel. The compact variety of this species is usually found in the same localities with the fibrous hematite, and is equally employed with that variety for obtaining iron. The ochrey brown iron ore, or bog iron ore, is the most recent in its formation of all the ores of iron, its deposition being continually going on, even now, in shallow lakes and in morasses. It is wrought in all countries, more or less extensively; but the iron it yields is chiefly used for castings. The pisiform clay iron stone occurs imbedded in secondary limestone, in large deposits, in France and Switzerland, where it supplies considerable iron works; but the iron, like that from the other earthy varieties of the present species, is generally too brittle to be wrought into bar-iron.

6. *Arsenical Iron*, or *Mispickel*, is found crystallized in right rhombic prisms of  $111^{\circ} 12'$  and  $68^{\circ} 48'$ . These are often terminated by dihedral summits, and liable to a large number of modifications. It also occurs massive. Lustre, metallic; colour, silver-white, inclining to steel-gray; streak, dark grayish-black; brittle; hardness, nearly that of feldspar; specific gravity, 6.127. Its chemical composition is, iron 33.5, arsenic 46.5, and sulphur 20. Before the blowpipe, upon charcoal, it emits copious arsenical fumes, and melts into a globule, which is nearly pure sulphuret of iron. It is soluble in nitric acid, with the exception of a whitish residue. It sometimes contains a small proportion of silver; when it is denominated *argentiferous arsenical pyrites*. Arsenical iron is a pretty abundant substance, and occurs both in beds and veins, often accompanied by ores of silver, lead, and zinc. It is very plentiful in the mining districts of Saxony, in the silver mines of Joachimsthal, and the tin mines of Schlaggenwald, the Harz, Sweden, Cornwall, the United States, &c. The accidental admixture of silver renders some varieties of the present species useful as ores of that metal. The common arsenical pyrites, when occurring in large quantities, is employed in the manufacture of white arsenic and of realgar.

7. *Axotomous Arsenical Pyrites*; a species differing from the preceding in the inclination of the lateral faces, which, in the present case, meet under angles of  $122^{\circ} 26'$  and  $57^{\circ} 34'$ , and in specific gravity, which in this species is 7.228. It has not yet been analyzed, but is believed to consist wholly of iron and arsenic. It has been found in beds, in primitive mountains, in Carinthia, Silesia, and Stiria.

8. *Iron Pyrites* is the most universally distributed of all the ores of iron, and, from its yellow colour and metallic aspect, is the substance which is so frequently mistaken, by ignorant people, for gold. It is not uncommon to find it regularly crystallized, though the dimensions of the crystals are rarely such as to render them very conspicuous. The prevailing figure among its crystals is the cube, parallel to whose faces they may be cleaved, as also parallel to the sides of the regular octahedron. The last is assumed as the primitive form of the species by most mineralogists, as leading to an explanation of the numerous secondary forms with the greatest simplicity. The most frequent of these secondaries are the cubo-octahedron, the pentagonal-dodecahedron, and the jesi-

tetrahedron. The surfaces of the crystals are sometimes smooth, and sometimes alternately striated. Fracture, conchoidal, uneven; lustre, metallic; colour, passing through a few shades of a characteristic bronze yellow; streak, brownish-black; brittle; hardness, such as to be impressed with the knife, and scratched by feldspar; specific gravity, 4.98. The crystals are liable to be much grouped, often penetrating each other so as to form globular masses. It occurs, also, in granular, columnar, and impalpable masses; and often cellular, in consequence of forming upon crystals of galena, which have subsequently become decomposed. Iron pyrites consists of iron 45.74, and sulphur 54.26. In the exterior flame of the blowpipe, it becomes red upon charcoal, the sulphur is driven off, and oxide of iron remains. In heated nitric acid, it is partly soluble, and leaves a whitish residue. Some varieties are subject to decomposition, when exposed to the action of the atmosphere. With regard to its geological relations, much diversity obtains; it constitutes beds by itself of considerable magnitude, in gneiss, mica-slate, and primitive argillite, and is often an important ingredient of those beds which contain ores of lead, iron, copper, &c. It is frequently mixed with coal seams and the beds of clay which accompany them. It is also met with, in considerable quantities, in veins, associated with blende, arsenical iron, galena, and copper pyrites. It is found, likewise, with ores of silver, and is contained in many organic remains, both of vegetable and animal origin. Its localities are too numerous to admit of being noticed with particularity. Some of the most beautiful crystallizations which adorn mineralogical cabinets, are brought from the island of Elba, Piedmont, Saxony, Harz, Norway, and Cornwall. Vast deposits of iron pyrites, intermingled, in some instances, with magnetic iron pyrites, are found in the United States, and also abound in the gold region of the Southern States, being wrought extensively in many places for the sake of the gold mechanically mixed with it, from the presence of which it receives a golden-yellow tinge. The uses of this species are as follows: it is roasted for extracting sulphur; after having been exposed to the oxidizing influence of the atmosphere, it yields sulphate of iron, or copperas, and sulphuric acid; the remaining oxide of iron is used as a coarse pigment; it is an important agent in several metallurgical operations, and was formerly considerably employed instead of flints in gunlocks, from whence the name *pyrites* was derived.

9. *White Iron Pyrites* differs from the preceding species in its crystalline characters, as well as in some other respects, though, in chemical constitution, the two appear to be perfectly identical. Its crystals are in the form of modified rhombic prisms, and of very flat crystals, having the appearance, at first sight, of dodecahedrons with triangular planes, but which, however, are macles, consisting of similar portions of five crystals. The primary form is a right rhombic prism, of about  $100^{\circ}$  and  $73^{\circ}$ , parallel to the planes of which it yields to mechanical division. The faces of the crystals are deeply striated, in a vertical direction. Lustre, metallic; colour, pale bronze-yellow, inclining to gray; streak, grayish-black; hardness, equal to that of feldspar; specific gravity, 4.67. It occurs massive, and in various imitative shapes, in consequence of which, and the composition of its crystals, it has been distinguished into several varieties, as *radiated pyrites*, *spoor pyrites*, *cock's comb pyrites*, *hepatic pyrites*, and *cellular pyrites*. Before the blowpipe, it behaves like common iron pyrites. Some of its varieties are peculiarly subject to decomposition. It is less frequently met with in nature than the preceding species, though very often found accompanying it. It occurs

more frequently in rocks of the coal formation, and in strata of clay. Its principal localities are in France, Bohemia, and Hessa. It is useful for the manufacture of sulphur, sulphuric acid, and coppras.

10. *Magnetic Iron pyrites* is rarely seen in well formed crystals. Count Bourmon describes it as occurring in irregular six-sided prisms. In general, it is massive and foliated, or fine granular. Lustre, metallic; colour, intermediate between bronze-yellow and copper-red; streak, dark grayish-black; subject to tarnish; slight action on the magnet; brittle; hardness, considerably inferior to that of common iron pyrites, or that of white iron pyrites; specific gravity, 4.63. It consists of iron 62.77, and sulphur 37.23. It occurs in beds, along with other minerals, usually in primitive rocks. It exists plentifully at Bodenmais, in Bavaria, and several districts of Stiria. In the United States of America, it occurs in quartz, along with blende, galena, tungsten, and along with iron pyrites. Its uses are the same as have been mentioned in connexion with the other species of iron pyrites.

11. *Phosphate of Iron, or Vivianite*, occurs crystallized, in the form of a right oblique-angled prism of  $125^\circ 18'$  and  $54^\circ 42'$ , which is that of the primary crystal. The crystals are long and slender for the most part, though generally very small. They are attached to their gangue by one of their broad lateral planes, or occur in aggregated groups. Lustre, pearly, approaching to metallic on certain faces; on others, vitreous; colour, pale blackish-green; sometimes approaching indigo-blue; streak, bluish-white; the powder produced by crushing the mineral in a dry state is liver-brown; translucent, and rarely transparent; sectile; thin laminae are flexible; specific gravity, 2.66. It also occurs massive, in small, reniform and globular shapes, and imbedded nodules; also in superficial coatings of dusty particles. The earthy varieties are dull, opaque, meagre to the touch, and light. Their colour, on first exposure to the light, is grayish, yellowish, or greenish-white, or some pale tinge of blue; but it soon passes to a dark indigo-blue. In two varieties of vivianite (a friable one analysed by Klaproth, and a crystallized one from Bodenmais in Bavaria, by Vogel), the following chemical composition was discovered:—

Protoxide of iron, . . . . .	47.50	. . .	41.00
Phosphoric acid, . . . . .	32.00	. . .	26.40
Water, . . . . .	20.00	. . .	31.00

It decrepitates before the blowpipe, but melts, if first reduced to powder, into a dark-brown or black scoria, which moves the magnetic needle. It is soluble in dilute sulphuric and nitric acids. It occurs in a variety of geological situations. The crystals are found in copper and tin veins, and sometimes in greywacke accompanying native gold; also in basalt and trap rocks. The earthy and massive varieties are imbedded in clay, and often accompany bog iron ore. The crystalline varieties come from Cornwall and Bavaria; the foliated and earthy varieties abound (especially the former) in the United States of America. It is confined to argillaceous and ferruginous deposits, and is sometimes found in connexion with bones, and very usually filling up the casts of belemnites and other fossils. The earthy vivianite is sometimes employed as a pigment.

12. *Arseniate of iron* occurs in small cubic crystals, which are either unmodified, or have their alternate angles or their edges truncated. Lustre, adamantine, not very distinct; colour, olive-green, passing into yellowish-brown, bordering sometimes upon hyacinth-red and blackish-brown, also into grass-green and emerald-green; streak, similar to the colours; translucent on the edges; rather sectile; scratched by

fluor; specific gravity, 3.00. According to two analyses, it consists of

Oxide of iron, . . . . .	45.50	. . .	48.00
Arsenic, . . . . .	31.00	. . .	18.00
Oxide of copper, . . . . .	9.00	. . .	0.00
Silica, . . . . .	4.00	. . .	0.00
Carbonate of lime, . . . . .	0.00	. . .	2.00
Water . . . . .	10.50	. . .	32.00

Exposed to a gentle heat, its colour is changed into red. In a higher degree of temperature, it intumesces, gives little or no arsenic, and leaves a red powder. Upon charcoal, it emits copious fumes of arsenic, and melts in the inner flame, into a metallic scoria, which acts upon the magnetic needle. It principally occurs in veins of copper ores, traversing the older rocks, and its chief localities are Cornwall and Saxony.

13. *Carbonate of Iron, or Spathic Iron Ore*, occurs crystalline and massive. Its crystals are acute rhomboids, sometimes perfect, or only having the terminal angles replaced, six-sided prisms, and lenticular crystals. They are very easily cleavable, yielding obtuse rhomboids of  $107^\circ$  and  $73^\circ$ . Lustre, vitreous, inclining to pearly; colour, various shades of yellowish-gray, passing into ash and greenish-gray, also into several kinds of yellow, white and red; streak, white; translucent in different degrees; brittle; hardness, nearly identical with that of fluor; specific gravity, 3.829. It occurs massive, in broad, foliated and granular masses; also in fibrous botryoidal shapes, whence it has received the name of *sphaeroiderite*. Two varieties of this species, 1. the *sphaeroiderite*, and 2. a cleavable variety from Newdorth in the Harz, have yielded to Klaproth, (1.) (2.)

Protoxide of iron, . . . . .	63.75	. . .	47.50
Carbonic acid, . . . . .	34.00	. . .	36.00
Oxide of manganese, . . . . .	0.75	. . .	3.30
Lime, . . . . .	0.00	. . .	1.25
Magnesia, . . . . .	0.52	. . .	0.00

Before the blowpipe, it becomes black, and acts upon the magnetic needle, but does not melt. It colours glass of borax green. It is soluble with difficulty in nitric acid, particularly if not reduced to powder. On being exposed to the air, it is gradually decomposed: first the colour of the surface becomes brown or black; afterwards, also, the streak is changed into red or brown; hardness and specific gravity are diminished; and even the chemical constitution is altered, the whole being converted into hydrate of iron. It frequently occurs, along with carbonate of lime, in veins and beds, in primitive rocks; also in metalliferous veins, accompanied by galena, gray copper ore, and iron and copper pyrites. Immense beds of it exist in Stiria and Carinthia, as well as in France, Switzerland, and Siberia. In the United States of America, there is a vein of it at New Milford in Connecticut, crossing, with the breadth of six feet, an entire mountain. In France, Stiria, and Carinthia, large quantities of cast and wrought iron are obtained from the sparry iron ore, but particularly steel, for the production of which it is highly valuable.

14. *Oxalate of Iron, or Humboldtine* is an ore of iron found near Berlin, in Bohemia, in a moor-coal, or friable lignite. It consists of protoxide of iron 53.56, and oxalic acid 46.14. It is supposed to owe its origin to the decomposition of succulent plants. It occurs in small flattish masses, of a light yellow colour; is soft, yielding to the nail, and of the specific gravity of 1.3. By rubbing, it acquires resinous electricity. It decomposes easily on live coals, giving out a vegetable odour. It is insoluble in boiling water and alcohol.

15. *Sulphate of Iron or Coppras*. This salt is not frequently found in nature, in distinct crystals, but usually occurs in stalactitic, botryoidal and reniform masses, and occasionally pulverulent. The

crystals are in the form of right oblique-angled prisms, considerably modified by replacements; fracture, conchoidal; lustre, vitreous; colour, several shades of green passing into white; streak, white; semitransparent and translucent; brittle; hardness, that of gypsum; specific gravity, 1.83; taste, sweetish-astringent and metallic. It consists of

Oxide of iron, . . . . .	25.7
Sulphuric acid, . . . . .	28.9
Water, . . . . .	45.4

It is easily soluble in water, and the solution becomes black on being mixed with tincture of galls. If exposed to the open air, it soon becomes covered with a yellow powder, which is persulphate of iron. Before the blowpipe, it becomes magnetic, and colours glass of borax green. In most instances, it is produced by the decomposition of other minerals, particularly of iron pyrites and magnetic iron pyrites; and the crystallised varieties are rarely found, except in those places where artificial heaps of these substances have been formed. It is also found incrusting slate rocks, and dissolved in the waters of certain mines.

*Treatment of the Ores.*—Of the fifteen species of iron ore just described, but four are employed for obtaining metallic iron and steel, viz., magnetic iron ore, specular iron ore, brown iron ore, and carbonate of iron. The metallurgical details belonging to the treatment of these ores, cannot be described within the limits of the present work.

When the iron stone lies in a stratum or vein between two strata of clay, not more than thirty feet below the surface of the earth, it is obtained by sinking a pit, at first, of a diameter of eight feet, and deepened until the ore is reached where the pit is undermined, until the diameter at the bottom becomes twice that at the top. When all the ore is taken out of this pit, another is dug similar to the first, and near it; so that when the second pit is excavated, the bottom of the two will meet. In digging the second pit the earth is thrown into the first, and thus one pit is made and another filled, until the whole vein is exhausted. When the iron stone lies deeper it is extracted in the same way as coal, and as they frequently occur in the same district, one engine serves to drain and draw for both ore and coal.

The first step after the ore has been taken from the vein, is to calcine the stones; a process technically called *roasting*. This consists in the application of a moderate heat, whereby the more volatile components of the ore, such as sulphur, arsenic, &c. are expelled. This is effected by spreading upon the ground a stratum of coals to a depth of about eight inches, ten feet long, and eight broad; over which is laid a layer of iron stone, to a depth of about six feet, interspersed with small cinders and coke dust, and covered with small coals. The coals being set fire to, combustion will go on for nearly a month, when the cementation is completed. It is not uncommon to perform the roasting process in a kiln, the coal and iron stone being put in at the top, and the roasted ore taken out at the bottom. Care is requisite in conducting the process of roasting, for if the heat be too intense, or too long applied, then will the metal partially melt and the pieces cake together, and if on the other hand the heat be too little, all the extraneous matter, such as the water, sulphur, &c., will not be expelled, when the iron stones must be thrown aside, as unfit for the future processes in the manufacture. The iron stone of this country usually contains a sufficiency of carbonaceous matter to carry on the roasting after the fuel has been ignited; but the ores of the continent contain less carbon, and therefore require proportionally more fuel for their

cementation. On the continent and in America, iron ore is most commonly roasted with wood and charcoal. When the roasting is performed with charcoal alone, a layer of the ore is laid on the ground, then a layer of charcoal, and so on alternately, the iron stone layers being each about nine inches, and the charcoal about six, until the height of the bed be seven feet. It is better, however, to lay a stratum of wood below the ironstone. When the roasting is completed, the ore becomes friable, rough to the touch, not at all vitreous, but full of fissures. The ore by the power of cementation, sustains a loss of weight of from twenty to fifty per cent.; according to the quality of the ore. The iron stones thus prepared are called by the workmen *mine*.

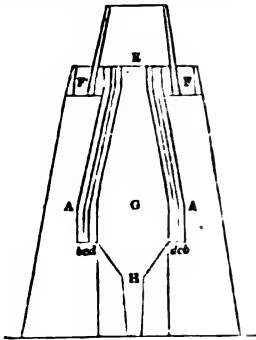
The next operation is the conversion of the roasted ore into metal, by the application of strong heat in a furnace; which process is called *smelting*. As will be readily understood after what we have said on the ores of iron, they commonly consist of an oxide of the metal combined with some earthy matter, in very various proportions. If these ores were fused alone, the chemical student will at once perceive, that they would be formed into glasses, the properties of which will vary with the composition of the ore, but retain no metallic character. The method of proceeding, therefore, must be to intermix the iron stones with such substances as during the process of fusion, will combine with the oxygen and earthy matter of the ore, and leave the metal free. From the great affinity of carbon for oxygen, forming carbonic acid gas, charcoal, or some other carbonaceous substance, is selected as the proper substance for separating the metallic base from the oxygen; and the nature of the other substances to be employed in separating the earthy matter of the ore, will be determined by the species to which that earthy matter belongs. The earths mixed with the iron, may be either calcareous, silicious, or aluminous; these exist in different proportions, in different ores, and it should be the first object of the iron manufacturer, to select such earthy matter as a flux, that when combined with the earthy matter of the iron stone, a glass will be formed, and the metallic base of the ore left free. Sometimes the combination of several kinds of ore, will produce a congeries of earths that of themselves will form an excellent flux—but this, in the ordinary course of manufacture, never occurs, so that some flux, such as lime, is always employed.

The strong affinity of carbon for oxygen, as before remarked, points it out as the best substance for separating the oxygen from the iron. In Russia and Sweden, and even in some parts of England, charcoal is employed, and it undoubtedly is best for making that kind of iron that is to be formed into steel. For many years past, almost the only ore in Britain that has been smelted with charcoal, has been the red ore of Lancashire, which being extremely rich, the product of smelting can be calculated upon with certainty. The abundance of coal in this country, in those districts where iron stone is found, determines our iron makers to employ coke from its cheapness; coal when properly coked, yields a very considerable proportion of carbonaceous matter, and bears a strong resemblance to charcoal. When coke was first introduced instead of charred wood, it was made, by merely piling the coals in a heap, which being ignited, were allowed to burn until sufficiently coked, when they were covered with ashes and mud to prevent any further combustion. In many places in Wales, this plan is still pursued. From thirty to forty tons of coals, are piled in a heap, as loose and open as possible. Small coals being spread on the surface to give a level appearance. It is then ignited

in various places, and allowed to burn till the whole surface is in combustion; when it is covered with the ashes of a former fire, and left to go out. The coke is made harder and more pure, when the cooling of the heap is quickened by throwing on cold water. A slight knowledge of chemistry is sufficient to show, that much of the coal must be converted into ashes before combustion can be carried a sufficient length to coke the heap, and the more economical process of coking in a close oven, or furnace, is now becoming more general. The ovens are of a hemispherical form, about ten feet wide at the base, and two feet at the aperture, the wall being of brick, eighteen inches in thickness. There is a door-way in the side, for the purpose of taking out the coke, and the opening at the top is for charging the oven with fresh coal. Small refuse coal is used. The oven being filled up to the springing of the arch, and the heat of the oven from the former coking being adequate to set the coal on fire, the door-way is filled up with loose bricks, and the air, rushing through the crevices, supports the combustion until the whole charge is lighted up, when the door way is plastered up, excepting the top row of bricks, and in twelve hours after covered entirely. The chimney remains open until the flame be extinguished, when it is closed, and the whole allowed to remain for twelve hours more, after which the coke is withdrawn from the doorway. The coke thus formed is of a grey colour, metallic lustre, and very hard; but when it is required to be of a nature more resembling charcoal, the coking is prepared in a place similar to a baker's oven, the door of which is kept constantly open, and the coals frequently stirred. Coke made in this way is black in colour, porous, and very light—more inflammable than the first description, but not capable of affording such intense heat, nor so durable in the smelting furnace.

The construction of the smelting furnace, will be understood, from the subjoined section.

Fig. 1.



The interior of the furnace, is a cavity, formed by the frusta of two cones joined at the base, and terminated in cylinders both at top and bottom, as will be seen at G, in the figure. The wall *dd* of this cavity, consists of the best fire brick, well cemented together, the thickness of the wall being generally fourteen inches. At a distance of about six inches behind this wall, a wall or casing of brick is built all round the former, and of a thickness of fourteen inches. The space between these two walls is filled up with river sand, crammed in compactly. Sand being but an indifferent conductor of heat prevents the casing *bb* from being much affected by the fire of the furnace. The whole is enclosed by the outer wall, A A, of ashlar stone, or brick. This wall is built very strong and thick; the interior is of course made circular to envelope the casing *bb*, but the exterior face of the wall, is made to terminate in four faces, tapering to the top, so that the outward appearance

of the furnace, is a truncated quadrangular pyramid. The inside of the furnace, G, is made to terminate in a cylindrical chimney, and at the bottom, in a deep quadrangular pit H. Such is the construction of the furnaces erected in this country till of late, the whole building being made for substantiality as thick as possible. But the strong heat of the furnace, frequently so expanded the material, as to burst the mason work, and the modern furnaces are all constructed of comparatively thin walls above A A, nor is there any space left in them for the introduction of sand between the two interior walls of brick work. At the top of the chimney, there are formed two or more doors by which the workmen introduce the ore, coke and flux, and above this there is a semicircular wall E erected for the purpose of preventing the flame from blowing upon the workmen while they are feeding the furnace. The materials are drawn up on a mound of earth at the back of the furnace, either by machinery or by animal strength, and being set fire to at the bottom, are allowed to burn, the combustion being afterwards accelerated by a blast from a blowing machine. (See *blowing machine*). The ends of the pipes from the blowing machine enter nearly at the bottom of the furnace, as may be seen by inspection of figure 4. These blast pipes, the nozzles of which are technically called *tweers*, are two in number, and enter the furnace opposite to each other, and a little above that point where the melted metal rests. The ore, coke and flux, in the body of the furnace, are acted upon by the heat, just as they would be in a close vessel, the oxygen of the ore combining with the carbon of the coke, and forming carbonic acid, or rather carbonic oxide. On the ore parting with its oxygen, the carbon combines with the metal, and the mass being reduced, falls down to a lower part of the furnace, and in this way, makes room for more to come down to the hotter part, and in its turn be smelted, and the liquid metal to fall down to the bottom of the part H, called the hearth. It may be observed, that of late it is not usual to construct the hearth as deep in proportion as it is shown in the foregoing section.

There is an opening in the wall at the bottom of the hearth, at the mouth of which a stone is placed, called the *dam* stone, beyond which an opening is made in the side of the outer wall, in order to run off the liquid metal when it rises so high as to cause the scoria to flow over the dam. The opening in the outer wall is closed by a lute of sand mixed with clay, during the process of smelting; but when there has been a sufficient quantity of metal formed, the lute is removed, and the iron allowed to run off into a channel, made in a kind of sand. From this channel, called the *sow*, numerous side branches are led, called *pigs*, and as the melted metal flows along the sow, it is checked frequently by the workmen introducing a piece of wood which causes it to flow into the side channels, and thus the masses of iron called *pig* iron are formed.

The height of the smelting furnace is sometimes not less than sixty feet, but the usual height of the furnaces in this country, is about forty-five or fifty feet. The proportions of the parts may be guessed at, on inspecting figures 1. and 2. in this article. It may be stated in addition to the description already given, that there are numerous small openings through the sides of the walls, to permit the escape of the vapours and gases formed during the process, and to ensure durability, the whole of the mason work is bound with bars of iron. Dr Ure states, that a furnace of ordinary dimensions, will make about three and a half tons of cast iron, these furnaces being tapped once in twelve hours. For the production

of this quantity of metal, there is required seven tons of coke, eight tons of roasted iron stone, and three and three-eighths tons limestone as a flux. According to a later writer on the iron manufacture, one of the large furnaces in Wales receives on an average, fifty charges in twelve hours. Each charge requires six cwt. of roasted ore, in all amounting to fifteen tons produced from eighteen tons of raw mine. The same quantity of coke is required, i.e. fifteen tons produced from about twenty-two and a half cwt. of coals. The limestone required, is six tons, so that the whole weight of the charges for twelve hours, is thirty-six tons, from which only six tons of cast iron are produced. From this, we may estimate the loss of material in roasting, coking and smelting for two runs which occupies twenty-four hours.

Coals, . . . . .	57 tons.	
Mine, . . . . .	36	
Limestone, . . . . .	12	
Whole weight, . . . . .	105	
Supplied to the furnace, . . . . .	72, . . . . .	33 tons.
Iron produced . . . . .	12, . . . . .	00

Total loss, 93 tons.

In England and everywhere else until very recently, it was supposed, that the colder the air was injected into the furnace the better; and the two currents on entering the furnace chilled the materials much, and produced a sort of pipe or channel in the melted metal, which opposed its entrance. These pipes often extended so as nearly to meet in the middle of the furnace. The keeper watched the state of these pipes, and regulated the blast, so that they should neither be too long nor too short. These pipes, tended to prevent the blast pipe, as well as the cast iron lining of the wall, through which they were led, from melting.

Mr J. B. Neilson, civil Engineer and manager of the Gas Works of Glasgow, had, in the course of the year 1824, directed his attention to blast furnaces, in consequence of some inquiries having been made, if he could devise any means of purifying the air propelled by the blowing engine before it reached the furnace; in any way similar to that in which coal gas is purified. The inquirer suspected that it was the presence of the sulphurous vapour, that injured the air of the blast, seeing that furnaces commonly wrought worst in the summer months. But experience led Mr Neilson to attribute the evil to another cause. From some simple experiments, he concluded, that by heating the air before it went into the furnace, he could effectually remove the evil under consideration. It is known that air will not support combustion until heated to a temperature of 1000° Fahrenheit, and therefore until it acquires that temperature, by coming into contact with the heated mass of the fire, it must act prejudicially: from which it is manifest, that the nearer it can be brought to that point before entering the fire, the better; yet all things considered, there may be a certain temperature at which the effect of the blast will be a maximum. The temperature originally employed by the patentee was, we believe, about 300° and this was the heat of the blast at Clyde iron works in 1830, when coke was employed. The advantage obtained by the employment of the hot blast at this temperature will at once appear from the fact, that during the first six months of the year 1829, when all the furnaces at Clyde iron works, were wrought with the cold blast, 8 tons 1½ cwt. of coal, converted into coke, were required for the smelting of one ton of cast iron, but during the first six months of 1830, when the blast was heated to about 300°, the same quantity of iron required only 5 tons ¾ cwt. of coals converted into coke, which after deducting 8 cwt. of

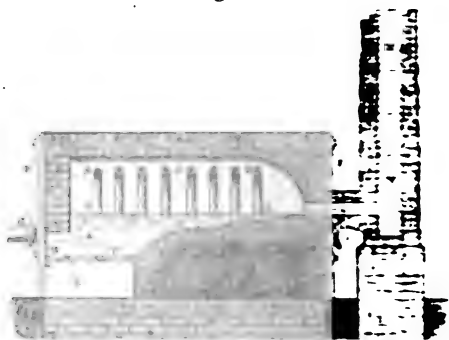
coal employed in heating the air gives a saving of 2 tons 10 cwt. The success of the hot blast, at a temperature of 300° induced the iron manufacturers to try it at a still higher temperature, and the results proved proportionally beneficial. In the course of the year 1831, the temperature of the blast was doubled, so that it was not less than 600°, and the success was such, that they were induced to employ coal instead of coke in the smelting furnace, which induced a saving to a very considerable amount. In 1829, 8 tons 1½ cwt. of coal were required for coke to smelt one ton of iron, whereas in 1833, only 2 tons 13½ cwt. of coals, not converted into coke, were required for the same purpose. The increase of combustion with the blast at 600°, precludes the necessity of coking before smelting, for the intense heat of the blast is sufficient to compensate for the great quantity of latent heat that must arise with the vapours expelled from the coals during combustion.

The patentee does not confine himself to any particular mode of heating the pipes, nor the temperature of the air. In some cases the pipes have been heated by the smelting furnace itself, and in others, by a separate furnace, which latter mode would appear to be the most economical.

We will here lay before the reader, a description of furnaces heated in both ways, which with some modifications, we have drawn up, from a very valuable French work entitled *Portefeuille Industriel*, new (Jan. 1836), in the course of publication at Paris.

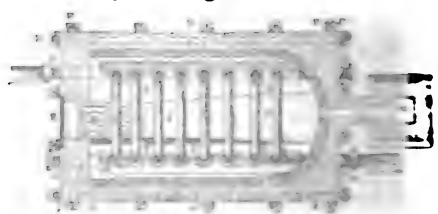
The annexed cut represents the first form of the air-heating apparatus, invented by Mr Neilson where a separate fire is used.

Fig. 2.



The heating apparatus is contained within a kiln or furnace, F F', constructed of brick. Within the kiln two straight tubes, A B A B, are laid horizontal and parallel to each other. In the upper surface of each of these large pipes, circular openings, C C' are made for the reception of the ends of small bent tubes. These tubes which are seen at S S' are bent so as to form arcs of circles, the length of each are being more than the circumference. They stretch across the kiln, one extremity terminating in each of the long pipes, A B A B.

Fig. 3.



There are four small tubes,  $a, b, a', b'$ , fixed into the extremities of these long pipes,  $A, B, A', B'$ , as may be seen more particularly in the ground plan, fig. 3. It is necessary to attend to the manner in which these pipes are fitted into each other, as the joinings must be made perfectly air-tight and strong. This is effected in the following manner:—The extremities of the great pipes,  $A, B, A', B'$ , are formed into trunions of cones, the smaller parts of which are at the extremities, curbs being placed within at the bases. The little pipes are made to terminate in conical swellings, the base of each being at the very extremity, but of such a magnitude that it may be introduced into the end of the large pipe, and be pressed against the curb. The space between the conical end of the large pipe, and the swelling of the small one is filled with mastich, in which way the joint is firmly secured. The bent pipes,  $D, S, D',$  are fixed in a similar way. The construction of the furnace is altogether analogous to the reverberatory kind, as will be seen by inspecting fig. 2. The walls are formed of common brick, but fire bricks are employed for the vault. In order to give sufficient strength to the building, the walls are bound by ten cast iron pillars,  $F, F$ , bound together by beams, enclosed in the brickwork, as may be seen at fig. 2, and each end is likewise furnished with four similar supports. The fuel is thrown upon the grating  $G$ , through the door  $H$ , the air which supports the combustion entering from  $K$ , the ashpit below. The smoke from the fire proceeds up by the inclined back  $I$ , and rising strikes the bent pipes, which stretch across the vault. It will be easily seen that in this way the last of the bent pipes receive more heat from the smoke than the first, but this is compensated for by the form and position of the vault and the bottom, which cause much more of the heat to be radiated to the first tubes, both from the fire and from the vault. The flame and smoke having acted on the bent pipes, pass through the opening  $L$ , and from thence into the chimney. In order to save the joinings of the bended tubes,  $D, S, D'$ , with the large tubes,  $A, B, A', B'$ , a wall of brick proceeds along the whole length of the furnace, on each side of the fire, and between that and each large pipe, built in such a way as to protect the joinings. The manner of operating is simply this:—The air from the blowing engine is propelled with the requisite force into the pipe  $A', B'$ , through the extremity, and passing through all the eight bent pipes  $D, S, D'$ , passes through the large pipe  $A, B$ , through its extremity  $b$ , and by means of the connecting pipe into the furnace, where the smelting is effected. The pipes  $D, S, D'$ , being kept at a red heat, it must follow that the air must enter the smelting furnace, at a temperature very much higher than when it was propelled from the blowing engine.

The inventor has given the dimensions of an apparatus, such as we have described, calculated to supply a furnace with 800 cubic feet of air per minute. The dimensions of the horizontal pipes  $A, B, A', B'$ —

Length . . . . .	Feet.
Exterior diameter . . . . .	12.004
Interior do. . . . .	1.1840
	0.90

Dimensions of the four pipes  $a, b, a', b'$ —

Length . . . . .	3.94
Exterior diameter . . . . .	0.79
Interior do. . . . .	0.636

Dimensions of the eight bent pipes  $D, S, D'$ —

Exterior diameter . . . . .	0.558
Interior do. . . . .	0.386
Length of the axis . . . . .	9.91

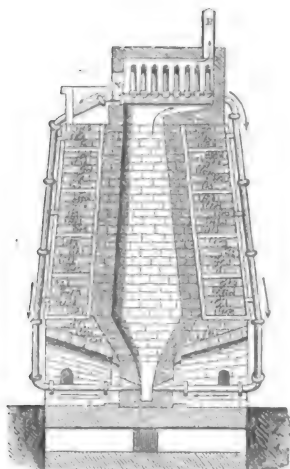
IV.

Weight of the various pipes—

	Lbs.
The two pipes $A, B, A', B'$ , . . . . .	3329 55
The eight bent pipes, . . . . .	2848 86
The eighteen supports—	
Grate, bolts, and door, . . . . .	5358 15

We will now describe the structure of the apparatus for heating the blast by means of the smelting furnace itself. The furnace is represented in section, in the wood engraving, below. This acts on

Fig. 4.



the same principle as that just described, the chief difference being in the manner in which the heat is obtained. The reverberatory furnace, with its system of horizontal and bended pipes, is placed on the top of the chimney of the smelting furnace, and the heated air and smoke from the large furnace enters the small furnace just where the grating was placed in the former construction. It may be remarked that the three first bended pipes are directly above the flues of the smelting furnace, and therefore receive the first action of the flame and smoke, which are reflected again by the vault, before entering the chimney, which is here made to rise directly from the end of the vault, instead of communicating by a horizontal pipe, as in the former construction. The distance of the large horizontal pipes is somewhat greater than the diameter of the flue *i. e.*, the chimney of the smelting furnace, in consequence of which the furnace is fed through the opening  $N$ . The communication between the heating apparatus and the blowing engine is similar to that formerly described, but the heated air passes out of the system of pipes at the top of the smelting furnaces, and is propelled into the tweers, which are seen entering at the bottom, through two pipes, which are led down the exterior wall of the furnace, as may be seen on inspection of the figure. The furnace we have just described, is better calculated for smelting by charcoal than by coke, as the heat raised by the former is much greater than by the latter.

In order to complete the description of the apparatus with hot air invented by Mr Neilson, it remains for us to describe the system of heating, which is employed in Wilkinson's foundry, in the cupolas intended to melt the metal. This application of Mr Neilson's invention is due to Mr Taylor. Various other applications of the hot air blast have been recently made by Schaufellen, of Wurtemberg, who causes the air to pass through a sort of syphon in the chimney, before it reaches the grate.

K

This system of heating is represented in fig. 5 and 6. A A is the frame-work itself, which is constructed of common bricks, the interior being lined with fire bricks, in order to form the melting pot A', and the exterior of it is covered with sheet iron plates, A'', rivetted altogether, and bound with iron circles a'. The blast enters the cupola alternately by the different pipes a'; the lowest of them is used to commence the process, and as the height of the melting metal rises in the pot, they change them in order, so as always to blow at a suitable height to the bath of metal: the openings of the pipes which are not in use, are luted with care, especially when they

Fig. 5.

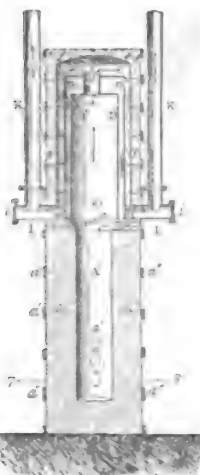
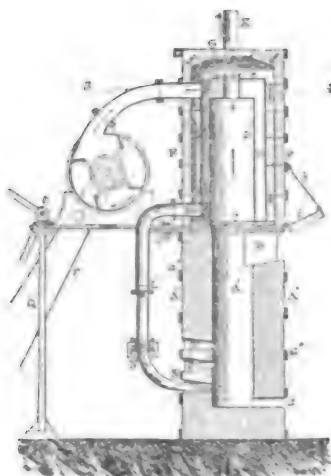


Fig. 6.



have to support the pressure of the liquid contained in the melting pot. The tap hole is at a, it is always hermetically shut with a stopper, which may be lifted out in a moment from the tap hole.

The only modification that they have attempted to make, to improve the frame-work is in leading to the top, a slope by which the charges of coal and of pigs are thrown in; the opening is usually shut by the door b, which is lifted and attached by the little chain b', during the very short time which is necessary to throw in the charge.

There are three cast iron plates, placed one above another c, c', c'' of the same diameter as the frame-work, and pierced in the centre with circular holes a little greater than the diameter of the melting pot A'. The first c' has a little jutting out c'' (fig. 6), serving as a point of support to the fanner by which the furnace is supplied with the blast. The fanner is put in motion by means of a belt led over a drum on its axis, and connected with the steam engine, or water wheel. The second plate c, has a hole at the centre, a little greater than that of the

first, that it may be protected against the action of the heat. The third has a central hole, still a little greater for the same reason, but its exterior diameter is much less, so that it may leave upon the second plate c' an open circular ring of from twelve to fifteen inches. Upon this third plate c, there are fixed two concentric cylinders of plate iron D and D', which are open below, but shut above, and the tops of which are firmly joined by a sort of open joint d, d'. The exterior cylinder has two openings e and e'; one, that by which the cold air is introduced, the other, that by which the air goes out after being heated between the two coverings D and D'; at the distance of twelve or fifteen inches from the exterior envelop D, a third envelop F, of brickwork, is built, which is bound together with circles of iron, as the frame-work itself. The bottom of this last, rests upon the circular space, that the plate c lies open upon the plate iron c', and at its top it is shut by a convex iron plate ff, upon which is erected a vault of some non-conducting substance. The iron plate is pierced in the middle with a hole, which is shut by means of a lid f, above which is put a steam stopple G; this order of things serves to inspect and to clean the interior of the apparatus, as it is only necessary to lift the stopple G and the lid f.

Above this opening at the top, which remains always shut during the operation of melting, the envelop F is carried down the side to its lower part; there are two openings H H, into which are fixed the strong iron pipes I I, which serve as a base and support to the two chimneys K K; the pipes I, I are shut at their extremities by stopples i, i, which require only to be lifted out when they wish to sweep the chimney.

The smoke rises and spreads itself in the interior of the first envelop D', and after heating the sides, goes out from this space by the little conduit d d', then passes under the vault ff, in order to descend between the exterior envelop F and the cylinder D, so that it may arrive at the two openings of the tubes I I, and at the chimneys K K.

The cold air enters by the opening e', between the envelops D and D', and it comes immediately into contact with the hot tops of these cylindrical coverings: it comes also into contact with the sides of the conduits d d', which are also at a very high temperature; thus heated against these surfaces, it descends in the spaces comprised between the envelops D and D', the one struck by the flame descending, the other by the flame ascending, and it arrives at the lower opening e, by which it escapes to the blast pipes. A the blast pipe ought successively to be raised, so as to be put into the different openings e e e, as the liquid metal accumulates in the melting pot, we must have the means of making these changes with facility. For that purpose there is placed in the opening e, a fixed pipe L' L, which, after being bent, descends vertically to L: in its straight portion, which is bored very truly, there is fitted a smaller pipe M M', capable of sliding in its interior like a piston in the body of a pump. The lower extremity N, of the pipe M M', has a curb m, upon which is fixed the opening N of the bent N N' of which the other extremity N' is adjusted in the opening; the two curbs m and n are joined and held fast by the two cramps P P. In order to shift the pipe, they loose the screws of the cramps P P, and lift them off, then force up the pipe M M' into the pipe L' L, and remove the pipe N N' into an opening higher. The pipes are then fixed to the cramps and curbs m and n in this new position.

We have thus endeavoured to describe the construction of several forms of the hot blast furnace, and shall conclude this part of our subject, by a

short extract from a very valuable paper, on the hot blast by Dr Clark, of Aberdeen, which was read before the Philosophical Society of Edinburgh in March of the year 1835.

"As nearly as may be, a furnace, as wrought at Clyde Iron works in 1833, had two tons of solid materials an hour put in at the top, and this supply of two tons an hour was continued for twenty hours a day, one half hour every morning, and another every evening, being consumed in letting off the iron made. But the gaseous material—the hot air—what might be the weight of it? This can easily be ascertained thus: I find, by comparing the quantities of air consumed at Clyde Iron works, and at Calder Iron works, that one furnace requires of hot air from 2500 to 3000 cubical feet in a minute. I shall here assume 2867 cubical feet to be the quantity; a number that I adopt for the sake of simplicity, inasmuch as, calculated at an avoirdupois ounce and a quarter, which is the weight of a cubical foot of air at 80° Fahrenheit, these feet correspond precisely with two cwt. of air a minute, or *six tons an hour*. Two tons of solid material an hour, put in at the top of the furnace, can scarce hurtfully affect the temperature of the furnace, at least in the hottest part of it, which must be far down, and where the iron, besides being reduced to the state of metal, is melted, and the slag too produced. When the fuel put in at the top is coal, I have no doubt that, before it comes to this far-down part of the furnace—the place of its useful activity—the coal has been entirely coked; so that, in regard to the fuel, the new process differs from the old much more in appearance than in essence and reality. But if two tons of solid material an hour, put in at the top, are not likely to affect the temperature of the hottest part of the furnace, can we say the same of six tons of air an hour, forced in at the bottom near the hottest part? The air supplied is intended, no doubt, and answers to support the combustion; but this beneficial effect is, in the case of the cold blast, incidentally counteracted by the cooling power of six tons of air an hour, or two cwt. a minute, which, when forced in at the ordinary temperature of the air, cannot be conceived otherwise than as a prodigious refrigeratory passing through the hottest part of the furnace, and repressing its temperature. The expedient of previously heating the blast obviously removes this refrigeratory, leaving the air to act in promoting combustion, without robbing the combustion of any portion of the heat it produces."

Dr Clark concludes his paper by the following statements regarding the Clyde Iron works:—

The Blowing-engine has a steam cylinder of forty inches diameter, and a blowing cylinder of eight feet deep and eighty inches diameter, and goes eighteen strokes a minute. The whole power of the engine was exerted in blowing the three furnaces, as well as in blowing four, and in other cases there were two tiers of three inches diameter to each furnace. The pressure of the blast was two and a half lbs. to the square inch. The fourth furnace was put into operation after the water tiers was introduced, and the open spaces round the blowpipes were closed up by huting. The engine then went less than eighteen strokes a minute in consequence of the too great resistance of the materials contained in the three furnaces to the blast in its passage upwards.

#### Materials constituting a Charge.

		cwt.	qrs.	lb.
1833,	Coke,	5	0	0
	Roasted Ironstone,	3	1	14
	Limestone,	0	3	16
1839,	Coke,	5	0	0
	Roasted Ironstone,	5	0	0
	Limestone,	1	1	16

		cwt.	qrs.	lb.
1833,	Coal,	6	0	0
	Roasted Ironstone,	5	0	0
	Limestone,	1	0	0

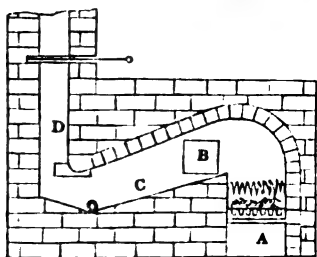
An impression has gone abroad among founders and machine makers, that the iron produced in the hot blast furnace, is inferior in quality to that produced in the cold blast furnace; but correct experiments have, we believe, not yet been performed on the subject. It ought not to be forgotten, that the iron produced by the same furnace, is different at different times, and there is very frequently a difference of quality in the iron of one smelting.

The quality of metal issuing from the smelting furnace, will vary with the quantity of carbon it contains. The quantity of carbon will depend, in a great measure, upon the quantity of charcoal, coke, or coal that has been employed in smelting the ore; and the appearance of the metal, as it flows from the tap hole, will indicate the state of the metal. On the surface of the liquid metal, there floats a substance, called by the workmen *kish*, which has the shining appearance of plumbago, and the presence of this substance, indicates that the metal is saturated with carbon; and if great in quantity, the iron maker immediately takes the hint to diminish, proportionally, the quantity of the ore. The appearance of the cinder, is likewise a good guide, for when it assumes a greenish-yellow colour, it is a proof, that from the want of carbonaceous matter, some of the oxide of iron has not been decomposed. When the oxide of iron is in great excess, the cinder appears of a blackish-green colour. The nature of the iron produced will vary, as before observed, with the manner in which it has been smelted. Some conduct the process in such a way, as to produce iron for the foundry, and others, so as to produce iron for the forge, this latter containing less carbon than the former. The carbon is more abundant in the iron, in proportion as it is soft and tough; and there is this remarkable circumstance in pig and bar iron, or iron for the foundry, and iron for the forge; that the nearer they approach each other in appearance and mechanical properties, the greater is the difference of their chemical composition, at least, so far as carbon is concerned. We cannot enlarge on the distinctions of iron, in this place, to any greater length, but refer the reader to that section of this article, which treats of the chemical properties.

The first step in the process of converting cast or pig iron, into bars of malleable iron, is *refining*. The pigs from the smelting furnace, are placed along with coke, in a smaller furnace supplied with the blasts from the blowing-engine. The coke and pigs are placed in a trough, whose sides are formed of cast-iron plates, but the bottom is of masonry; this trough is surrounded by a sort of canal, in which cold water is kept constantly running. There is a tap hole at one side of the trough, which opens into a rectangular mould at the side of the furnace, which mould is commonly about twenty feet long, and two broad, into which the metal is allowed to run after it has been refined. This mould is likewise surrounded with cold water, as also the blast pipes. The material is set on fire, and the blast kept up until the pig-iron is brought to a state of fusion. The metal is kept in a state of fusion for at least two hours, after which it is run off into the mould, deprived of a great quantity of its carbon, or as the name of the process implies *refined*. The furnace is constructed of such dimension as to yield about a ton of refined metal at each tapping; and it may be stated that the loss of weight by the process, is usually about ten per cent. The sheet of metal which fills the mould to the depth of about two inches, is next withdrawn, and broken

into pieces by means of large hammers, for the purpose of undergoing another process called *puddling*.

A side view of the puddling furnace is annexed; as will be immediately seen on inspecting the figure.



It is of the reverberatory kind, and formed of bricks. A is the ash pit, over which the grate is laid on which the fuel is placed. B is a door in the side, through which the workman introduces the rod with which he puddles the metal. C is the hearth on which the lumps of metal from the refinery are placed; these are piled on the sides up nearly to the vault, the centre being left open for the flame and smoke to pass out by the chimney D. The chimney is furnished with a damper, in order that the draught may be increased or diminished as may be required. The furnace being heated, the metal begins to melt and flow down to the hearth, the temperature is then lowered, and the workman introduces his long iron rod, and stirs the melted mass, during which it swells and emits carbon, combined with oxygen, which burns with a bluish flame. The metals become thicker as the process advances until it assumes a sandy appearance, at which period the temperature of the furnace is raised, and the particles cohere, when the charge is said to work heavy. The workman now forms it while hot into five or six balls, each of from 70 to 80 pounds weight. The balls are removed and subjected to several blows of a heavy hammer, and formed into what are called *blooms*. The blooms are passed through successive pairs of rollers until they acquire the proper shape of long bars. The loss of weight by this process is generally about 10 per cent.

Five or six of these bars, cut to one length, are now piled together, and placed in a furnace similar to the puddling furnace, and brought to a welding heat, and then taken out and passed through successive pairs of rollers, until the bar is brought to the proper dimensions when the process is finished. The loss of weight is by this last process about 10 per cent.

It may be useful to bring under the reader's eye the actual weight of material employed in the manufacture of one ton of iron.

Raw mine.....	3 tons = 2.4 tons of roasted ore.
Coal for furnace 21 tons =	2.5 of coke.
Do. for kiln, &c. }	1 ton.
Engines.....	1
Flux.....	1
8½ tons of materials for 1 ton pig iron.	
Coals for kiln, steam engine, and	blast furnace..... 6.53 tons.
Raw mine.....	4.12
Limestone.....	1.37
	12.02
Add to this { Coals used in refinery ..	61
Do. in the puddling, &c. 1.00	
	2.51

Total, 14.53 tons used in the production of one ton of finished bar.

**Manufacture of Iron in Great Britain**—Iron mines have been wrought in this country from a very early period. Those of the Forest of Dean, in Gloucester-

shire, are known to have existed in the year 1066. In consequence of the great consumption of timber which they occasioned, they were restrained by act of parliament in 1581. Soon after this, Edward Lord Dudley invented the process of smelting iron ore with pit coal instead of wood fuel; and it is impossible, perhaps, to point out an instance of another invention that has proved more advantageous. The patent which his lordship had obtained in 1619, was exempted from the operation of the act of 1623 (21 Jac. I. c. 23.), setting aside monopolies; but though in its consequences it has proved of immense value to the country, the works of the inventor were destroyed by an ignorant rabble, and he was well nigh ruined by his efforts to introduce and perfect his process; nor was it till about a century after, that it was brought into general use. In the early part of last century, well-founded complaints were repeatedly made of the waste and destruction of woods caused by the smelting of iron; and the dearth and scarcity of fuel that was thus occasioned, led, about 1740, to the general adoption of lord Dudley's process for using pit-coal, which was found to be in every respect superior to that previously in use. (*Report of Committee of the House of Commons on Patents*, p. 168, &c. From this period, the progress of the manufacture has exceeded the most sanguine expectations. In 1740, the quantity of pig iron manufactured in England and Wales amounted to about 17,000 tons, produced by fifty-nine furnaces. The quantities manufactured at the undermentioned epochs, in Great Britain, have been as follows:

1750 ..	22,070 tons.
1788 ..	65,000 — produced by 85 furnaces
1796 ..	125,000 — — 121 —
1806 ..	230,000 — — 165 —
1810 ..	406,000 — — unknown.

The extraordinary increase that has taken place in the production of iron since 1823, is principally to be ascribed to the high prices of 1824, 1825, and 1826, when pig iron met with a ready sale at from £9 to £12 and £13 a ton. But, in consequence partly of the failure or postponement of most of the projects as to rail-roads, &c., that were then on foot, and partly of the vast additional supplies which the extension of the manufacture threw on the market, the price fell in 1828, to from £5 to £7 a ton; and continued gradually to decline, till in 1832 it was only worth £4 15s. So heavy a fall had the effect of introducing the severest economy into every department of the manufacture. In despite, however, of all the saving that could be effected in this way, many of the manufacturers were involved in much distress, and the production of iron is believed to have been considerably diminished. This, coupled with the increasing demand for iron, naturally led to a reaction. Prices began to rise early in 1833; and the advance had been such, that in the beginning of 1834, pig iron brought £6 a ton, and the manufacture continues in a state of great activity. The price of iron at present, (January, 1836), varies according to quality from £5 15s. to £7, and seems to be likely to advance in price. This may at first sight appear strange, when the saving to the manufacturer by the employment of the hot blast, and the recent introduction of that rich and productive vein of iron stone called black band, are taken into account. But the truth is, the increased demand for cast iron, in consequence of railway speculations and other causes, far exceeds the increased supply.

The following statement as to the number of furnaces, and the quantity of iron produced in the different districts where the manufacture is carried on, in 1828, and 1830, appeared originally in the *Birmingham Journal*—We have been assured that their accuracy may be depended upon.

Furnaces.	Number of Furnaces.				Tons of Iron produced.	
	1828.			1830.		
	Total.	In Blast.	Out.	Total.	1828.	1830.
North Wales .....	100	80	11	113	273,512	277,643
South Wales .....	120	85	25	133	219,492	212,504
Yorkshire .....	34	17	17	27	34,988	37,926
Derbyshire .....	23	18	6	27	37,798	37,500
Lincolnshire .....	18	14	4	18	22,360	17,969
North Wales .....	15	13	2	15	25,768	25,000
South of Devon .....	3	1	1	20	3,680	
Wales .....	1	1			1,360	5,357
Total, ....	337	225	90	376	708,184	677,417

In Scotland the use of the hot blast has given a great impulse to the manufacture. This has been aided by the introduction of a rich bed of iron stone, called *black band*, which could not be wrought well with the cold air. The number of furnaces in Scotland are:

Place.	Number of Furnaces.	Erecting.	Out.
Glasgow .....	4		
Sheffield .....	3	4	
Manchester .....	4		
Edinburgh .....	2		
Cardiff .....	1		1
Worcester .....	1		
Leeds .....	1		1
Nottingham .....	2		
Coventry .....	3		
Doncaster .....	3	4	
Chapell (Another work) .....		3	

*Pure Iron.* In specific gravity is 7.7, but it may be made 7.8 by hammering. The specific gravity of cast iron is 7.281; that of steel, 7.795. Under the article *Cohesion*, the tenacity of iron, compared with that of some of the other metals, is given. In malleability, it is much inferior to gold, silver and copper; but in ductility, it approaches these metals, iron wires of one hundred and fiftieth of an inch being frequently drawn. It melts in the extreme heat of chemical furnaces, which equals 158° Wedgewood. We have noticed, under the head of *Native Iron*, the crystalline texture of this metal, as found in nature. A mass of bar iron, which has undergone all the operations of puddling and rolling, after being left in liquid muriatic acid till saturation, presents the appearance of a bundle of fibres, whose fibres run parallel through its whole length. At the two ends of the mass, the points appear perfectly detached from each other, and the fibres are so distinct as to seem to the eye to be but loosely compacted. Iron by friction acquires a peculiar smell, and it possesses the colour distinctively called *iron-gray*. Bars of it, kept in a vertical position, or at an angle of 70° to the horizon, become magnetic spontaneously. They may also be magnetized by percussion, or an electric shock, either from a common machine or a thunder cloud. The magnetic effect is rendered most powerful, in a bar of iron, by allowing galvanic electricity to circulate in circles round it, after being bent into the shape of a horse shoe. A bar, weighing twenty-one pounds, has, in this manner, been made to support a weight of 750 pounds; and the galvanic battery employed consisted merely of two concentric copper cylinders, with a third, of zinc, between them, which were immersed in half a pint of dilute acid. The magnetism of soft iron, however, is not permanent, like that of steel. Iron burns with the greatest facility, as may be seen in the shops of the smiths, where, on withdrawing a bar of iron from the fire, at a white

heat, it emits brilliant sparks in every direction. It is also visible by projecting iron filings upon a lighted candle or a common fire. Its combustion in these cases is the result of its combination with the oxygen of the atmosphere. When it is heated and introduced into a vessel of pure oxygen gas, its combustion is vastly more rapid, and the scintillation which it occasions is extremely brilliant. There are only two non-metallic combustibles, hydrogen and nitrogen, which have not hitherto been combined with iron. Carbon, boron, phosphorus, sulphur and selenium, form with it compounds more or less intimate. The same thing holds of most of the metals. When cold, it is without action on pure water, but decomposes it rapidly when heated to the degree of incandescence. The rusting of iron in a damp atmosphere has been ascribed to the joint agency of carbonic acid and water.

*Compounds of Iron.* Iron unites with oxygen to form three, and, possibly, four oxides. The first oxide is obtained either by digesting an excess of iron filings in water, by the combustion of iron wire in oxygen, or by adding pure ammonia to a solution of green copperas, and drying the precipitate out of contact of air. It is of a black colour, becoming white by its union with water in the hydrate, attractable by the magnet, but more feebly than iron. Its composition is,

Iron,.....100.0.....77.82..... 3.5  
Oxygen,.....28.5.....22.18.....1.0

The second or deutoxide of iron is formed by exposing a coil of fine iron wire, in an ignited porcelain tube, to a current of steam, as long as any hydrogen comes over. Its composition is,

Iron,.....100.....72.72  
Oxygen,.....37.5.....27.28

The fourth oxide is obtained by igniting the nitrate, or carbonate of iron, by calcining iron in open vessels, or simply by treating the metal with strong nitric acid, then washing and drying the residuum. Colcothar of vitriol, or thoroughly calcined copperas may be considered as peroxide of iron. This oxide exists abundantly in nature, as may be seen by referring to the preceding account of the *Ores of Iron*. It is a compound of iron, 100, and oxygen, 43. The third oxide has not been satisfactorily established. If the experiments upon its nature are correct, its relation to the others may be perceived in the following statement of M. Berthier, in which the quantities of oxygen combined with the same quantity of metal, in the four oxides, are to each other as the numbers 6, 7, 8, 9. There are two chlorides of iron; the first consisting of iron, 46.57 and chlorine 53.43; the second of iron 35.1, and chloride 64.9. The proto-chloride is a fixed, the deuto-chloride, a volatile substance. Iodine forms with iron a compound of a light green colour soluble in water. There are two sulphurets of iron. The proto-sulphuret is formed by heating equal weights of iron filings and sulphur in a crucible or iron vessel, to incandescence. It is of a dark gray colour, brittle, feebly magnetic. Its composition is iron 28, sulphur 16. It abounds in nature. (See *Magnetic Iron Pyrites*, among the *Ores of Iron*.) The artificial sulphuret varies in composition from the excess of one or the other of its ingredients. It is employed in eudiometry, and is used for the production of sulphureted hydrogen gas, which it evolves copiously on the addition of diluted muriatic or sulphuric acid. The persulphuret of iron is the common iron pyrites found so abundantly in nature. It is composed of iron 28, and sulphur 32. There is also a phosphuret, formed by calcining four parts of phosphate of iron, and one of lampblack, in a covered crucible. It does not act on the magnetic needle;

remains unchanged in the air; is not affected by nitric acid, except it be strong and hot; and is decomposed by charcoal.

**Carburets of Iron.** Carbon unites with iron to form steel, cast iron, and graphite, or plumbago. The proportions of carbon corresponding to different carburets of iron, according to Mr Mushet, are as follow:

1	soft cast steel.
120	
1	common cast steel.
100	
1	the same, but harder.
90	
1	the same, too hard for drawing.
80	
1	white cast iron, or No. 1.
70	
1	mottled cast iron, or No. 2.
60	
1	black cast iron, or No. 3.
50	

Graphite contains about 10 per cent. of iron. It was remarked above, that the magnetism of pure iron is transient. When it is combined with oxygen, carbon, or sulphur, however, it acquires the magnet's coercive virtue, which attains a maximum of force with certain proportions of the constituents, hitherto undetermined. Of the alloys which iron unites with other metals to form, tin plate is the most useful. The surface of the iron plates is cleaned, first by steeping in a crude bran-vinegar, and then in dilute sulphuric acid, after which they are scoured bright with hemp and sand, and deposited in pure water to prevent oxidation. Into a pot, containing equal parts of grain and block tin, in a state of fusion, covered with tallow, the iron plates are immersed in a vertical position, having been previously kept for about an hour in melted tallow. From 300 to 400 plates are tinned at a time. Each parcel requires an hour and a half for the mutual incorporation of the metals. After lifting out the tinned plates, the striae are removed from their surfaces and under edges by subsequent immersion in melted tin, and then in melted tallow, wiping the surfaces at the same time with a hempen brush. Alloys of steel with platinum, rhodium, gold and nickel, may be obtained when the heat is sufficiently high. The alloy with platinum fuses when in contact with steel, at a heat at which the steel itself is not affected. But the most curious circumstances attend the alloy of silver. If steel and silver be kept in fusion together for a length of time, an alloy is obtained which appears to be very perfect, while the metals are in the fluid state, but, on solidifying and cooling, globules of pure silver are expressed from the mass, and appear on the surface of the button. If an alloy of this kind be forged into a bar, and then dissected by the action of dilute sulphuric acid, the silver appears, not in combination with the steel, but in threads throughout the mass, so that the whole has the appearance of a bundle of fibres of silver and steel, as if they had been united by welding. The appearance of these silver fibres is very beautiful. They are sometimes one eighth of an inch in length, and suggested the idea of giving mechanical toughness to steel, where a very perfect edge may not be required. When 1 of silver and 500 of steel are properly fused together, a very perfect alloy is produced, which, when forged, and dissected by an acid, exhibits no fibres, even when viewed with a high magnifying power, though, by dissolving any portion of the mass in acid, and applying a delicate test, the silver is recognised as being every where present. This alloy proves decidedly superior to the very best steel, and its excellence is unquestionably due to the presence of the silver. Various cutting instruments, as razors, penknives, surgical instruments, &c., are now manufactured from it. It is known under the name of *silvered steel*. Equal parts, by weight, of platinum and steel, form a beautiful alloy, which takes a fine polish, and does not tarnish.

The colour is the finest imaginable for a mirror. The specific gravity of the compound is 9.862. The proportions of platinum that appear to improve steel for edge instruments are from one to three per cent. The alloys of steel with rhodium would prove highly valuable, were it not for the scarcity of the latter metal.

**Salts of Iron.** These are possessed of the following general properties: Most of them are soluble in water; those with the protoxide for the base are generally crystallisable; those with peroxide, for the most part, are not so: the former are insoluble, the latter soluble in alcohol. From solutions of these salts ferroproussiate of potash throws down a blue precipitate, or one becoming blue in the air; infusion of galls gives a dark blue precipitate, or one becoming so in the air; hydrosulphuret of potash or ammonia gives a black precipitate; but sulphureted hydrogen merely deprives the solutions of iron of their yellow-brown colour; succinate of ammonia gives a flesh-coloured precipitate with salts of the peroxide. We shall notice these salts individually, in an alphabetical order. *Protoacetate* of iron forms small prismatic crystals, of a green colour and a sweetish taste. *Peracetate* of iron forms a reddish brown uncrystallisable solution, much used by the calico printers, and is prepared by keeping iron turnings, or pieces of old iron, for six months, immersed in re-distilled pyroligneous acid. *Protarseniate* of iron exists native in crystals (see *Iron Ores*), and may be formed in a pulverulent state, by pouring arseniate of ammonia into sulphate of iron. It is insoluble. *Perarsenate* of iron may be formed by pouring arseniate of ammonia into peracetate of iron, or by boiling nitric acid on the protarseniate. It is insoluble. *Antimoniate* of iron is white, becoming yellow, insoluble; *borate*, pale, yellow, and insoluble; *benzoate*, yellow and insoluble; *protocarbonate*, greenish and soluble; *percarbonate*, brown and insoluble; *chromate*, blackish and insoluble; *protocitrate*, brown, crystals soluble; *protoferroproussiate*, white, insoluble. The *perferroproussiate* is the beautiful pigment called *Prussian blue*. When exposed to a heat of 410° Fahr., it takes fire in the open air; but in close vessels it is decomposed, apparently, into carbureted hydrogen, water, and hydrocyanate of ammonia, which come over while a mixture of charcoal and oxide of iron remains in the state of a pulverulent pyrophorus, ready to become inflamed on contact with the air. Prussian blue is of an extremely deep blue colour, insipid, inodorous, and considerably denser than water. Neither water nor alcohol have any action on it. It is usually made by mixing together one part of the ferrocyanate of potash, one part of coppers, and four parts of alum, each previously dissolved in water. Prussian blue, mingled with more or less alumina, precipitates. It is afterwards dried on chalk stones in a stove. When sulphuric acid is added to Prussian blue, it makes it perfectly white, apparently by abstracting its water; for the blue colour returns on dilution of the acid; and if the strong acid be poured off, it yields no traces of either prussic acid or iron. *Protogallate* of iron is colourless and soluble; *pergallate*, purple and insoluble; *protomuriate*, green and crystallisable, very soluble; *permuriate*, brown, uncrystallisable, very soluble (see *Chlorides of Iron*, previously described); *protosulphate*, pale green, soluble; *pernitrate*, brown, soluble; *protosulphate*, in green prisms, soluble; *perosulphate*, yellow, scarcely soluble; *protophosphate*, blue, insoluble; *perphosphate*, white, insoluble; *protosuccinate*, in brown crystals, soluble; *persuccinate*, brownish red, insoluble. *Protosulphate*, or *green vitriol*, or *copperas*, is obtained by putting iron into an aqueous sulphurous acid, and letting them remain

together for some time out of contact with the air. It is generally obtained, however, for the purposes of the arts, not perfectly free from the peroxide, by the following processes:—Native iron pyrites is exposed to air and moisture, when the sulphur and iron both absorb oxygen, and form the salt; or metallic iron is added to sulphuric acid, when diluted, when the union takes place at once. Both methods are practised: the latter is more economical in point of time, and affords a purer salt, but the former is the one most generally adopted. The production of copperas from pyrites is conducted in the following manner:—The ore is broken down into pieces of a few inches in diameter, and thrown into large beds, or heaps, of several feet in thickness, disposed on an inclined soil. Water is now let up to the heaps, in moderate quantities, or they are left to derive moisture from rain. The vitriolisation immediately commences, and is often attended with a considerable degree of heat. Sometimes the whole mass kindles, which is a disadvantage, as it burns off the sulphur in sulphurous acid vapour, instead of converting it gradually into sulphuric acid to form the sulphate desired. The process goes on well when the pyrites is seen cracking open and becoming covered with a whitish efflorescence. This efflorescence is continually dissolving, from time to time, by the effect of the rains, and the solution trickles down through the heaps, and flows off by gutters to a common reservoir, which is a leaden vessel, generally about seven feet deep, twelve to fourteen long, and six or seven wide, where it is evaporated for several days. As an excess of sulphuric acid often exists in the liquor, a quantity of iron plates or turnings is frequently added for its saturation. From this reservoir, it is run into a crystallizing vat, and there remains for several weeks, at the end of which time the mother liquor is pumped back into the boiler, and the crystals, after draining, are removed from the frames of wood-work on which they have formed, and packed in hogsheads for sale. Instead of going directly from the boiler to the crystallizing pools, the liquor is sometimes allowed to stand twenty-four hours, in a vessel intermediate between these, for the deposition of a sediment of ochre which it contains. Copperas forms beautiful green crystals, whose forms and other natural historical characters, as well as composition, have been given under the *Iron Ores* in the commencement of this article. It is used in dyeing and making ink, in the formation of Prussian blue, &c. The *persulphate* of iron is formed by the simple exposure of copperas to the air, especially if in the state of solution, or by boiling the green sulphate with nitric acid. Its colour is yellowish red; uncrystallisable; taste sharp and styptic. The *tartrate* and *pertartrate* of iron may also be formed; and, by digesting cream of tartar with water on iron filings, a triple salt is obtained, formerly called *tartarized tincture of Mars*.

Iron is one of the most valuable articles of the *materia medica*. The protoxide acts as a genial stimulant and tonic in all cases of chronic debility not connected with organic congestion or inflammation. It is peculiarly efficacious in chlorosis. The peroxide and its combinations are almost uniformly irritating, causing heart-burn, febrile heat, and quickness of pulse. Many chalybeate waters contain an exceedingly minute quantity of protocarbonate of iron, and yet exercise an astonishingly recruiting power over the exhausted frame. Their qualities may be imitated by dissolving three grains of sulphate of iron, and sixty-one of bicarbonate of potash, in a quart of cold water, with agitation, in a close vessel.

**IRON CROWN.** A golden crown, set with precious stones, preserved at Monza, in Milan, with which anciently the kings of Italy, and afterwards

the Roman emperors, were crowned, when they assumed the character of kings of Lombardy, has received the above name, from an iron circle, forged from a nail of the cross of Christ, and introduced into the interior of it. Napoleon, after his coronation (1805), established the order of the iron crown. When the emperor of Austria (1815) took possession of the estates in Italy, which fell to him under the name of the *Lombardo-Venetian kingdom*, he admitted the order of the iron crown among the orders of the house of Austria.

**IRON MASK.** See *Mask*.

**IRON-WOOD.** This name is given to the *ostrya Virginica* of America—a small tree, having the foliage of a birch, and the fruit somewhat resembling that of the hop. It is found scattered over the whole of the United States, even as far westward as the base of the Rocky mountains, and is remarkable for the hardness and heaviness of the wood, which, however, has not hitherto been applied to any very important uses, partly on account of its small size. The trunk usually does not exceed six inches in diameter; but the excellent qualities of the wood may, at some future day, be better appreciated. The term *hop-hornbeam*, derived from the form of the fruit, is frequently applied to the species of *ostrya*.

**IRONY**; a term invented by the refined Athenians (*agantia*, dissimulation). By *irony*, we understand, in common life, that more refined species of ridicule, which, under the mask of honest simplicity, or of ignorance, exposes the faults and errors of assuming folly, by seeming to adopt or defend. It neither presupposes a bad heart nor a malicious purpose, and is consistent with so much kindness and true urbanity, that even the object of ridicule may be forced to join in the laugh, or be disposed to profit by the lesson. One mode of irony is, when a person pretends to hold the false opinion or maxim as true, while, by stronger and stronger illustration, he so contrasts it with the true, that it must inevitably appear absurd. Another mode is, when he assumes the mask of innocent *naïveté*, and excites ridicule by the unreservedness of his professions. But humour, concealed under seriousness of appearance, is the foundation of both. (For the Socratic irony, see *Socrates*). There is a certain sort of malicious irony (*persiflage*), the object of which is merely to ridicule, without the desire of correction.

**IROQUOIS**; the name given by the French to the confederacy of North American Indians, called, by the English, the *Five*, and, afterwards, the *Six Nations*. The Mohawks, Oneidas, Onondagas, Cayugas, Senecas, and Tuscaroras were the members of this confederacy. They formerly resided on the Mohawk river and the lakes which still bear their names, and extended their conquests to the Mississippi, and beyond the St Lawrence. Their valour and successes have procured them the name of the *Romans of America*. Their territory abounded with lakes well stored with fish; their forests were filled with game, and they had the advantage of a fertile soil. The sachems owed their authority to public opinion: the general affairs of the confederacy were managed by a great council, composed of the chiefs, which assembled annually at Onondaga. They exterminated the Eries, drove out the Hurons and Ottawas, subdued the Illinois, Miamies, Algonquins, Lenni Lennapes, Shawanese, and the terror of their arms extended over a great part of Canada, and the northern and north-eastern parts of the United States. In the long wars between the British and French, which continued with some interruptions, for nearly a century, until 1763, they were generally in the British interest; and, in the revolutionary war, they were also mostly in favour of the British.

Their numbers have much diminished. Some of the tribes are extinct; some have made considerable advances in civilization, while others have fallen into a state of squalid misery. Some of the nations remained in New York; others removed to Canada. The number in New York, in 1818, was 4575, including the Moheakunnuk or New Stockbridge, the Mohicans and Narragansetts, who had been adopted into the confederacy. They owned 265,315 acres of land. See Colden's *History of the Five Nations*; Morse's *Report on Indian Affairs*, New Haven, 1822; *Indians, and Indian Languages*.

IRRATIONAL QUANTITIES are those which cannot be measured by unity or parts of unity; for example, the square root of 2,  $1.4142 \dots$  which, by continued approximation, can be obtained more and more exactly, without end, in parts of unity, but can never be exactly determined. The relation of two quantities is also called *irrational*, when one cannot be exactly measured by the whole and parts of the other. The circumference and the diameter of a circle stand in such an *irrational* relation to each other, because we can only find by approximation, how many times the latter is contained in the former.

IRRAWADDY, or IRAWADDY; a large river of Asia, in the Chinese and Birman empires. Crawford (*Embassy to Ava*, London, 1829) thinks it has its source in the provinces of Lao and Yunnan. According to Wilcox, it is eighty yards broad in lat.  $27^{\circ} 30'$ , where he visited it, and he was informed by the natives that he was fifty miles from its source. It falls, by fourteen mouths, into the bay of Bengal, after having divided into two principal branches, in Pegu, lat.  $17^{\circ} 45'$ . The most easterly branch passes by Rangoon; the most westerly, by Bassien or Pessim. According to Crawford, it is navigable for boats to Bhamo, about 300 miles above Ava. The intermediate space between the eastern and western branches forms a Delta, covered with trees and long grass, and inhabited chiefly by buffaloes, deer, and tigers. In lat.  $21^{\circ} 45'$ , it receives the Keen-Dwem, a considerable river, from the north-west.

IRRITABILITY (*irritabilitas*; from *irrito*, to provoke;—*vis insita* of Haller; *vis vitalis* of Gorter; *oscillation* of Boerhaave; *tonic power* of Stahl; *muscular power* of Bell; *inherent power* of Cullen); the contractility of muscular fibres, or a property peculiar to muscles, by which they contract, upon the application of certain *stimuli*, without a consciousness of action. This power may be seen in the tremulous contraction of muscles when lacerated, or when entirely separated from the body in operations. Even when the body is dead, to all appearance, and the nervous power is gone, this contractile power remains till the organization yields, and begins to be dissolved. It is by this inherent power that a cut muscle contracts, and leaves a gap, that a cut artery shrinks, and grows stiff after death. This irritability of muscles is so far independent of nerves, and so little connected with feeling, which is the province of the nerves, that, upon stimulating any muscle by touching it with caustic, or irritating it with a sharp point, or driving the electric spark through it, or exciting with the metallic conductors, as those of silver or zinc, the muscle instantly contracts, although the nerve of that muscle be tied; although the nerve be cut so as to separate the muscle entirely from all connexion with the system; although the muscle be separated from the body; although the creature, upon which the experiment is performed, may have lost all sense of feeling and have been long apparently dead. Thus a muscle, cut from the limb, trembles and palpitates a long time after; the heart separated from the body, contracts when irritated; the bowels, when torn from the body, continue their peristaltic

motion so as to roll upon the table, ceasing to answer to *stimuli* only when they become stiff and cold. Even in vegetables, as in the sensitive plant, this contractile power lives. Thence comes the distinction between the *irritability* of muscles and the *sensibility* of nerves; for the irritability of muscles survives the animals, as when it is active after death; survives the life of the part or the feelings of the whole system, as in universal palsy, where the vital motions continue entire and perfect, and where the muscles, though not obedient to the will, are subject to irregular and violent actions; and it survives the connexion with the rest of the system, as when animals very tenacious of life, are cut into parts; but *sensibility*, the property of the nerves, gives the various modifications of sense, as vision, hearing, and the rest; gives also the general sense of pleasure or pain, and makes the system, according to its various conditions, feel vigorous and healthy, or weary and low. The eye feels and the skin feels; but their appointed *stimuli* produce no motion in these parts: they are sensible, but not irritable. The heart, the intestines, the urinary bladder, and all the muscles of voluntary motion, answer to *stimuli* with a quick and forcible contraction; and yet they hardly feel the *stimuli* by which these contractions are produced, or, at least, they do not convey that feeling to the brain. There is no consciousness of present stimulus in these parts which are called into action by the impulse of the nerves, and at the command of the will; so that muscular parts have all the irritability of the system, with but little feeling, and that little owing to the nerves which enter into their substance; while nerves have all the sensibility of the system, but no motion. After every action in an irritable part, a state of rest, or cessation from motion, must take place before the irritable part can be again incited to action. If, by an act of volition, we throw any of our muscles into action, that action can only be continued for a certain space of time. The muscle becomes relaxed, notwithstanding all our endeavours to the contrary, and remains a certain time in that relaxed state, before it can be again thrown into action. Each irritable part has *stimuli* which are peculiar to it, and which are intended to support its natural action: thus blood is the stimulus proper to the heart and arteries; but if, by any accident, it gets into the stomach, it produces sickness or vomiting. The urine does not irritate the tender fabric of the kidneys, ureters, or bladder, except in such a degree as to preserve their healthy action; but if it be effused into the cellular membrane, it brings on such a violent action of the vessels of these parts, as to produce gangrene. Such *stimuli* are called *habitual stimuli* of parts. Each irritable part differs from the rest in regard to the quantity of irritability which it possesses. This law explains to us the reason of the great diversity which we observe in the action of various irritable parts: thus the muscles of voluntary motion can remain a long time in a state of action, and, if it be continued as long as possible, another considerable portion of time is required before they regain the irritability they lost; but the heart and arteries have a more short and sudden action, and their state of rest is equally so. The circular muscles of the intestines have also a quick action and short rest. The action of every stimulus is in an inverse ratio to the frequency of its application. A small quantity of spirits, taken into the stomach, increases the action of its muscular coat, and also of its various vessels, so that digestion is thereby facilitated. If the same quantity, however, be taken frequently, it loses its effect. In order to produce the same effect as at first, a larger quantity is necessary; and hence the origin of drunk-driving. The more the irritability of a part is accumulated

the more that part is disposed to be acted upon. It is on this account that the activity of all animals, while in perfect health, is much livelier in the morning than at any other part of the day; for during the night, the irritability of the whole frame, and especially that of the muscles destined for labour, viz., the muscles for voluntary action, is reaccumulated. The same law explains why digestion goes on more rapidly the first hour after food is swallowed than at any other time; and it also accounts for the great danger that accrues to a famished person upon first taking in food.

In German philosophy, *irritability*, *sensibility*, and *reproductivity* constitute the whole of organic life. Since the time of Schelling, *irritability* is much considered in the mental philosophy of that country. The French, treating the subject merely with reference to physiology, generally use, at present, the word *contractility* instead of *irritability*.

IRUS; a mendicant of Ithaca, employed by the suitors of Penelope in subordinate offices. On Ulysses' return, when he approached his mansion in the habit of a beggar, in order to surprise those unwelcome guests, Irus attempted to prevent his entering, and challenged Ulysses to a contest, in which Irus was beaten.

IRVINE, a royal burgh and sea-port in Ayrshire, situated on the left bank of a small river of the same name, the estuary of which forms its harbour; distant from Ayr, eleven miles, N.; from Edinburgh, sixty miles; and from Glasgow, twenty-five, S.S.W. Irvine consists principally of one broad street running parallel with the river, and contains an elegant church surmounted by a lofty spire, a handsome town-house in the centre of the town, and at its northern extremity a commodious academy, where Greek, Latin, French, the mathematics, and various other branches of useful knowledge are taught. Here also are established branches of banks; and a weekly market is held, which is well attended and plentifully supplied with provisions. Irvine was erected into a royal burgh long before the reign of Alexander II., who confirmed its ancient charter. An ample revenue arises from the landed possessions of the burgh and customs of its port, which is commodious, and at spring-tides has about twelve feet water on the bar. The principal article of export is coal, shipped in vessels built and fitted out here, for which purposes there is a yard for ship-building, and a rope-walk, affording employment to a number of the inhabitants, while many others are occupied in a considerable manufacture of leather and cotton. The imports consist chiefly of iron, timber, hemp, flax, and grain, and formerly a great number of boats were employed in the herring fishery, but it has been long on the decline. The parish of Irvine is five miles in length by two in breadth, and the soil in some parts is abundantly productive, though the surface on the banks of the river is flat and sandy. The living is in the presbytery of Irvine (of which it is the seat) and synod of Glasgow and Ayr; patron, the Earl of Eglinton, to whom belongs the remains of an old castle in the neighbourhood, said to have been built on the site of an ancient nunnery. Irvine is the birth-place of two distinguished authors, Mr James Montgomery, the poet, and Mr John Galt, the novelist. It was also the temporary residence of Robert Burns, in his early youth, who, it will be remembered, endeavoured to establish himself here in business as a flax-dresser, until his shop was unfortunately burned. Population of burgh and parish in 1831, 5,800.

IS; the Turkish corruption of the Greek *us*, prefixed to many geographical names; as *Ismyr*, from *us* *Σμύρνα* (*Smurna*), *Iznik* (*Nice*), *Ismid* (*Nicomedia*).

ISAAC; the son of Abraham, remarkable for his birth, which was long promised to his parents, and took place when they were far advanced in age, and for his having early been destined to perish as a victim on the altar. (See *Abraham*.) He escaped death by a miracle, and resembled his father in faith and steadfastness in the worship of the true God in the midst of heathens, but not in activity and magnanimity. In him the patriarchal character shone milder and softer than in Abraham, but purer and nobler than in his son Jacob. Accustomed to a tranquil life, by the practice of agriculture, which he carried farther than Abraham, and leading a more settled life than his predecessors, yielding and patient in difficulties, he appeared in his family a tender father, but prematurely aged, weak, and easy to be imposed upon, who preferred the quiet, crafty Jacob to the ruder but more honest Esau.

ISABELLA OF CASTILE, the celebrated queen of Spain, daughter of John II., was born in 1451, and married, in 1469, Ferdinand V., king of Arragon. After the death of her brother, Henry IV., in 1474, she ascended the throne of Castile, to the exclusion of her elder sister, Joanna, who had the rightful claim to the crown. During the lifetime of her brother, Isabella had gained the favour of the estates of the kingdom to such a degree that the majority, on his death, declared for her. From the others, the victorious arms of her husband extorted acquiescence; in the battle of Toro, in 1476. After the kingdoms of Arragon and Castile were thus united, Ferdinand and Isabella assumed the royal title of Spain. With the graces and charms of her sex, Isabella united the courage of a hero, and the sagacity of a statesman and legislator. She was always present at the transaction of state affairs, and her name was placed beside that of her husband in public ordinances. The conquest of Grenada, after which the Moors were entirely expelled from Spain, and the discovery of America, were, in a great degree, her work. In all her undertakings, the wise cardinal Ximenes was her assistant. She has been accused of severity, pride, and unbounded ambition; but these faults sometimes promoted the welfare of the kingdom, as well as her virtues and talents. A spirit like hers was necessary to humble the haughtiness of the nobles without exciting their hostility, to conquer Grenada without letting loose the hordes of Africa on Europe, and to restrain the vices of her subjects, who had become corrupt by reason of the bad administration of the laws. By the introduction of a strict ceremonial, which subsists till the present day at the Spanish court, she succeeded in checking the haughtiness of the numerous nobles about the person of the king, and in depriving them of their pernicious influence over him. Private warfare, which had formerly prevailed to the destruction of public tranquillity, she checked, and introduced a vigorous administration of justice. In 1492, pope Alexander VI. confirmed to the royal pair the title of *Catholic king*, already conferred on them by Innocent VIII. The zeal for the Roman Catholic religion, which procured them this title, gave rise to the inquisition (see *Inquisition*), which was introduced into Spain in 1480, at the suggestion of their confessor, Torquemada. Isabella died in 1504, having extorted from her husband (of whom she was very jealous), an oath that he would never marry again. See *Ferdinand V.*, *Ximenes*, and *Columbus*.

ISABELLA; wife of Edward II. of England. See *Edward II.*

ISÆUS, an Athenian orator, born at Chalcis in Eubœa, lived in the first half of the fourth century before Christ, till after 357. Lysias and Isocrates were his teachers. Wholly unconnected with public

affairs, he devoted himself to instruction in eloquence, and wrote speeches for others. Of his fifty orations, eleven are extant, which are recommended by their simple and often forcible style, and are generally on causes respecting inheritance. They are to be found in the 7th vol. of Reiske's *Oratores Græci*. Sir W. Jones translated ten orations of Isæus, with a commentary (London, 1779). The eleventh, now known, has been discovered since.

ISAIAH, the first of the four great prophets, prophesied during the reigns of the kings of Judah, from Uzziah to Hezekiah, at least forty-seven years. Of the circumstances of his life nothing is known, but that he had an important influence over the kings and people. Of the sacred compositions which pass under his name in the Old Testament, that part which is unquestionably his gives him a high rank among the greatest poets. His style is peculiarly appropriate to the subjects of which he treats; it unites simplicity and clearness with the highest dignity and majesty; and in fulness and power, his poetry far surpasses that of all the other prophets. His writings are chiefly denunciations and complaints of the sins of the people, menaces of approaching ruin, and animating anticipations of a more glorious future. The whole bears the stamp of genius and true inspiration, and is marked throughout by nobleness of thought and feeling. See Lowth's *New Translation of Isaiah*, and his *Lectures on the Sacred Poetry of the Hebrews*; also, the article *Prophets*.

ISAURIA, in ancient geography; a country in Asia Minor, forming a part of Pisidia, lying on the west of Cilicia, and on the south of Lycaonia. The inhabitants were shepherds and herdsmen, and formidable as robbers. Their capital, Isaura, was a mere haunt of bandits. The consul Publius Servilius destroyed it; but another Isaura was built not far from it. Hence Strabo mentions two.

ISCHIA (anciently *Pitheculus*, *Enaria*, *Arime*, and *Isarime*); an island in the Mediterranean, six miles from the coast of Naples, about ten miles in circuit. Lon. 13° 56' E.; lat. 40° 50' N.; population, 24,000; square miles, twenty-five. It contains several high hills, one of which is 2300 feet above the sea. It is fertile in fruits, and abounds in game. The white wine is much esteemed. The air is healthy, on which account it is much resorted to by invalids, as it is but a small distance from the continent, and hardly more than four leagues from Naples. It is volcanic; and an earthquake in 1828 destroyed several villages on the island. The porcelain clay of Ischia was prized by the ancients, but the true *terra d'Ischia* is rare. Ischia, the capital town, is situated on the N. coast of the island, and is an episcopal see with 3101 inhabitants.

ISENBURG, or UPPER ISENBURG; a principality in Germany, situated in the Wetterau, about thirty miles long and ten wide, on the borders of the county of Hanau; subject partly to Hesse-Cassel, and partly to Hesse-Darmstadt. Population, 47,457; square miles, 318.—*Iseburg*, a principality belonging to Hesse-Cassel, erected since 1816, contains 16,200 inhabitants, and 137 square miles.

ISENBURG, New; a town of Hesse-Darmstadt, in Isenburgh, founded in 1700 by French refugees; three miles S. of Frankfurt on the Maine; four S. W. of Offenbach; lon. 8° 38' E.; lat. 50° 3' N.; population, 1170.

ISERE (anciently *Isara*); a river which rises in the Alps, about twelve miles from mount Cenis, in a mountain called *Iseran*, in the duchy of Savoy. After entering France, it passes by Grenoble, St Quentin, Romans, &c., and joins the Rhone about three miles above Valence.

ISERE; a department of France, constituted of

the former Dauphiny. It takes its name from the river Isère, which crosses it. It is divided into four *arrondissements*. Grenoble is the capital. Square miles, 3440; population, 525,984. See *Department*.

ISERLOHN; a town in the Prussian county of Mark, province of Westphalia, on the small river Baaren, with 5500 inhabitants, in 730 houses. The inhabitants are mostly Lutherans, but there are also some Catholics and Calvinists. There is a gymnasium here. It has manufactures of iron, brass, wire, and small wares, as needles, brass scales, &c. More than sixty considerable commercial houses keep up an intercourse with Italy, France, and Germany. There are also woollen and silk manufactories and blancheries in the environs. Iserlohn is about 15 leagues S. of Munster.

ISHMAELITES, in ancient geography and history; the descendants of Ishmael, the son of Abraham by Hagar (q. v.). Ishmael was born 1910 B.C. After the dismissal of Hagar from the house of Abraham, she wandered with her son to the wilderness of Paran, which bordered on Arabia, and here Ishmael became an expert hunter and warrior. His mother procured him a wife from Egypt, by whom he had twelve sons, who became the heads of so many Arabian tribes.

The name of *Ishmaelites*, or *Ismaeliens*, is also given to a Mohammedan sect which originally belonged to the Shiites, the adherents of Ali and the opponents of the Sunnites. In the first century of the Hegira, the Imam Giaffir-el-Sadek, a descendant of Ali, on the death of his eldest son, Ishmael, having transferred the succession to his younger son, Moussa, to the prejudice of the children of Ishmael, a party refused to acknowledge Moussa, and considered Ishmael's posterity as the legitimate Imams. By the Oriental historians, they are reckoned with the Nassarians, among the Bathenins or Batemenins, that is, adherents of the mystical, allegorical doctrine of Islamism. From the 8th to the 12th century, they were powerful in the East. Under the name of *Carmatians* (as they were called, from *Carmath*, near Cufa, the birthplace of their chief Karfeh, in the 8th century,) they devastated Irak and Syria. In Persia, which they likewise overran about this time, they were called *Meladehs*, that is, *impious*, or *Tahmash*, because they professed Talim's doctrine, that man can learn truth only by instruction. One dynasty of the Ismaelians, founded by Mohammed Abul-Obaid Allah, conquered Egypt about 910, and was overthrown by Saladin, the caliph of Bagdad, about 1177, when the dynasty became extinct with Adil-ud-din Allah. The other (still existing) Ismaelitic branch founded a kingdom in Syria in 1090, under the Imam Hassan Ben-Sabbah, which became formidable in the East, by its military power. Hassan, with his seven successors, is known in the East under the name of the *Old Man of the Mountain*, because his residence was in the mountain fastness of Mounsin in Syria. Thence he despatched his warriors—who were called *Hasschiachim*, from their immoderate use of the herbane (Arab. *Aschiachet*), which produces an excitement amounting to fury—on expeditions of robbery and murder. These Ismaelians, therefore, acquired in the West the name of *Assassins* (corruption of *Hasschiachim*), which thence became, in the western languages of Europe, a common name for murderer. At the close of the 12th century, the Mongols put an end to the dominion of the Old Man of the Mountain, who, according to Von Hammer's researches, was not a prince, but merely the head of a sect. From this time, only a feeble residue of the Ismaelians, from whom proceeded the Druses, about A. D. 1080, has survived in Persia and Syria. J.

Khekh in Persia, an Ismaelian Iman still has his residence, who is revered as a god by the Ismaelians, who extend as far as India, and is presented with the fruits of their robbery, from which he pays a considerable tribute to the shah of Persia. The Syrian Ismaelians dwell around Mesiade, west of Hamah, and in the mountain Semnack on Lebanon; they are under Turkish dominion, with a sheik of their own, who, in consideration of a yearly tribute to the Porte of 16,500 piastres, enjoys the revenues of the country, rendered productive and flourishing by agriculture and commerce (in cotton, honey, silk, and oil). These people are commended by modern travellers for their hospitality, frugality, gentleness, and piety. But their prosperity was interrupted in a war with the Nassarians (q. v.), who took Mesiade in 1809, and desolated the country; and, though reinstated, in 1810, in the possession of their territory, they drag out a miserable existence. The Ismaelians, with other Shiites, adore the prophet Ali as the incarnate God, and Mohammed as an ambassador of God, and the author of the Koran. All Ismaelians term themselves *Seid*, that is, descendants of the family of Mohammed, and wear the green turban, in token of their pretended nobility. In accordance with their exposition of the Koran, they believe in supernatural communications of the Deity by the prophets (Imans), and in the transmigration of souls, drey a paradise and hell, do not observe the purifications and fasts of the orthodox Mohammedans, and perform their pilgrimages, not to Mecca, but to Meschid, the place of Ali's interment, four days' journey from Bagdad. They have no public temples, and their simple rites display more of pure theism than those of the Mohammedans. See the treatise of Rousseau, consul-general in Aleppo, respecting the Ismaelians and Nassarians.

ISIAC TABLE, or BEMBINE TABLE (*Mensa Isiacæ* and *Tabula Bembina*); an ancient Egyptian monument, on which is represented the worship of the goddess Isis, with her ceremonies and mysteries. It is a square table of copper, divided into five compartments, covered with silver mosaic skilfully inlaid. The principal figure of the central group is Isis. After the capture of Rome (1625), this table came into the possession of cardinal Bembo, from whom the duke of Mantua obtained it for his cabinet. After the sack of Mantua in 1630, cardinal Pava obtained it, and presented it to the duke of Savoy. It is at present in the royal gallery at Turin. Several engravings of it have been made; the first by Æneas Vicus (Venice, 1559) in figures, the size of the original. Caylus has engraved and described it in his *Recueil des Antiquités*, vii. p. 34. It is filled with all sorts of hieroglyphics; and this mixture, with other reasons, Spineto considers as a proof of its having been fabricated in Rome, at a late date, by some person who knew little about the science.

ISIDORE; the name of several martyrs, saints, monks, and bishops; among others, of a monk of Pelusium in Egypt, died about the year 449, whose letters are valuable, as illustrative of the Bible. In the history of the papal law, a collection of decretals is worthy of note, which bears on its title page the name of Isidore, archbishop of Seville (who died 436), but which was corrupted in the 9th century by many spurious additions, and was widely circulated from the east of Germany.

ISINGLASS. This substance is almost wholly gelatine. 100 grains of good dry isinglass containing rather more than 98 of matter soluble in water. It is brought principally from Russia. The belluga yields the greatest quantity, being the largest and most plentiful fish in the rivers of Muscovy; but the acunts of all fresh water fish yield more or less fine

isinglass, particularly the smaller sorts, found in prodigious quantities in the Caspian sea, and several hundred miles beyond Astracan, in the Wolga, Yaik, Don, and even as far as Siberia. It is the basis of the Russian glue, which is preferred to all other kinds for strength. Isinglass receives its different shapes in the following manner. The parts of which it is composed, particularly the sounds, are taken from the fish while sweet and fresh, slit open, washed from their slimy sordes, divested of a very thin membrane which envelopes the sound, and then exposed to stiffen a little in the air. In this state, they are formed into rolls about the thickness of a finger, and in length according to the intended size of the staple; a thin membrane is generally selected for the centre of the roll, round which the rest are folded alternately, and about half an inch of each extremity of the roll is turned inwards. Isinglass is best made in the summer, as frost gives it a disagreeable colour, deprives it of its weight, and impairs its gelatinous principles. Isinglass boiled in milk forms a mild, nutritious jelly, and is thus sometimes employed medicinally. This, when flavoured by the art of the cook, is the *blancmanger* of our tables. A solution of isinglass in water, with a very small proportion of some balsam, spread on black silk, is the court plaster of the shops. Isinglass is also used in fining liquors of the fermented kind, and in making mock-pearls, stiffening linens, silks, gauzes, &c. With brandy it forms a cement for broken porcelain and glass. It is also used to stick together the parts of musical instruments.

ISIS; the principal goddess of the Egyptians, the symbol of nature, the mother and nurse of all things. According to Diodorus, Osiris, Isis, Typhon, Apollo, and Aphrodite (Venus) were the children of Jupiter and Juno. Osiris, the Dionysos (Bacchus) of the Greeks, married Isis (sun and moon) and they both made the improvement of society their especial care. Men were no longer butchered, after Isis had discovered the valuable qualities of wheat and barley, which had till then grown wild, unknown to mankind, and Osiris taught how to prepare them. In gratitude for these benefits, the inhabitants always presented the first ears gathered as an offering to Isis. Whatever the Greek related of his Demeter (Ceres) the Egyptian attributed to Isis. As agriculture was improved, civilisation advanced, and a taste for art and letters was developed. At least, we first hear among the Egyptians, of the building of cities and temples, and the constitution of the priesthood, after the time of Isis, who was also revered as the inventress of sails. According to Plutarch's learned treatise (on Isis and Osiris), Osiris and Isis were the illegitimate offspring of Saturn and Rhea. When Helios (Sol), the husband of Rhea, discovered the intrigue, he pronounced judgment upon her, that she should not be delivered in any month nor in any year. Mercury, who was then in love with Rhea, and was loved by her, having heard the curse, discovered a way in which she might be delivered, notwithstanding. In playing at draughts with the moon, he won from her the seventieth part of her light, of which he made five days, and, having added them to the 360, of which the year had previously consisted, gave the goddess time for delivery. These were the intercalary days of the Egyptians, which were celebrated by them as the birthdays of their deities. Osiris was born the first; and at his birth a voice cried, "The lord of the world is born." On the second day, Rhea was delivered of Arotheris, or the elder Horus (Apollo), on the third of Typhon, on the fourth of Isis, and on the fifth of Nephthys, who was called *Teleute*, the Consummation, though others give her the name of *Aphrodite* and *Nike* (Victory). Of

these five children, there were three fathers—Helios, Saturn, and Mercury. Typhon married Nephthys; Osiris and Isis loved each other even in their mother's womb. Osiris, the good spirit, was persecuted by Typhon the bad spirit, who, by stratagem, shut him up in a chest, and threw him into the sea. When Isis learned this, she cut off one of her locks, put on mourning garments, and wandered about disconsolate, in search of the chest. Meanwhile she learned that Osiris, on a certain occasion, deceived by Nephthys, who was enamoured of him, had mistaken Nephthys for herself, and that the child which was the fruit of this union had been exposed by its mother. Isis therefore sought the child, and bred him up under the name of *Anubis*. The chest in which Osiris was shut up, was, meanwhile, driven ashore at Byblos, and thrown on a bush, which, having suddenly grown into a beautiful tree, had entirely enclosed it. This tree was afterwards cut down by the king of the country as a curiosity, and used as a pillar in his palace. The chest was finally obtained by an artifice of Isis, but the body, being afterwards discovered by Typhon, was torn by him into fourteen pieces. On discovering this, Isis proceeded to collect the fragments; she found them all but one, an image of which she therefore formed; and thus the Phallus came to be held sacred, and a festival was instituted in its honour by the Egyptians. Osiris having returned to life, Isis bore him, prematurely, Harpocrates, the god of silence, who was lame in his lower limbs. Horus, the son of Isis, afterwards vanquished Typhon in a war, and gave him to his mother for safe keeping. She set him at liberty, on which account Horus tore the crown from her head, instead of which Mercury gave her an ox's head. As the goddess of fecundity, and the universal benefactress, she superintended the cure of human maladies, and, even in Galen's time, several medicines bore her name. After her death, she was revered as the chief of the divinities. According to Herodotus, the Egyptians represented Isis under the form of a woman, with the horns of a cow, as the cow was sacred to her. Another tradition also related, that Isis, in the shape of a young cow, became the mother of Apis, by a ray from heaven (Osiris); that is, the sun and moon sustain the earth. She is also known by the attributes of the *lotus* on her head, and the *sistrum* in her hand, a musical instrument, which the Egyptians used in the worship of the gods. The dress of Isis consists of a close under garment, and a mantle drawn together and fastened in a knot on her breast. Her head is covered with the Egyptian hood. Sometimes, like the Diana of Ephesus, the universal mother, she is represented with a great number of breasts. Among the Romans, Isis afterwards received, in countenance, figure, and dress, somewhat of the character of Juno. A foreign character is to be recognised only in the mantle and fringed veil, and other attributes. She was particularly worshipped in Memphis, but at a later period, throughout all Egypt. A festival of eight days (the festival of Isis) was annually solemnised in her honour, consisting of a general purification. (See *Mysteries*.) It was introduced into Rome, but frequently prohibited on account of the abuses which it occasioned. Under Augustus, the temples of Isis were the theatres of the grossest licentiousness. From Egypt, the worship of this goddess passed over to Greece and Rome. See *Isis*, also *Egyptian Mythology* in the article *Hieroglyphics*.

ISLAM, or, as it is pronounced in Syria, *Eslem*, signifies an entire submission or devotion to the will of another, and especially of God, and thence the attaining of security, peace, and salvation. This act is performed, and these blessings are obtained, accord-

ing to the doctrine of the Koran, by acknowledging the unity of God, and the apostleship of Mohammed. Every man who makes this profession (*aslama*) is a *Moslem*, i. e. has entirely given himself up to the will of God, and is, on that account, in a state of salvation (*salam*). But as *Muslimdai*, the dual of *Moslem*, is commonly substituted for the singular by the Persians and Turks, the word *Musliman*, or *Musliman*, has in those, as well as in the European languages, now nearly superseded the shorter and more correct term.

As *Islam* comprehends the practical as well as the doctrinal tenets of the Mohammedan religion—every thing which Moslems must believe and practice—embraces the whole of their civil and religious polity; for the system of Mohammed relates more to this world than the next, and was designed, like the law of Moses, for the secular as well as the spiritual direction of his followers. But, taken in its more common and direct sense, it signifies the profession of the five fundamental doctrines, on which, according to a traditional declaration of the prophet (Rehmad, *Rel. Moh.* I. l. p. 5.) the whole edifice of the faith is built. Those five points are—1. the acknowledgment of the Divine Unity and of the prophetic mission of Mohammed; 2. observance of prayer; 3. giving of alms; 4. keeping the fast of Ramadan; and, 5. the performance, if possible, of the pilgrimage to Mecca. They are often, also, subdivided and enlarged, in order to arrange them more conveniently into the two classes of belief (*iman*) and practice (*dein*). The former relates to—1. God; 2. the angels; 3. the Sacred Book; 4. the prophets; 5. the last day; and, 6. the divine decrees: the latter, to—1. purification; 2. prayer; 3. alms; 4. fasting; and, 5. the pilgrimage. To the first article of this creed, the Persians and other adherents of Ali add, "Ali is the vicar of God;" and that is the only essential point in which they differ from the Sunnites, or orthodox Mohammedans, who acknowledge the authority of the four first khalifs. The disputes concerning the succession to the khalifate, or supremacy of the prophet, spiritual and civil, which arose immediately after his death, split his followers, as is well known, into two distinct sects, the Sunnites and the Shiites, who have never since ceased to hate each other with a cordial animosity; but they differ more in the degree of veneration paid to Ali, than in any other point; and, professing the same creed, with the exception of one article, they derive their doctrines from the same sources. In their respective rituals, and their interpretation of particular texts, there are many minor differences; but both agree in superadding a traditional to the written law of Mohammed, and both have sanctioned that departure from the original simplicity of his doctrine, the re-establishment of which was the professed object of the Wahabees. See *Mohammed*.

ISLAND; a portion of land less than a continent, and which is entirely surrounded by water. Islands are of very different extent, surface, &c. There are some so large, that authors have doubted whether they should not be called continents, as New Holland; this, however, is a mere matter of definition. Borneo, Java, Madagascar, Sumatra, Sicily, Great Britain, Ireland, Iceland, Hayti, Cuba, Newfoundland, are among the most considerable islands, and are capable of containing powerful states; while others, speaking only of those which are inhabited, are only of a few miles in diameter. They differ not less in form than in extent, some being indented with deep bays, and affording fine harbours, and others presenting an almost unbroken line of coast. A cluster of several islands is called an *archipelago*. (q. v.) The principal clusters in the Atlantic are the West Indies, the Azores, the Canaries, the Il-

brides, Orkneys, Shetlands, &c. But the great world of islands is in the Pacific, and modern writers have considered them as forming a fifth division of the world, including the Eastern Archipelago, Polynesia, and Australia, to which they have given the name of *Oceana*. (See *Oceania*.) A large island is a continent in miniature, with its chains of mountains, its rivers, lakes, and is often surrounded by a train of islets. The rivers of islands are in general little more than streams or torrents, and the smaller islands are often uninhabitable from want of water; but they serve as haunts and breeding-places of innumerable sea-birds. There are islands in rivers and lakes, as well as in the sea. In rivers, they are often formed by the division of the stream into various branches, and often by accumulations of earth brought down and deposited around a rocky base. Examples are not wanting of floating islands, which are formed by the roots of plants and trees interlacing with each other, and thus constituting a support for deposits of successive layers of earth. Chains of islands in the neighbourhood of continents seem to be often formed by the action of the waters washing away the less solid parts, which once occupied the spaces between the mountains and rocks which still appear above the surface of the waves. Single islands in the ocean, such as St Helena, Ascension, &c., and some clusters, as the Canaries, the Azores, &c., appear to owe their origin to the action of submarine fire, which has raised them above the level of the sea. Considerable islands have been known to be suddenly raised from the bed of waters, and soon after to have as suddenly disappeared in the ocean. The Pacific contains a great number of low islands formed of coral reefs, which are sometimes covered with sand, on which a few plants find nourishment. These reefs are formed by the labours of innumerable zoophytes. Submarine islands, as they have been sometimes called, or immense banks of sand, above which there is no great depth of water, are not unfrequent. It has been remarked that islanders have generally some peculiar traits of character, which distinguish them from the inhabitants of continents: it is true that they have often been distinguished by their commercial activity, and their naval skill; but this trait is common to other inhabitants of countries bordering on the sea. The great commercial powers of ancient times were the Phœnicians, the Carthaginians, and continental Greeks; of the middle ages, the Italian republics; and the Normans were the most distinguished naval warriors of their time.

A portion of country nearly included between several rivers, is sometimes called an *island*, as the ancient province of the *Ile de France*. The Greeks called such a district by the expressive name of *Μετρωπαια*. The Greek word for island is *νησος*, the Latin *insula*, Italian *isola*, Spanish *isla*, French *île*, *ilot*, German *insel* and *eiland*, Danish, *ø*, and *ey*, Swedish *ö*, Russian *остров*.

ISLAND or ICELAND SPAR. See *Lime*.

ISLANDS OF THE BLESSED, or FORTUNATE ISLANDS (*Insula Beatorum*, *Fortunata Insula*, *Nova Manan*); the Elysium of Homer; according to the Grecian mythology, the happy islands which were supposed to lie westward in the ocean, where the favourites of Jupiter, snatched from death, lived in the midst of happiness. According to Hesiod, they were the residence of the fourth race of heroes. In the earliest mythology, the Islands of the Blessed, the Elysian Fields, and the lower world, were in general confounded with each other.

ISLAY or ILAY, a large island in Argyleshire, the most southern of the Hebrides. Its extreme length from the point or Mull of Oa to Rùmhill, that is, from south to north, is nearly thirty-one English

miles, and its breadth, from the point of Ardmore on the east to the form of Saraig, and the opposite extremity of the Rinn on the west, is about twenty-four miles. Its total superficies is about 154,000 acres. It is divided into three parishes, namely, Bowmore or Killarow, Kilchoman, and Kildalton. It is separated from the island of Jura, on the north-east, by a narrow sound formed by the Atlantic Ocean, which bounds it on every side, and is said to have derived its name either from Isla, the daughter of a king of Lochlin, whose ashes repose at Kildalton, or Isla, i. e. the isle, from its having been the chief seat of the Lords of the Isles, till their sovereignty was overthrown by James III. A feu duty of £500 per annum was paid to the crown for this island by the family of Calder, who possessed it from 1626 to 1719. In the latter year, it was purchased, with the exception of a farm or two, by Mr Campbell of Shawfield, for £12,000, and still remains in the hands of his descendants. Its annual rental must now exceed its original purchase money. The last proprietor has done much for the improvement of the island; but of late years an excessive increase of rent has caused the emigration of many old tenants. The coast, though rocky and dangerous, is indented by several safe bays and harbours, that of Loch Indal, affording secure anchorage, off the populous village of Bowmore, for ships of large burden, and having a commodious quay, with good landing places. In the centre of the island is Loch Finlaghan, three miles in circuit, surrounding an islet of the same name, where are vestiges of the palace in which the Macdonalds, lords of the isles, once resided in all the pomp and splendour of royalty, and who were here crowned, anointed, and enthroned on a square stone by the bishops of Argyle, in the presence of their subordinate chieftains. There are several other lakes, besides numerous streams, all abounding with salmon and trout. The crops raised in Islay are principally of barley and oats, and much of the grain is used in the distillation of whiskey. Agriculture is practised here with as much skill and success as in the Lowlands, and good roads and good farm houses are abundant. The island is rich in minerals. Lead, copper, and iron ores, with quicksilver, limestone, and marl, are obtained here. It is a favourite resort for eagles, falcons, geese, ducks, and various other species of birds; and otters, hares, weasels, vipers, &c., are frequently found upon the island. Islay has long been celebrated for the excellence of its distillation of whiskey. Population in 1831, 19,700. See *Hebrides*.

ISLE OF FRANCE. See *France, Isle of*.

ISLINGTON, a village of England, in the county of Middlesex, and neighbourhood of London, is chiefly composed of the dwellings of retired citizens, and other persons connected with the capital. The neighbourhood abounds with pleasant walks, the fields being unenclosed, and intersected by the meanders of the New river, while the adjacent tea-gardens and taverns, all in fine open situations, and furnished with bowling-greens, are much visited from the metropolis. Population of the parish, 37,316. See *London*.

ISMAIL, or ISMAILOW; a town in Russia, in Bessarabia, on the north side of the Danube, about thirty-three miles from the Black sea; 144 S. W. Otchakov, 268 N. Constantinople; lon. 28° 50' E.; lat. 45° 21' N. Population 10,000. The town of Ismail contains seventeen mosques, and measures about a mile towards the land, and half a mile by the side of the Danube, and was fortified by eight bastions. The ramparts are, in general, eighteen feet in height, in some parts twenty-five. This place was taken by storm (December 22, 1790), by the Russians, under general Suwarrow. The Russians were several

times repulsed, and lost, in the siege, 10,000 men. According to the account, as published at Petersburg, the Turkish garrison were put to death after the surrender, and 30,000 men massacred in cold blood. The booty found was immense—230 pieces of cannon, many magazines, powder, bombs, and balls, 345 standards, an abundance of provisions, 10,000 horses, &c., to the value, as calculated, of 10,000,000 piastres.

**ISOCRATES**; one of the most distinguished Greek orators, born at Athens, 436 B. C. His principal teachers were Gorgias, Prodicus, and Protagoras. On account of his weak voice and natural timidity, he was reluctant to speak in public; but he applied himself with the greatest ardour to instruction in the art of eloquence, and preparing orations for others. He derived a considerable profit from this occupation, as is evident from the fact, that he received a present of twenty talents (about 18,000 dollars) for a speech that he wrote for Nicocles, king of Cyprus. In his childhood, he was the companion of Plato, and they remained friends during their whole lives. He had a great veneration for Socrates. After the death of Socrates, which filled his scholars with fear and horror, he alone had the courage to appear in mourning. He gave another proof of his courage, by publicly defending Theramenes, who had been proscribed by the thirty tyrants. This courage, however, seems to have deserted him; for he never after ventured to appear publicly and take part in the popular assemblies. This was the reason why he never attained to the offices, to which, in Athens, public eloquence afforded the only passport; but eloquence, nevertheless, owed much to his services. He was particularly distinguished for a polished style and a harmonious construction of his sentences. The composition, revision, and repeated polishing of his speeches, occupied so much time, that he published little. His celebrated panegyric on Athens (*Panathenæus*) employed him ten years. The critics of his time objected to him, that his style was often prolix and overloaded with ornament; that he aimed rather at pleasing the ear than moving the heart; that he made the sense subservient to the sound, and often used unmeaning expressions and inappropriate figures to round off his periods. As all his speeches were modelled after the same pattern, their sameness excited weariness. His subjects were the most important points of morals and politics. His admonitions to princes were so gentle, that they could not be offended by them, and even bestowed favours on the author. He knew how to flatter them in the most delicate manner. A proof of this is afforded by the letter which he wrote, when ninety years of age, to the Macedonian king Philip. Yet his desire for the freedom of Greece was so intense, that he starved himself to death, in his ninety-eighth year, from grief at the unhappy battle of Cheronæa. In Plutarch's time, sixty orations went under his name, not half of which were, however, deemed genuine. Twenty-one now remain, of which the principal are the *Panegyricus* (an oration in which he exhorts the Greeks to concord, and to war against the Persians, edited by Morus and Spohn, Leipsic, 1817, Piniger and Dindorf, 1825 and 1826), and the *Panathenæus*. Ten letters are also extant. The latest editions of all his orations are those of Lange (Halle, 1803) and of Coray (Paris, 1806, two volumes). Of the older editions, those of H. Wolf, of Henry Stephens, Bekker, and Battie are the best.

**ISOGRAPHY** (from the Greek *isos*, equal, similar, and *grapho*, to write); the imitation of handwriting. As it is too expensive and difficult for many persons to collect autographs (q. v.) of famous persons, it is agreeable to have at least fac-similes or isographs.

An interesting work was completed in the year 1831 called *Isographie des Hommes célèbres* (Paris), containing several hundred fac-simile copies of autograph letters and signatures. Some years ago, Mr. Tinsley published a work under the title *British Autography*, containing a collection of portraits of celebrated English characters, with the fac-simile of their autographs under each; and Mr. Nichols is publishing another work of the kind. It has been often asserted, that some judgment could be formed of a man's character from his handwriting, and there exists a small French publication—*L'Art de juger les Hommes par leur Ecriture*—a new reason for authors to be thankful for the invention of printing.

**ISOUARD, NICOLÒ.** See *Nicolo*.

**ISPAHAN, ISFAHAN, or SPAHAWN** (anciently *Aspadana*); a city of Persia, in Irak, formerly the capital of the whole country; 260 miles N. E. Basra. lon. 51° 50' E.; lat. 32° 25' N. The population was formerly estimated by some travellers, probably with much exaggeration, at 1,100,000. Chardin, in 1686, stated it at 600,000. According to Olivier, it was reduced, in 1796, to 50,000. In 1800, it was stated at 100,000. Morier stated it in 1816 from Persian authorities, at 400,000; but, in his second journey, at 60,000. Kinnier states it at 200,000. According to Chardin, the walls were twenty-four miles in circuit, and contained 122 mosques, forty-eight colleges, 1802 caravansaries, and 273 public baths. A great part of the city is a present a mass of ruins, with here and there an inhabited house. It is situated on the river Zenderout. Under the caliphs of Bagdad, it became the capital of the province of Irak. Being situated in the centre of the empire, and surrounded by the most fertile territories, it soon became a place of great population, wealth and trade. In 1387, it was taken by Timur Bec, and the citizens were given up to indiscriminate massacre, and 70,000 are said to have perished. Shah Abbas made it the seat of his empire, and spared no cost in embellishing it with the most splendid edifices. In 1722, it was taken by the Afghans; but, in 1727, it was retaken by Nadir Shah, since which it has not been a royal residence. The great palace built by Shah Abbas, is said to have been five miles in circuit, a great part of which space, however, was laid out in ten gardens, adorned with summer houses and other elegant structures. The walls and buildings of this palace remain nearly entire, but it has been stripped of nearly all its costly furniture, and every thing valuable that could be removed. The square called Meyden was equally distinguished, one third of a mile in length, formerly encircled by a canal, bordered with plane trees; but all vestiges of both are now obliterated. Another remarkable object is the Chaur Baug (four gardens), a name given to an avenue of more than a mile reaching from the Meyden to the mountains east of Isphahan, composed of four rows of large and beautiful plane trees, with canals and basins to receive the waters of the Zenderout. There are several handsome bridges in the city, and the mosques display great magnificence. The private buildings have a mean appearance, built of bricks dried in the sun, but within they are handsome and convenient. The streets are narrow, winding, irregular, unpaved, and very dusty. When Isphahan was in its prosperity, its suburbs were distinguished for their extent and beauty. The principal one, Julfa, is now reduced from 12,000 to 600 families—Armenians, Circassians and Georgians. The manufactures of the city are still extensive, and it is famous for its gold brocade. It is also the emporium of the inland commerce of Persia.

**ISRAEL and ISRAELITES.** See *Israel* and *Hebrews*.

ISRAELITE CHRISTIANS; the Jews converted to Christianity in Russia. An imperial decree of March 25, 1817, imparted to them perfect freedom in the choice of their Christian confession, portions of the public lands for the establishment of colonies, freedom to exercise mechanical arts without restraint, full civil rights, independence of the local authorities, government by magistrates chosen by themselves, who were immediately subordinate to an imperial board of control, exemption from military and civil service, from furnishing quarters to soldiers, from supporting the posts, and from all taxes for twenty years, when they are to be placed on an equality with other subjects. According to the denomination of the Christian confessions selected by them, they must form distinct parishes, in which no foreign Christian or Jew may settle, though every foreign proselyte may be admitted after the payment of his debts.

ISSUE. The plaintiff and defendant, in a suit at law, are said to be *at issue*, when something is affirmed by one of them, which is denied by the other. The subject of this affirmation and denial may be either matter of fact or matter of law. If the defendant intends to dispute the truth of the statement whereon the plaintiff grounds his complaint, he denies either the whole of the statement, or some one material fact contained in it, which, in technical language, is called *traversing*. He then appeals to the decision of a jury, which is called *putting himself upon the country*. Although the plaintiff's statement be true, it does not necessarily follow that it discloses sufficient grounds for complaint against the defendant. If it does not so, the defendant admits the truth of the facts, but denies their sufficiency in law to support the action. In this case, he appeals to the decision of the judges; for the jury merely decides questions which involve matters of fact. Questions of mere law fall beneath the cognizance of the judges. When either the plaintiff or the defendant admits the facts, but denies the law of the other, he is said to *demur*. Although the plaintiff's statement, so far as it goes, be both true in point of fact, and sufficient in point of law, the defendant may still have a good defence; for the plaintiff may have stated the truth, but not the whole truth. Some facts may be suppressed, which, when explained by the defendant, may turn the scale in his favour. If this counter-statement of the defendant is sufficient in point of law as a defence, the plaintiff demurs; but if it is sufficient in point of law, he must either deny the facts, or allege some other facts to counterbalance them. By these means, the parties in the cause must ultimately arrive at some point, either of law or fact, at which they are at issue, and judgment will be given for that party in whose favour the issue is decided. The statements and counter-statements of the parties are called the *pleadings*, and each particular stage in the pleadings has a name appropriated to itself. These names are, 1. the *declaration*; 2. the *plea*; 3. the *replication*; 4. the *rejoinder*; 5. the *sur-rejoinder*; 6. the *rebutter*; 7. the *surrebutter*. The first, third, fifth, and seventh names belong to the pleadings of the plaintiff; the second, fourth, and sixth to the defendant. Issue is generally taken before the parties arrive at a surrebutter. In former times, the pleadings were conducted, *vivâ voce*, in open court, and the judges resided, like moderators, during the dispute, until the parties arrived at an issue; but they are now drawn up in writing out of court, and are then filed by the attorneys in the proper offices attached to the court. The judges now hear nothing of them until the issue of fact comes on for trial, or the issue at law for argument. If the existence of a particular record

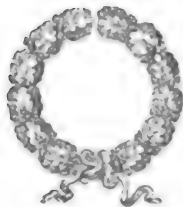
is put in issue, it must be produced by the party who affirms its existence; and the court, at the time appointed for its production, decides the issue without the intervention of a jury. This is one of the very rare cases where the jury are not the sole judges on questions of fact. There is a rule of pleading, that only one material fact shall be put in issue in one plea. To this rule the *general issue* forms a wide exception. When a special plea is pleaded, evidence is only admissible as to the truth or falsehood of the particular fact which is the subject of that plea; but the general issue is a species of plea which usually compels the plaintiff to prove his whole case to the satisfaction of a jury, and, at the same time, enables the defendant to prove any circumstances whatever which discharge his liability. Thus, if an action be brought against a man for the price of goods which the plaintiff alleges that the defendant bought, if the defendant has become a bankrupt since the purchase, he may plead that fact specially, and then the evidence is confined to the single question—Has he or has he not become bankrupt? But if he pleads the general issue, then he may prove either that he never bought the goods, or that he paid for them, or that he returned them to the plaintiff on finding them to be of an inferior quality, or, in short, any thing else which is a bar to the action. The form of the general issue, in this case, is simply "that the defendant did not promise or undertake in manner and form as the plaintiff has complained against him." Owing to this latitude allowed to the general issue, it sometimes happens that plaintiffs are taken by surprise at the trial, by the defendant setting up an unexpected defence, which the plaintiff, on the spur of the moment, is unable to disprove. When this is proved to the satisfaction of the judges, they will, if the justice of the case require it, grant a new trial.

ISTAKHAR. See *Persepolis*.

ISTAMBOL. See *Constantinople*.

ISTHMIAN GAMES; so called because they were celebrated on the isthmus of Corinth, which joins the Peloponnesus to the continent. On it was a famous temple consecrated to Neptune, near which the Isthmian games were celebrated. On one side of the temple were the statues of the victors in these games, and on the other was a grove of pines. In the temple stood four horses, gilded all over, with the exception of their ivory hoofs: by the side of the horses were two Tritons, the upper parts of which were gilt, and the rest of ivory. Behind the horses was a car, with the statues of Neptune and Amphitrite, of gold and ivory. Not far from the temple were a considerable theatre, and the stadium, of white stone, in which the games were celebrated. The whole isthmus was sacred to Neptune, who was thence called *Isthmius*. According to the common opinion, the Isthmian games were founded in honour of Palæmon or Melicerta. (See *Ino*.) Others relate that Theseus established them in honour of Neptune. They were originally held in the night, and had perhaps fallen into disuse, when Theseus restored them, and ordered them to be celebrated in the day. As Theseus was either the founder or the restorer of these games, the Athenians had the precedence in them. All Greece took part in them, excepting the Eleians, whose absence was thus explained:—As the sons of Actor were riding to these games, they were killed, near Elea, by Hercules. Their mother, Melione, discovered the murderer, who then resided in the territory of Argos. She, therefore, demanded satisfaction of the Argives, and, on their refusal to grant it, requested the Corinthians not to admit them to the games, as disturbers of the public tranquillity. As they would not yield to her solicitations, Melione pronounced direful curses on all the Eleians, if they

should ever participate in these games. They were celebrated, with the same splendour as the Olympian and other public games, twice in each Olympiad, probably in autumn: the athletic exercises were the same. The victors were at first adorned with wreaths of pine branches, but afterwards with wreaths of dry and faded ivy. The pine wreaths were afterwards resumed. The following represents an Isthmian Crown:—



ISTRIA (anciently *Histria*); a province of Austrian Italy, in Illyria; bounded on all sides by the sea, except towards the north, where it is joined to Carniola. It was anciently a part of Illyricum. Population, 140,749; square miles, 1570; of this, more than two thirds formerly belonged to the republic of Venice. It is a rich, fertile tract. The occupation of the inhabitants consists in agriculture, the culture of wine and oil, the rearing of bees, the manufacturing of silk, leather, tallow, salt, and also in fishing. The chief towns are Rovigno, Capo d'Istria, and Fiume. Istria was confirmed to Austria in 1814.

ITALY, once the seat of universal empire, but which, since the overthrow of the Roman power, has never formed an independent whole, the pride of its inhabitants and the admiration of foreigners, on account of its delicious climate and former renown, is a narrow peninsula, extending from the Alps (46° to 38° N. lat.) into the Mediterranean sea, which, on the east side of Italy, is called the *Adriatic*; on the west, the *Tuscan* sea. The Apennines (q. v.), rising near the maritime Alps (q. v.) are the principal chain of mountains, and stretch through the country, dividing Lombardy from the Genoese territories and Tuscany, and Tuscany from Romagna, intersecting the States of the Church, and running through the kingdom of Naples to the strait of Messina. Upper Italy (Lombardy) is remarkably well watered. The Po, which receives a great number of rivers from the large lakes at the foot of the Alps (lago Maggiore, di Lugano, di Como, d'Iseo and di Garda), and the Adige, are the principal rivers. They both rise in the Alps, and flow into the Adriatic sea. In Middle Italy (Tuscany and the states of the Church), are the Arno and the Tiber, which rise in the Apennines, and flow into the Tuscan sea. In Lower Italy (Naples) there are no large rivers, on account of the shortness of the course of the streams from the mountains to the sea: the Garigliano is the principal. The climate is warm, without excessive heat, and generally salubrious. The winter, even in Upper Italy, is very mild: in Naples, it hardly ever snows. The abundance and excellence of the productions of the soil correspond with the beauty of the climate. In many places, both of the north and south, there are two and even three crops a year. The volcanic character of the coasts of Lower Italy is particularly remarkable in a geological point of view, especially in the region of Puzuzoli and Vesuvius. The neighbouring islands of the Mediterranean are distinguished by the same character. The present number of inhabitants is much inferior to the former population of this delightful country. The following table, copied from Mr Ballin's different publications, is taken from the *Revue Britannique*:

Political Division.	Population in 1840.	Population in 1845.	Population in 1850.	Population in 1855.
<i>Independent Italy:</i> .....	20,000,000	22,000,000	24,000,000	26,000,000
Kingdom of the Two Sicilies.....	10,000,000	11,000,000	12,000,000	13,000,000
Kingdom of Sardinia.....	1,500,000	1,600,000	1,700,000	1,800,000
States of the Church.....	3,000,000	3,200,000	3,400,000	3,600,000
Grand-duchy of Tuscany.....	1,000,000	1,100,000	1,200,000	1,300,000
Duchy of Parma.....	500,000	550,000	600,000	650,000
Duchy of Modena, with Massa and Carrara.....	1,000,000	1,100,000	1,200,000	1,300,000
Duchy of Lucca.....	200,000	220,000	240,000	260,000
Republic of St. Marino.....	10,000	12,000	14,000	16,000
Principality of Monaco.....	10,000	12,000	14,000	16,000
<i>Italy subject to Foreign Powers:</i> .....	10,000,000	11,000,000	12,000,000	13,000,000
Austrian Italy (Lombardo-Venetian Kingdom, Italian Tyrol, and part of the government of Trieste).....	12,000,000	13,000,000	14,000,000	15,000,000
French Italy (Island of Corsica).....	250,000	270,000	290,000	310,000
Some parts of the Kingdom of Naples, some parts of the Kingdom of the Two Sicilies, and of the Valais.....	1,500,000	1,600,000	1,700,000	1,800,000
English Italy (the group of Malta).....	100,000	110,000	120,000	130,000
<i>Total</i> .....	30,000,000	33,000,000	36,000,000	39,000,000

The national character of the Italians, naturally cheerful, but always marked by strong passions, has been rendered, by continued oppression, dissimulating and selfish. The Italian, moreover, possesses a certain acuteness and versatility, as well as a love of money, which stamp him for a merchant. In the middle ages, Venice, Genoa, Florence and Pisa were the chief marts of the European commerce with the East Indies; and Italians (then called *Lombards*, without distinction, in Germany, France, and Britain) were scattered all over Europe for the purposes of trade. The discovery of a passage by sea deprived them of the India trade, and the prosperity of these republics declined. The Italian, restricted almost solely to traffic in the productions of his own country, has nevertheless always remained an able and active merchant. Before Rome had (2100 years ago) absorbed all the vital power of Italy, this country was thickly inhabited, and, for the most part, by civilized nations. In the north of Italy alone, which offered the longest resistance to the Romans, dwelt a barbarous people, the Gauls. Farther south, on the Arno and the Tiber, a number of small tribes, such as the Etrusci, the Samnites and Latins, endeavoured to find safety by forming confederacies. Less closely united, and often hostile to each other, were the Greek colonies of Lower Italy, called *Magna Græcia*. The story of the subjection of these nations to the Roman ambition, belongs to the history of Rome. Italy, in the middle ages, was divided into Upper, Middle, and Lower Italy. The first division comprehended all the states situated in the basin of the Po; the second extended between the former and the kingdom of Naples, which formed the third. At present, it is divided into the following independent states, which are not connected with each other by any political tie, and of which an account will be given under the separate heads—1. the kingdom of Sardinia; 2. Lombardy, or Austrian Italy (including Milan and Venice); 3. the duchy of Parma; 4. the duchy of Modena (including Massa); 5. the grand-duchy of Tuscany; 6. the duchy of Lucca; 7. the republic of San Marino; 8. the papal dominions (see *Church, States of the*); 9. the kingdom of Naples or the Two Sicilies. *Italia* did not become the general name of this country until the age of Augustus. It had been early imperfectly known to the Greeks under the name of *Hesperia*. *Assania*, *Sturgia*, and *Enotria* were also names applied by them to the southern part, with which alone they were at first acquainted. The name *Italia* was a

\* Savoy is not included here, not being considered a part of Italy by the *Revue*.

first merely a partial name for the southern extremity, until it was gradually extended to the whole country. It was probably derived from *Italua*, an Etrurian chief, though others give a different etymology. (See, in Niebuhr's Roman History, *Ancient Italy*.) Ancient Italy is generally described under the thirteen following heads:—1. Liguria (see *Gaul*); 2. Gallia Cisalpina; 3. Venetia; 4. Etruria; 5. Umbria and Picenum; 6. the Sabini, Æqui, Marsi, Peligni, Vestini, Marrucini; 7. Rome; 8. Latium; 9. Campania; 10. Samnium; 11. Apulia; 12. Lucania; 13. the Brutii. The ancient geography of Italy has been learnedly illustrated by Mannert (Leipsic, 1823, 2 vols.) and Cramer (*Description of Ancient Italy*, 2 vols., Oxford, 1826). The modern history of Italy begins with the fall of the Western Empire.

*First Period, from Odoacer (476) to Alboin (568)*, comprises the time of the dominion of the Herulians and Rugians, and of the Ostrogothic kingdom. Romulus was the founder of the city, that became the mistress of the world; Augustus founded its universal monarchy, and Romulus Augustus was the name of its last feeble emperor, who was dethroned by his German guards. Odoacer, their leader, assumed the title of *king of Italy*, and thus this country was separated from the Roman empire. But this valiant barbarian could not communicate a spirit of independence and energy to the degenerate Italians; nothing but an amalgamation with a people in a state of nature could effect their regeneration. Such a people already stood on the frontiers of Italy. Theodoric (q. v.), king of the Ostrogoths, instigated by Zeno, emperor of the East, overthrew (493) the kingdom of Odoacer, and reduced all Italy. His Goths spread from the Alps to Sicily. In the lagoons of the Adriatic alone, some fugitives, who had fled from the devastations of Attila, and obtained a subsistence as sailors, and by the manufacture of salt, maintained their freedom. Theodoric, who combined the vigour of the north with the cultivation of the south, is justly termed the *Great*, and, under the name of *District of Bern* (Verona), has become one of the principal heros of old German story. But the energy of his people soon yielded to Roman corruption. Totila, for ten years, contested in vain the almost completed conquest with the military skill of Belisarius. He fell in battle in 552, and Teias in 553, after which Italy was annexed to the Eastern Empire, under an exarch, who resided at Ravenna. But the first exarch, Narzes, a eunuch, sunk under the intrigues of the Byzantine court, and his successor neglected the defence of the passes of the Alps. The country was then invaded by the Lombards, a German people which had emigrated from the Elbe to Pannonia. Under king Alboin, they conquered Lombardy, which received its name from them, almost without a blow. Their government was less favourable to the arts and sciences than that of the Goths.

*Second Period.—From Alboin to Charlemagne (774), or Period of the Lombard Empire.* The kingdom of the Lombards included Upper Italy, Tuscany and Umbria. Alboin also created the duchy of Benevento, in Lower Italy, with which he invested Zotto. The whole of Lombardian Italy, was divided into thirty great fiefs, under dukes, counts, &c., which soon became hereditary. Together with the new kingdom, the confederation of the fugitives in the lagoons still subsisted in undisturbed freedom. The islanders, by the election of their first doge, Anastasio, in 697, established a central government; and the republic of Venice was founded. (See *France*.) Ravenna, the seat of the exarch, with Romagna, the Pentapolis, or the five maritime cities (Rimini, Pesaro, Fano, Sinigaglia, and Ancona), and almost all the coasts of Lower Italy, where Amalfi

and Gaeta had dukes of their own, of the Greek nation, remained unconquered, together with Sicily and the capital, Rome, which was governed by a patrician in the name of the emperor. The slight dependence on the court of Byzantium disappeared almost entirely in the beginning of the eighth century, when Leo the Isaurian exasperated the orthodox Italians, by his attack on images. (See *Iconoclasts*.) The cities expelled his officers, and chose consuls and a senate, as in ancient times. Rome acknowledged, not indeed the power, but a certain paternal authority of its bishops, even in secular affairs, in consequence of the respect which their holiness procured them. The popes, in their efforts to defend the freedom of Rome against the Lombards, forsaken by the court of Byzantium, generally had recourse to the Frankish kings. In consideration of the aid expected against king Astolphus, pope Stephen III. (753) not only anointed Pepin, who had been made king of the Franks, in 752, with the approbation of pope Zacharias, but, with the assent of the municipality of Rome, appointed him patrician, as the imperial governor had hitherto been denominated. Charlemagne made war upon Desiderius, the king of the Lombards, in defence of the Roman church, took him prisoner in his capital, Pavia, united his empire with the Frankish monarchy (774), and eventually gave Italy a king in his son Pepin. But his attempts against the duchy of Benevento, the independence of which was maintained by duke Arichis, and against the republics in Lower Italy, where Naples, Amalfi, and Gaeta in particular, had become rich by navigation and commerce, were unsuccessful. The exarchate, with the five cities, had already been presented to the pope by Pepin, in 756, and Charlemagne confirmed the gift, but the secular supremacy of the popes was first completed by Innocent III., about 1200.

*Third Period.—From Charlemagne to Otto the Great (961), or Period of the Carolingians and Interregnum.* Leo III. bestowed on the king of the Franks, on Christmas day, A. D. 800, the imperial crown of the West, which needed a Charlemagne to raise it from nothing. But dislike to the Franks, whose conquest was looked upon as a new invasion of barbarians, united the free cities, Rome excepted, more closely to the Eastern Empire. Even during the lifetime of Charlemagne, Frankish Italy was given to his grandson Bernard (810). But, Bernard having attempted to become independent of his uncle, Louis the Debonnaire, he was deprived of the crown, and his eyes were torn out. Italy now remained a constituent part of the Frankish monarchy, till the partition of Verdun (843), when it was allotted, with the imperial dignity, and what was afterwards called *Lorraine*, to Lothaire I., eldest son of Louis. Lothaire left the government (850), to his son Louis II., the most estimable of the Italian princes of the Carolingian line. After his death (875), Italy became the apple of discord to the whole family. Charles the Bald of France first took possession of it, and, after his death (877), Carloman, king of Bavaria, who was succeeded, in 880, by his brother Charles the Fat, king of Suabia, who united the whole Frankish monarchy for the last time. His dethronement (887) was the epoch of anarchy and civil war in Italy. Berengarius, duke of Friuli, and Guido, duke of Spoleto (besides the marquises of Ivrea, the only ones remaining of the thirty great vassals), disputed the crown between them. Guido was crowned king and emperor, and, after his death (894), his son Lambert. Arnold, the Carolingian king of the Germans, enforced his claims to the royal and imperial crown of Italy (896), but, like most of his successors, was able to maintain them only during his

residence in the country. After the death of Lambert and Arnold (898 and 899), Louis, king of Lower Burgundy, became the competitor of Berengarius I.; and this bold and noble prince, although crowned king in 894, and emperor in 915, did not enjoy quiet till he had expelled the emperor Louis III. (905), and vanquished another competitor, Rodolph of Upper Burgundy: he was even then unable, on account of the feeble condition of the state, to defend the kingdom effectively against the invasions of the Saracens (from 890) and the Hungarians (from 899). After the assassination of Berengarius (924), Rodolph II. relinquished his claims to Hugh, count of Provence, in exchange for that country. Hugh sought to strengthen the insecure throne of Italy by a bloody tyranny. His nephew, Berengarius, marquis of Ivrea, fled from his snares to Otho the Great of Germany (940), assembled an army of fugitives, returned, and overthrew Hugh (945), who was succeeded by his son Lothaire. Berengarius became his first counsellor. But, after the death of Lothaire, in 950 (poisoned, it was said, by Berengarius), the latter wished to compel his widow—the beautiful Adelaide—contrary to her inclination, to marry his son. Escaping from his cruelty and her prison, she took refuge in the castle of Canossa, where she was besieged by Berengarius II. She now applied for aid to Otho I., king of Germany, who passed the Alps, liberated her, conquered Pavia, became king of the Franks and Lombards (in 951), and married Adelaide. To a prompt submission, and the cession of Friuli, the key of Italy, which Otho gave to his brother Henry, Berengarius was indebted for permission to reign as the vassal of Otho. But, the nobles of Italy preferring new complaints against him, ten years after, Otho returned (961), deposed him, and led him prisoner to Bamberg and, after having been himself crowned king of Italy with the iron crown, in 961, united this kingdom with the German. Otho gave the great imperial fiefs to Germans, and granted to the Italian cities privileges that were the foundation of a free constitution, for which they soon became ripe. The growing wealth of the papal court, owing to the munificence of the French kings, which had promoted their influence on the government, so beneficial under Leo IV., and popes of a similar character, became, through the corruption of the Roman court, in the tenth century, the first cause of its decline. The clergy and the people elected the popes according to the will of the consuls and a few patricians. In the first half of the tenth century, two women disposed of the holy chair. Theodora elevated (914) her lover John X., and Marozia, the daughter of Theodora, elevated her son, John XI., to the papal dignity. The brother of the latter, Alberic of Camerino, and his son Octavian, were absolute masters of Rome, and the last was pope, under the name of John XII., when twenty years of age (956). Otho the Great, whom he had crowned emperor in Rome, in 962, deposed him, and chose Leo VIII. in his stead; but the people, jealous of its right of election, chose Benedict V. From this time, the popes, instead of ruling the people of Rome, became dependent on them. In lower Italy, the republics of Naples, Gaeta, and Amalfi still defended their independence against the Lombard duchy of Benevento, with the more ease, since the duchy had been divided (839) between Siccoolphus of Salerno and Radelghisius of Benevento, and subsequently among a greater number, and since with the dukes they had had a common enemy in the Saracens, who had been previously invited over from Sicily by both parties (about 830), as auxiliaries against each other, but who had settled and maintained themselves in Apulia. The emperors Louis II. and Basilus Macedo had, with combined forces,

broken the power of the Mussulmans (866); the former was, nevertheless, unable to maintain himself in Lower Italy, but the Greeks, on the contrary, gained a firmer footing, and formed, of the regions taken from the Saracens, a separate province, called the *Thema of Lombardy*, which continued under their dominion, though without prejudice to the liberty of the republics, upwards of a hundred years, being governed by a catapan (governor-general) at Bari. Otho the Great himself did not succeed in driving them altogether from Italy. The marriage of his son, Otho II., with the Greek princess Theophanu, put an end to his exertions for this purpose, as did the unfortunate battle at Basenteillo to the similar attempts renewed by Otho II. (980).

*Fourth Period—From Otho the Great to Gregory VII. (1073). The Dominion of the German Kings.* In opposition to the designs of the count of Tusculum, who wished to supplant the absent emperor at Rome, a noble Roman, the consul Crescentius, attempted to govern Rome under the semblance of her ancient liberty (980). Otho II., king since 973, occupied with his projects of conquest in Lower Italy, did not interfere with this administration, which became formidable to the vicious popes Boniface VII. and John XV. But, when Otho III., who had reigned in Germany since 983, raised his kinsman Gregory V. to the papedom, Crescentius caused the latter to be expelled, and John XVI., a Greek, to be elected by the people. He also endeavoured to place Rome again under the nominal supremacy of the Byzantine empire. Otho, however, reinstated Gregory, besieged Crescentius in the castle of St Angelo, took him prisoner, and caused him to be beheaded with twelve other noble Romans (998). But the Romans again threw off their allegiance to the emperor, and yielded only to force. On the death of Otho III. (1002), the Italians considered their connexion with the German empire as dissolved. Harduin, marquis of Ivrea, was elected king, and crowned at Pavia. This was a sufficient motive for Milan, the enemy of Pavia, to declare for Henry II. (in Italy, I.) of Germany. A civil war ensued, in which every city, relying on its walls, took a greater or less part. Henry was chosen king of Italy, by the nobles assembled in Pavia; but disturbances arose, in which a part of the city was destroyed by fire (A.D. 1004). Not till after Harduin's death (1015) was Henry recognised as king by all Lombardy; he was succeeded by Conrad II. (in Italy I.) At a diet held at Roncaglia, near Piacenza, in 1037, Conrad made the fiefs hereditary by a fundamental law of the empire, and endeavoured to give stability and tranquillity to the state, but without success. The cities (which were daily becoming more powerful) and the bishops were engaged in continual quarrels with the nobility, and the nobility with their vassals which could not be repressed. Republican Rome, under the influence of the family of Crescentius, could be reduced to obedience neither by Henry II. nor by Conrad II. nor by the popes. When Henry III. (in Italy, II.), the son and successor of Conrad (1039), entered Italy (1040), he found three popes in Rome, all of whom he deposed, appointed in their stead Clement II., and ever after filled the papal chair by his own authority, with virtuous German ecclesiastics. This reform gave the popes new consequence, which afterwards became fatal to his successor. Henry died in 1056. During the long minority of his son Henry IV. (in Italy, III.), the policy of the popes, directed by the monk Hildebrand (afterwards Gregory VII.), succeeded in creating an opposition, which soon became formidable to the secular power (See *Pope*). The Normans also contributed to the result. As early as 1016, warriors from Normandy

had established themselves in Calabria and Apulia. Allies sometimes of the Lombards, sometimes of the republics, sometimes of the Greeks against each other and against the Saracens, they constantly became more powerful by petty wars. The great preparations of Leo IX. for their expulsion terminated in his defeat and capture (1053). On the other hand, Nicolas II. united with the Norman princes, and, in 1059, invested Robert Guiscard with all the territories conquered by him in Lower Italy. From that time, the pope, in his conflicts with the imperial power, relied on the support of his faithful vassal, the duke of Apulia and Calabria, to which Sicily was soon added. While the small states of the south were thus united into one large one, the kingdom in the north was dissolving into smaller states. The Lombard cities were laying the foundation of their future importance. Venice, Genoa and Pisa were already powerful. The Pisanese, who, in 980, had given to Otto II. efficient aid against the Greeks in Lower Italy, and, in 1005, boldly attacked the Saracens there, ventured, in connexion with the Genoese (no less warlike and skilled in navigation), to assail the infidels in their own territory, and twice conquered Sardinia (1017 and 1050), which they divided into several large fiefs, and distributed them among their principal citizens.

*Fifth Period.—From Gregory VII. to the Fall of the Hohenstaufen. Struggles of the Popes and Republics with the Emperors.* Gregory VII. humbled Henry IV. in 1077. Urban II. instigated the emperor's own sons against their father. Conrad, the eldest, was crowned king of Italy in 1093, after whose death (1101) Henry, the second son, succeeded in deposing his father from the imperial throne. Henry V., the creature of the pope, soon became his opponent; but, after a severe conflict, concluded with him the concordate of Worms (1122). A main point, which remained unsettled, gave rise to new difficulties in the twelfth and thirteenth centuries—the estate of Matilda, marchioness of Tuscany, who (died 1115), by a will, the validity of which was disputed by the emperor, bequeathed all her property to the papal see. Meanwhile, in the south, the Norman state (1130), under Roger I., was formed into a kingdom, from the ruins of republican liberty and of the Greek and Lombard dominion. (See *Sicilies, the Two*.) In the small republics of the north of Italy, the government was, in most cases, divided between the consuls, the lesser council (*credenza*), the great council, and the popular assembly (*parlamento*). Petty feuds developed their youthful energies. Such were those that terminated with the destruction of Lodi by Milan (1111), and the ten years' siege of Como by the forces of all the Lombard cities (1118—1128). The subjugation of this city rendered Milan the first power in Lombardy, and most of the neighbouring cities were her allies. Others formed a counter alliance with her antagonist, Pavia. Disputes between Milan and Cremona were the occasion of the first war between the two unions (1129), to which the contest of Lothaire II. and Conrad of Hohenstaufen for the crown, soon gave another direction. This was the origin of the Ghibelines (followers of the emperor) and the Guelfs (the adherents of the family of Guelfs (q. v.), and, in general, the party of the popes). In Rome, the love of liberty, restrained by Gregory VII., rose in proportion as his successors ruled with less energy. The archbishops between Gelasius II. and Gregory VIII., Innocent II. and Anacletus II., renewed the hopes of the Romans. Arnold of Brescia, formerly proscribed (1139) for his violent attacks against the luxury of the clergy in that country, was their leader (1146). After eight years, Adrian IV succeeded in effecting

his execution. Frederic I. of Hohenstaufen (called *Barbarossa*) crossed the Alps six times, in order to defend his possessions in Italy against the republicanism of the Lombard cities. Embracing the cause of Pavia as the weaker, he devastated (1154) the territory of Milan, destroyed Tortona, and was crowned in Pavia and Rome. In 1158, he reduced Milan, demolished the fortifications of Piacenza, and held a diet at Roncaglia, where he extended the imperial prerogatives conformably with the Justinian code, gave the cities chief magistrates (*podestà*), and proclaimed a general peace. His rigour having excited a new rebellion, he reduced Crema to ashes (1160), compelled Milan to submission, and, having driven out all the inhabitants, demolished the fortifications (1162). Nothing, however, but the terror of his arms upheld his power. When the emperor entered Italy (1163) without an army, the cities concluded a union for maintaining their freedom, which in 1167, was converted into the Lombard confederacy. The confederates restored Milan, and, to hold in check the Ghibeline city of Pavia, built a new city, called, in honour of the pope, *Alessandria*. Neither Frederic's governor, Christian, archbishop of Mentz, nor he himself, could effect any thing against the confederacy; the former failed before Ancona (1174), with all the power of Ghibeline Tuscany; and the latter, with the Germans, before Alessandria (1175). He was also defeated by Milan, at Legnano in 1176. He then concluded a concordate with Alexander III., and a truce with the cities (1176), at Venice, and a peace, which secured their independence, at Constance (1183). The republics retained the *podestà* (foreign noblemen, now elected by themselves) as judges and generals. As formerly, all were to take the oath of fealty and allegiance to the emperor. But, instead of strengthening their league into a permanent confederacy (the only safety for Italy), they were soon split into new factions, when the designs of the Hohenstaufen on the throne of Sicily drew Frederic and Henry VI. (V) from Lombardy. The defeat of the united forces of almost all Lombardy, on the Oglio, by the inhabitants of Brescia, though inferior in numbers, is celebrated under the name of *La mala morte* (1197). Among the nobles, the Da Romano were the chiefs of the Ghibelines, and the marquises of Este of the Guelfs. During the minority of Frederic II., and the disputes for the succession to the German throne, Innocent III. (Frederic's guardian) succeeded in re-establishing the secular authority of the holy see in Rome and the surrounding country, and in enforcing its claims to the donations of Charlemagne and Matilda. He also brought over almost all Tuscany, except Pisa, to the party of the Guelfs (1197). A blind hereditary hatred, rather than a zeal for the cause, inspired the parties; for when a Guelf (Otto IV.) ascended the imperial throne, the Guelfs became his party, and the Ghibelines the pope's; but the reversion of the imperial crown to the house of Hohenstaufen, in the person of Frederic II., soon restored the ancient relations (1212). In Florence, this party spirit gave pretence and aliment (1215) to the disputes of the Buondelmonti and Donati with the Uberti and Amidei, originating in private causes; and most cities were thus internally divided into Guelfs and Ghibelines. The Guelf cities of Lombardy renewed the Lombard confederacy, in 1226. The Dominican, John of Vicenza, attacked these civil wars. The assembly at Paquara (1233) seemed to crown his exertions with success; but his attempt to obtain secular power in Vicenza occasioned his fall. After the emperor had returned from his crusade (1230), he waged war, with varying success, against the cities and against Gregory IX, heedless of the excommunication, while

Eselin da Romano, under the pretence of favouring the Ghibelines, established, by every kind of violence, his own power in Padua, Verona, Vicenza, and the neighbourhood. The papal court succeeded in seducing the Pisanese family of the Visconti of Gallura in Sardinia, from the republic, and rendering them its vassals, notwithstanding the resistance of the republic, and especially of the counts of Gherardesca. Thence Pisa, too, was divided into Ghibelines (Conti) and Guelfs (Visconti). Frederic, however, married his natural son, Ensius, to a Visconti, and gave him the title of *king of Sardinia*. The plan of Gregory IX., to depose Frederic, was successfully executed by Innocent IV., in the council of Lyons (1245). This completely weakened the Ghibeline party, which was already nearly undermined by the intrigues of the mendicant orders. The faithful Parma revolted; the triumph of the Ghibelines in Florence (1248) lasted only two years; and their second victory, after the battle of Monte Aperto (1260), gave them the ascendancy but six years. The Bolognese united all the cities of Italy in a Guelf league, and, in the battle of the Panaro (1249), took Ensius prisoner, whom they never released. In the Trevisan Mark alone, the Ghibelines possessed the supremacy, by means of Eselin, till he fell before a crusade of all the Guelfs against him (1255). But these contests were fatal to liberty; the house Della Scala followed that of Romano in the dominion, and Milan itself, with a great part of Lombardy, found masters in the house Della Torre. Tyrants every where arose; the maritime republics and the republic of Tuscany alone remained free.

*Sixth Period.—From the Fall of the Hohenstaufen to the Formation of the modern States.* In this period, different princes attempted to usurp the sovereignty of Italy.—1. *The Princes of Anjou.* After Charles I. of Anjou had become, by the favour of the pope, king of Naples, senator of Rome, papal vicar in Tuscany, and had directed his ambition to the throne of Italy (a policy in which his successors persevered), the names of *Guelfs* and *Ghibelines* acquired a new signification. The former denoted the friends, the latter the enemies, of the French. To these factions were added, in the republics, the parties of the nobility and the people, the latter of which was almost universally victorious. The honest exertions of the noble Gregory X. (who died 1276) to establish peace, were of no avail; those of Nicolas III., who feared the preponderance of Charles, were more efficient; but Martin IV. (1280), servilely devoted to Charles, destroyed every thing which had been effected, and persecuted the Ghibelines with new animosity. A different interest—that of trade and navigation—impelled the maritime republics to mutual wars. The Genoese assisted Michael Palæologus (1261) to recover Constantinople from the Venetians, and received in return Chios; at Meloria, they annihilated (1284) the navy of the Pisans, and completed their dominion of the sea by a victory over the Venetians at Curzola (1298). Florence rendered its democracy complete by the banishment of all the nobles (1282), and strengthened the Guelf party by wise measures; but a new schism, caused by the insignificant Pistoia, soon divided the Guelfs in Florence and all Tuscany into two factions—the Neri (Black) and Bianchi (White) (1300). The latter were almost all expelled by the intrigues of Boniface VIII., and joined the Ghibelines (1302). In Lombardy, freedom seemed to have expired, when the people, weary of the everlasting feuds of their tyrants, rose in most of the cities, and expelled them (1302—6), including the Visconti, who had supplanted the Della Torre (1277) in the government of Milan.—2. *The Germans and the*

*Della Scala.* Henry VII., the last emperor who had appeared in Italy for sixty years (1310), restored the princes to their cities, and forced general submission to his requisitions, peace among the parties, and homage to the empire. Florence alone undertook the glorious part which the nobles sustained for two centuries, as the guardians of Italian freedom, chose Robert of Naples, the enemy of Henry, her protector for five years, and remained free while Italy swarmed with tyrants. The Ghibeline Pisa received a master after the death of Henry, in Uguccione della Faggiuola (1314). After his expulsion, Lucca, which he also ruled, received another lord in Castruccio Castracani (1316); Padua fell (1316) to the house of Carrara; Alexandria, Tortona, (1315) and Cremona, (1322) to the Visconti of Milan; Mantua (governed, since 1275, by the Bonaccontis, devolved, by inheritance, to the Gonzagas (1328); in Ferrara, the long-contested dominion of the Este was established (1317); and Ravenna was governed, from 1273, by the Polenta. In the other cities, the same tyranny existed, but frequently changing from family to family, and therefore more oppressive. These party princes, especially Della Scala, Matteo Visconti, and Castruccio, were a counterpoise to the ambitious wars of Robert of Naples, appointed by Clement V. imperial vicar in Italy. Robert, however, acquired for his son, Charles of Calabria, the government of Florence and Sienna, which he retained till his death (1328). Louis of Bavaria, who came to Italy (1327) to reduce the Anjous and the Guelfs, became himself at variance with the Ghibelines whom he alienated by his caprice and perfidy; and the character of John XXII. so cooled the zeal of the Guelfs, that both parties, recognising the common interest of liberty, became somewhat more friendly. The amiable adventurer John, king of Bohemia, suddenly entered Italy (1330). Invited by the inhabitants of Bologna, favoured by the pope, elected lord of Lucca, every where acting the part of a mediator and peacemaker, he would have succeeded in establishing the peace at which he aimed, had he not been opposed by the Florentines. On his second expedition to Italy (1333), Asso Visconti, Mastino della Scala, and Robert of Naples, united against him and his army. the papal legate Bertrand of Poitiers, who aspired to the dominion of Bologna. After the downfall of both (1334), when the Pepoli began to rule in Bologna, Mastino della Scala, master of half Lombardy and of Lucca, began to menace the freedom of Lombardy. Florence led the opposition against him, and caused a war of the league, in which it gained nothing but the security of its liberty. After the baffled Mastino had sold Lucca to the Florentines, the Pisans arose, and conquered it for themselves (1342). In Rome, torn by aristocrats, Cola Rienzi (1347) sought to restore order and tranquillity; he was appointed tribune of the people, but was forced after seven months, to yield to the nobility. Having returned, after seven years of banishment, with the legate cardinal Albornoz (1354), he ruled again a short time, when he was murdered in an insurrection. The Genoese, tired of the perpetual disputes of the Ghibeline Spinolas and Dorias with the Guelf Grimaldi and Fieschi, banished all these families in 1339, and made Simon Boccanegra their first doge. In Pisa, the Ghibelines, the council of the captain-general, Ricciani della Gherardesca, separated into two new parties, Barguini and Raspanti, of whom the former under Andrea Gambacorti, expelled the latter (1348). A hard time, Italy suffered by a terrible famine (1347) and a still more terrible pestilence (1348), which swept away two thirds of the population. No less terrible was the scourge of the *bande* (banditti), or large companies of soldiers, who, after every peace, re-

threw the war on their own account, ravaging the whole country with fire and sword; such as the bands of the count of Werner (1348) and of Montreal (1354).—3. *The Visconti.* John Visconti, archbishop and lord of Milan, and his successors, were checked in their dangerous projects for extending their power, not so much by Charles IV.'s expedition through Italy, and by the exertions of innumerable papal legates, as by the wisdom and intrepidity of the republics, especially of the Florentine. Charles appeared in 1355, overthrew in Pisa the Gambacorti, elevating the Raspanti, destroyed in Sienna the dominion of the Nine, to which succeeded that of the Twelve, subjected for the moment all Tuscany, and compelled Florence itself to purchase the title of an imperial city. In 1363, he effected but little against the Visconti, freed Lucca from the Pisanese power, and overthrew the Twelve in Sienna; but his attacks on the liberty of Pisa and Sienna failed in consequence of the valour of the citizens. Pope Innocent VI. succeeded in conquering the whole of the States of the Church by means of the cardinal legate Egidius Albornoz (1354—60); but, reduced to extremities, by the oppressions of the legates, and encouraged by Florence, the enemy of all tyranny, the conquered cities revolted in 1375. The cruelties of cardinal Robert of Geneva (afterwards Clement VII.), and of his band of soldiers from Bretagne, produced only a partial subjugation; and in the great schism, the freedom of these cities, or rather the power of their petty tyrants, was fully confirmed. The Visconti, meanwhile, persisting in their schemes of conquest, arrayed the whole strength of Italy in opposition to them, and caused the old factions of Guelphs and Ghibellines to be forgotten in the impending danger. Genoa submitted to John Visconti (1353), who had purchased Bologna from the Pepoli (1350); but his enterprise against Tuscany failed through the resistance of the confederated Tuscan republics. Another league against him was concluded by the Venetians (1354) with the petty tyrants of Lombardy. But the union of the Florentines with the Visconti against the papal legates (1375) continued but a short time. In Florence, the Guelphs were divided into the parties of the Ricci and the Albizzi. The sedition of the Ciompi (1378), to which this gave rise, was quelled by Michael di Lando, who had been elected gonfaloniere by themselves, in a way no less manly than disinterested. The Venetians, irritated with Carrara on account of the assistance he had given the Genoese in the war at Chioma (1379), looked quietly on while John Galeazzo Visconti deprived the Della Scala and Carrara of all their possessions (1387 and 1388), and Florence alone assisted the unfortunate princes. Francis Carrara made himself again master of Padua (1390), and maintained his advantages, till he sunk under the enmity of the Venetians (1406), who, changing their policy, became henceforth, instead of the opponents, the rivals of the ambitious views of the Visconti.—John Galeazzo obtained from the emperor Wenceslaus the investiture of Milan as a duchy (1395), purchased Pisa (which his natural son Gabriel bargained away to Florence, 1406) from the tyrant Gerard of Appiano (who reserved only the principality of Piombino), and subjugated Sienna (1399), Perugia (1400) and Bologna (1402), so that Florence, fearfully menaced, alone stood against him in the cause of liberty. On his death (1402), the prospect brightened, and during the minority of his son, a great portion of his states was lost. When Ladislaus of Naples, taking advantage of the schism, made himself master of all the Ecclesiastical States, and threatened to conquer all Italy (1409), Florence again alone dared to resist him. But this danger was transitory; the Visconti soon rose up again in

opposition. Duke Philip Maria reconquered all his states of Lombardy, by means of the great Carmagnola (1416—20). Genoa, also, which was sometimes given up, in nominal freedom, to stormy factions (of the Fregosi, Adorni, Montalto, Guarco), and at other times was subject to France (1396), or to the marquis of Montferrat (1411), submitted to him (1421). Florence subsequently entered into an alliance against him with the Venetians (1425); and by means of Carmagnola, who had now come over to them, they conquered the whole country as far as the Adda, and retained it in the peace of Ferrara (1428). In Perugia, the great condottiere Braccio da Montone, of the party of the Baglioni, succeeded in becoming master of this city and of all Umbria, and, for a period, even of Rome (1416). In Sienna, the Petrucci attained a permanent dominion (1430).—4. *Balance of the Italian States.* After Milan had been enfeebled by the Venetians and Florentines, and while Alphonso of Arragon was constantly disturbed in Naples (see *Naples*) by the Anjou party, no dangerous predominance of power existed in Italy, though mutual jealousy still excited frequent wars, in which two parties among the Italian mercenary soldiers, the Bracheschi (from Braccio da Montone) and the Sforzeschi (so called from Sforza Attendolo), continued always hostile to each other, contrary to the custom of those mercenary bands. After the extinction of the Visconti (1447), Francis Sforza succeeded in gaining possession of the Milanese state (1450). (See *Milan*.) The Venetians, who aimed at territorial aggrandizement, having formed a connexion with some princes against him, he found an ally in Florence, which, with a change of circumstances, wisely altered her policy. About this time, the family of the Medici attained to power in that city by their wealth and talent. (See *Medici*.) Milan (where the Sforza had established themselves), Venice (which possessed half of Lombardy), Florence (wisely managed by Lorenzo Medici), the States of the Church (for the most part restored to the holy see), and Naples (which was incapable of employing its forces in direct attacks on other states), constituted, in the fifteenth century, the political balance of Italy, which, during the manifold feuds of these states, permitted no one to become dangerous to the independence of the rest, till 1494, when Charles VIII. of France entered Italy to conquer Naples, and Louis Moro Sforza played the part first of his ally, then of his enemy, while the pope, Alexander VI. eagerly sought the friendship of the French, to promote the exaltation of his son, Cæsar Borgia.—5. *Contest of foreign Powers for Provinces in Italy.* Charles VIII. was compelled to evacuate Naples and all Italy; his successor, Louis XII. was also expelled, by Ferdinand the Catholic, from Naples (conquered in 1504). He was more successful against Milan, which, supported by hereditary claims, he subjected to himself in 1500. Cæsar Borgia's attempts to acquire the sovereignty of Italy were frustrated by the death of his father (1505); when the warlike pope, Julius II. completed the subjugation of the States of the Church, not, indeed, for a son or nephew, but in the name of the holy see. He concluded with Maximilian I. Ferdinand the Catholic, and Louis XII. the league of Cambray (1508) against the ambitious policy of the Venetians, who artfully succeeded in dissolving the league, which threatened them with destruction. The pope then formed a league with the Venetians themselves, Spain, and the Swiss, for the purpose of driving the French from Italy. This holy league (1509) did not, however, then attain its object, although Julius was little affected by the French and German council held at Pisa to depose him.

Max. Sforza, who had reacquired Milan (1512), relinquished it without reserve to Francis I. (1515); but the emperor Charles V. assumed it as a reverted fief of the empire, and conferred it on Francesco Sforza, brother of Maximilian (1520.) This was the cause of violent wars, in which the efforts of Francis were always unsuccessful. He was taken prisoner at Pavia (1525), and, with his other claims, was compelled to renounce those on Milan, which remained to Sforza, and, after his death (1540), was granted by Charles V. to his son Philip. The Medicean popes, Leo X. (1513) and Clement VII. (1523), were bent, for the most part, on the aggrandisement of their family. Charles V. to whom all Italy submitted after the battle of Pavia, frustrated indeed the attempts of Clement VII. to weaken his power, and conquered and pillaged Rome (1527); but, being reconciled with the pope, he raised (1530) the Medici to princely authority. Florence, incensed at the foolish conduct of Pietro towards France, had banished the Medici in 1494, but recalled them in 1512, and was now compelled to take a station among the principalities, under duke Alexander I de' Medici. Italian policy, of which Florence had hitherto been the soul, from this period, is destitute of a common spirit, and the history of Italy is therefore destitute of a central point.

*Seventh period.—Mutations of the Italian States down to the French Revolution.* After the extinction of the male branch of the marquises of Montferrat, Charles V. gave this country to the Gonzaga of Mantua (1536). Maximilian II., subsequently (1573) raised Montferrat to a duchy. The Florentines failed (1537) in a new attempt to emancipate themselves, after the murder of duke Alexander. Cosmo I. succeeded him in the government, by the influence of Charles V. Parma and Piacenza, which Julius II. had conquered for the papal see, Paul III. erected into a duchy (1545), which he gave to his natural son, Peter Alois Farnese, whose son Ottavio obtained the imperial investiture in 1556. Genoa (see *Genoa*), subject to the French since 1499, found a deliverer in Andrew Doria (1528). He founded the aristocracy, and the conspiracy of Fiesco (1547) failed to subvert him. In 1553, besides Milan, Charles V. conferred Naples also on his son Philip II. By the peace of Chateau-Cambresis (1559), Philip II. and Henry II. of France, renounced all their claims to Piedmont, which was restored to its rightful sovereign, duke Emanuel Philibert of Savoy, the brave Spanish general. The legitimate male line of the house of Este became extinct in 1597, when the illegitimate Cæsar of Este obtained Modena and Reggio from the empire, and Ferrara was confiscated as a reverted fief by the holy see. In the second half of the sixteenth century, the prosperity of Italy was increased by a long peace, as much as the loss of its commerce allowed,—Henry IV. of France having, by the treaty of Lyons, ceded Saluzzo, the last French possession in Italy, to Savoy. The tranquillity continued till the contest for the succession of Mantua and Montferrat, after the extinction of the Gonzaga family (1627). Misfortunes in Germany compelled Ferdinand II. to confer both countries (1631), as a fief on Charles of Nevers, the protégé of France, whose family remained in possession till the war of Spanish succession. In the peace of Chierasco (1631), Richelieu's diplomacy acquired also Pignerol and Casale—strong points of support, in case of new invasions of Italy, though he had to relinquish the latter (1637). By the extinction of the house Della Rovere, the duchy of Urbino, with which Julius II. had invested it, devolved, in 1631, to the papal see. In the second half of the seventeenth century, the peace of Italy was not interrupted, ex-

cepting by the attempts of Louis XIV. on Savoy and Piedmont, and appeared to be secured for a long time, by the treaty of neutrality at Turin (1696), when the war of Spanish succession broke out. Austria conquered Milan, Mantua, and Montferrat (1706), retained the two first (Mantua was forfeited by the felony of the duke), and gave the latter to Savoy. In the peace of Utrecht (1714), Austria obtained, moreover, Sardinia and Naples; Savoy obtained Sicily, which it exchanged with Austria for Sardinia, from which it assumed the royal title. Mont Genievre was made the boundary between France and Italy. The house of Farnese becoming extinct in 1731, the Spanish Infant Charles obtained Parma and Piacenza. In the war for the Polish throne, of 1733, Charles Emmanuel of Savoy, in alliance with France and Spain, conquered the Milanese territory, and received therefrom, in the peace of Vienna (1738), Novara and Tortona. Charles, Infant of Spain, became king of the two Sicilies, and ceded Parma and Piacenza to Austria. The Medici of Florence, entitled, since 1575, grand-dukes of Tuscany, became extinct in 1737. Francis Stephan, duke of Lorraine, now received Tuscany by the preliminaries of Vienna, and, becoming emperor in 1745, made it the appanage of the younger line of the Austro-Lorraine house. In the war of Austrian succession, the Spaniards conquered Milan (1745), but were expelled thence by Charles Emmanuel, to whom Maria Theresa ceded, in reward, some Milanese districts, viz. all of Vigevanasco and Bobbio, and part of Anghiera and Pavesa. Massa and Carrara fell to Modena, in 1743, by right of inheritance. The Spanish Infant, don Philip, conquered Parma and Piacenza in his own name, lost them, and obtained them again as a hereditary duchy, by the peace of Aix-la-Chapelle (1748). Thus, in the eighteenth century, the houses of Lorraine, Bourbon, and Savoy possessed all Italy, with the exception of the ecclesiastical territories, Modena and the republics, which, like a superannuated man, beheld with apathy operations in which they had no share. A quiet of forty years ushered in their downfall.

*Eighth Period.—From the French Revolution to the present time.*—In September, 1792, the French troops first penetrated into Savoy, and planted the tree of liberty. Though expelled for some time, in 1793, by the Piedmontese and Austrians, they held it at the end of the year. The National Convention had already declared war against Naples, in February, 1793. In April, 1794, the French advanced into the Piedmontese and Genoese territories, but were expelled from Italy in July, 1795, by the Austrians, Sardinians, and Neapolitans. In 1796, Napoleon Bonaparte received the chief command of the French army in Italy. He forced the king of Sardinia to conclude a treaty of peace, by which the latter was obliged to cede Nizza (Nice) and Savoy to France; conquered Austrian Lombardy, with the exception of Mantua; put the duke of Parma and the pope under contribution; and struck such consternation into the king of Naples, that he begged for peace. After Mantua had also fallen, in 1797, Bonaparte formed of Milan, Mantua, the portion of Parma north of the Po, and Modena, the Cisalpine republic. (See *Cisalpine Republic*.) France likewise made war on the pope, and annexed Bologna, Ferrara, and Romagna to the Cisalpine republic (1797), by the peace of Tolentino. The French then advanced towards Rome, overthrew the ecclesiastical government, and erected a Roman republic (1798). In Genoa, Bonaparte occasioned a revolution, by which a democratic republic was formed after the model of the French, under the name of the *Ligurian republic*. The French had, meanwhile, penetrated into Austria, through the

Venetian territory. The Venetians now made common cause with the brave Tyrolese, who gained advantages over the French in their Alps. Bonaparte, therefore, occupied Venice without striking a blow, and gave the republic a democratic constitution; but, by the peace of Campo-Formio (17th Oct., 1797), the Venetian territory, as far as the Adige, was relinquished to Austria, and the rest incorporated with the Cisalpine republic. The king of Sardinia concluded a treaty of alliance and subsidy with France, October 25; but, in 1798, the directory, assailed in Rome from Naples, deemed it expedient to compel him to resign his territories on the main land. Notwithstanding its treaty of amity with France, Naples concluded an alliance, in 1798, with Britain and Russia. The French, therefore, occupied Naples, and erected there the Parthenopean republic. The grand-duke of Tuscany had likewise formed an alliance with Naples and Britain, and his country was, in return, compelled by the French to receive, like Piedmont, a military administration. After the congress of Radstadt (q. v.) was broken off, Austria and the German empire, under Russian support, renewed the war against the French, who again left Naples and Rome to the British, Russians, and Turks. The king and the pope returned to their capitals in Lombardy; the French were defeated by the Austrians, under Kray and Melas, and by the Russians, under Suwarroff, and lost all their fortresses, except Genoa, where Massena sustained a vigorous siege, while his countrymen had to evacuate all Italy. But, in the mean while, Bonaparte was made first consul after his return from Egypt. (See *Egypt, Campaign of the French in.*) He marched with a new army to Italy, defeated the Austrians at the memorable battle of Marengo (1800), and compelled them to a capitulation, by which all the Italian fortresses were again evacuated. By the peace of Lunéville (q. v.), Feb. 9, 1801, the possession of Venice was confirmed to Austria, which was to indemnify the duke of Modena, by the cession of Brisgau. The duke of Parma received Tuscany, and afterwards, from Bonaparte, the title of king of Etruria. Parma was united with France. The Cisalpine and Ligurian republics were guaranteed by Austria and France, and with the Ligurian territories were united the imperial fiefs included within their limits. The king of Naples, who had occupied the States of the Church, was obliged to conclude peace at Florence (28th of March). By Russian mediation, he escaped with the cession of Piombino, the *Stato degli Presidj*, and his half of the island of Elba, together with the promise of closing his harbours against the British. The other half of Elba Tuscany had already relinquished to France. But the whole island was obstinately defended by the British and Corsicans, with the armed inhabitants, and not evacuated till autumn. The *Stato degli Presidj* France ceded to Etruria, September 19. Strong detachments of French troops remained both in Naples and Tuscany, and their support cost immense sums. To the republics of Genoa and Lucca the first consul gave new constitutions in 1801. But in January, 1802, the Cisalpine republic was transformed into the Italian republic, in imitation of the new French constitution, and Bonaparte became president. He appointed the citizen Melai d'Érile vice president. Genoa also received a new constitution, and Girolamo Durasso for doge. Piedmont, however, was united with France. After Bonaparte had become emperor, in 1804, he attached (March 17, 1805) the royal crown of Italy to the new imperial crown; he promised, however, never to make the new monarchy with France, and even to give it a king of its own. The new constitution was similar to that of the French empire. Napoleon

founded the order of the iron crown, and having placed the crown on his own head, at Milan, May 26, and Genoa having been united with France, May 25, he appointed his step-son, Eugene Beauharnais, viceroy of Italy, who laboured with great zeal for the improvement of all branches of the government, of industry, and the arts. Circumstances, however, rendered this new government oppressive, as the public expenses, during peace, amounted to 100,000,000 francs, which were all to be contributed by less than 4,000,000 people. No European power recognised, expressly, the Italian kingdom of Napoleon. The emperor continued to strengthen his power against the active enemies of the new order of things, and gave to his sister Elisa the principality of Piombino, and to her husband, Pasquale Bacciocchi, the republic of Lucca, as a principality, both as French fiefs. Parma, Piacenza and Guastalla were incorporated with the French empire, July 21st. The pope was obliged to sanction the imperial coronation by his presence. Austria now acceded to the alliance of Russia, and Britain against France. Naples, also, again suffered the British and Russians to land. But the success of the Austrian arms was frustrated by the defeats at Ulm and Austerlitz, after which the peace of Presburg (December 26th, 1805), completed the French supremacy in Italy. Austrian Venice, with Istria and Dalmatia, was united to the kingdom of Italy; and this, with all the French institutions, Italy recognised. The kingdom had now an extent of 35,450 square miles, with 5,657,000 inhabitants. Naples was evacuated by its auxiliaries, and occupied by the French, notwithstanding the attempts of the queen to excite an universal insurrection. March 31, Napoleon gave the crown of Naples to his brother Joseph. In vain did the prince of Hesse-Philippsthal defend the fortress of Gaeta. In vain did an insurrection break out in Calabria, encouraged by the British, who, under general Stuart, defeated the French at Maida, July 4, and conquered several fortified places on the coast; but, after Gaeta had fallen (July 18), and Massena penetrated as far as Calabria, they re-embarked. As the British, however, were masters of the sea, Sicily was secured to king Ferdinand. In 1808, the widow of the king of Etruria, who conducted the regency in behalf of her minor son, was deprived of her kingdom, which was united with France. Napoleon, moreover, appointed his brother-in-law, the prince Borghese, governor-general of the departments beyond the Alps, who took up his residence at Turin. As Napoleon had, meanwhile, given his brother Joseph the crown of Spain (who reluctantly left Naples, where he was much esteemed, as he had, within this short time, laid the foundation of the most essential improvements), he filled the throne of Naples with his brother-in-law, Joachim Murat, until that period grand-duke of Berg, who entered Naples Sept. 6, 1808. In 1809, the emperor gave Tuscany to his sister Elisa, of Piombino, with the title of grand-duchess. In the same year, Austria made new exertions to break the excessive power of France; but Napoleon again drove her troops from the field, and appeared once more victorious in Vienna, where he proclaimed (May 17) the end of the secular authority of the popes (a measure of which his downfall has delayed the execution), and the union of the States of the Church with France. Rome became the second city of the empire, and a pension of 2,000,000 of francs was assigned to the pope. After the peace of Vienna, by which Napoleon acquired the Illyrian provinces, Istria and Dalmatia were separated from the kingdom of Italy, and attached to them. On the other hand, Bavaria ceded to Italy the circle of the

Adige, a part of Eisach, and the jurisdiction of Clausen. The power of the French emperor was now, to all appearance, as firmly established in Italy as in all Europe. While the Italian people were supporting French armies, sacrificing their own troops in the ambitious wars of Napoleon in remote regions, and were obliged to pay heavy taxes in the midst of the total ruin of their commerce, all the periodicals were full of praises of the institutions for the encouragement of science, arts, and industry in Italy. After the fatal retreat from Russia, Murat, whom Napoleon had personally offended, deserted the cause of France, and joined Austria, Jan. 11, 1814, whose army penetrated into Italy, under Bellegarde. The viceroy, Eugene, continued true to Napoleon and his own character, and offered to the enemies of his dynasty the boldest resistance, which was frustrated by the fall of Napoleon in France. After the truce of April 21, 1814, the French troops evacuated all Italy, and most of the provinces were restored to their legitimate sovereigns. The wife of Napoleon, however, the empress Maria Louisa, obtained the duchies of Parma, Piacenza, and Guastalla, with reversion to her son; and Napoleon himself became sovereign of Elba, of which he took possession May 4. But, before the congress of Vienna had organized the political relations of Europe, he effected his return to France, March 1, 1815. At the same time, the king of Naples, Murat (See *Murat*), abandoned his former ambiguous attitude, and took up arms, as he pretended, for the independence of Italy. But his appeal to the Italians, March 30, was answered by a declaration of war by Austria, April 12. Driven from Bologna by the Austrian forces, April 15, and totally defeated by Bianchi Tolentino, May 2 and 3, he lost the kingdom of Naples, into which the Austrian general Nugent had penetrated from Rome, and Bianchi from Aquila, seven weeks after the opening of the campaign. He embarked from Naples, with a view of escaping to France, May 19. Ferdinand IV. returned from Palermo, and Murat's family found an asylum in Austria. Murat himself made a descent in Calabria, from Corsica, in order to recover his lost kingdom. He was taken prisoner at Pizzo, brought before a court-martial, and shot, Oct. 13, 1815.\*

\* If the downfall of Napoleon was regretted in any quarter of the world, it was in Italy. This country, which, to the misfortune of Germany—that of being split into petty divisions, and convulsed by civil dissensions, for centuries—adds the further misfortune of obeying foreign princes, had become destitute of every element of national life. Its commerce was fettered by the numerous political divisions; its administration poisoned and vitiated to a degree of which none can have an idea, except an eye-witness; the cultivators of the ground impoverished by the heavy rents which they had to pay to the rich land-owners; science enslaved by the sway of the clergy; the noblemen, distrusted by the foreign governments, where they existed, and not admitted to offices of great importance, had lost energy and activity; in fact, hardly any thing could be said to flourish, with the exception of music, and, to a certain degree, other fine arts. Under Napoleon, every thing was changed. Italian armies were created, which gave birth to a sense of military honour among the people; the organization of the judicial tribunals was improved, and justice much better administered; industry was awakened and encouraged; schools received new attention, and the sciences were concentrated in large and effective learned societies: in short, a new life was awakened, and no Italian or German, who wishes well to his country, can read without deep interest the passage in *Las Cases' Memorial*, in which Napoleon's views on these two countries are given. His prophecy, that Italy will one day be united, we hope will be fulfilled. Union has been the ardent wish of reflecting Italians for centuries, and the want of it is the great cause of the suffering of this beautiful but unfortunate country. A very interesting work, respecting the improvement of civil spirit in Italy, during the time of Napoleon, is *Lettres sur l'Italie*, by

Meanwhile, the congress of Vienna, by the act of June 9, 1815, had arranged the affairs of Italy:—1. The king of Sardinia was reinstated in his territories, according to the boundaries of 1792, with some alterations on the side of Geneva; for the portion of Savoy, left in possession of France by the peace of Paris, of May 30, 1814, was restored by the treaty of Paris, of November 20, 1815. To his states was united Genoa, as a duchy, according to the boundaries of that republic, in 1792, and contrary to the promises made to Genoa.—2. The emperor of Austria united with his hereditary states the new Lombardo-Venetian provinces formerly belonging to Austria, the Valteline, Bormio, and Chiavenna, separated from the Grisons, besides Mantua and Milan. Istria, however, was united with the Germano-Austrian kingdom of Illyria; Dalmatia, with Ragusa and Cattaro, constituting a distinct Austrian kingdom.—3. The valley of the Po was adopted as the boundary between the States of the Church and Parma; otherwise, the boundaries of Jan. 1, 1792, were retained. The Austrian house of Este again received Modena, Reggio, Mirandola, Massa, and Carrara.—4. The empress Maria Louisa received the state of Parma, as a sovereign duchess, but, by the treaty of Paris, of June 10, 1817, only for life, a being agreed that the duchess of Lucca and her descendants should inherit it. Lucca, in that case, falls to the Tuscan dynasty, which, in return, resigns its districts in Bohemia to the duke of Reichstadt.—5. The archduke Ferdinand of Austria became again grand-duke of Tuscany, to which were joined the *Stato degli Presidj*, the former Neapolitan part of the island of Elba, the principality of Piombino, and some small included districts, formerly facts of the German empire. The prince Buoncompagni Ludovisi retained all his rights of property in Elba and Piombino.—6. The Infanta, Maria Louisa, received Lucca, of which she took possession as a sovereign duchy, 1817, with an annuity of 500,000 francs, till the reversion of Parma.—7. The territories of the church were all restored, with the exception of the strip of land on the left bank of the Po; and Austria retained the right of maintaining garrisons in Ferrara and Comacchio.—8. Ferdinand IV. was again recognised as king of the two Sicilies. Britain retained Malta, and was declared the protectress of the United Ionian Islands. (See *Ionian Islands*.) The knights of Malta, who had recovered their possessions in the States of the Church and in the kingdom of the two Sicilies (in Spain, 1815), for a time made Catania, and after 1826, Ferrara, their residence. The republic of San Marino, and the prince of Monaco, whose mountain fortress the Sardinians, and, before them, the French, occupied, alone remained unharmed amid the fifteen political revolutions which Italy had undergone in the course of twenty-five years. The Austrian predominance was thus more firmly established than ever in Italy. In its sea and on its coasts, the British trident rules.

Meanwhile, the desire of union and independence was not extinguished among the people of Italy. Traces of a struggle for a united and liberal government were almost every where visible; and several of the governments, Naples, Rome, and Tera, in particular, in vain endeavoured to protect themselves against secret political societies (*Carbonari*, *Carbonari*) and freemasonry by inquisitory tribunals, Jesuits and secret police. While the spirit of Carbonarism (see *Carbonari*), excited by the Spanish revolution of January 1, 1820, and having for its

*Lullin de Chateaufort*. This work also contains much information respecting the agriculture of Italy, and many other subjects, of which the descriptions of this country hardly ever speak.

object the union of Italy under one government, and its independence of foreign powers, particularly of Austria, threatened to subvert the political institutions of the peninsula in general, and of the single states in particular, and in some places, especially in Naples, Sicily, and Piedmont, actually shook them, by rousing the troops to revolt, and by exciting popular commotions—the cabinets laboured with equal zeal to maintain the principle of stability by the suppression of every revolution, and by opposing to the popular spirit the power of the police. Thus was a question, fraught with the most momentous consequences for all Europe, practically decided in Italy, viz. whether one state is entitled to interfere in the internal affairs of another, and overthrow, by force of arms, any new constitution which militates against the absolute monarchical principle. This principle, which was proclaimed unconditionally by the leading states of the continent, and by Great Britain under the supposition of particular circumstances threatening imminent danger to the neighbouring state (see Lord Castlereagh's declaration of the 19th January, 1821), resulted in Austria (as the nearest interested power, which had prevented the introduction of the representative system into Italy in 1815) restoring by force of arms the ancient prerogatives of the royal authority in Naples, Sicily, and Piedmont, after obtaining the assent of the other four leading powers, which had been closely allied since 1818, and also of the Italian sovereigns, who participated, at the congress of Laybach, in the discussions respecting the affairs of Italy. Thus this power not only secured its own Italian provinces from the operation of liberal principles, but established its position as the guardian of the principle of stability and absolute monarchy in Italy. All this was effected by a war of four days with the revolutionary army of the Carbonari of Naples (7th–10th March, 1821), and by a war of three days with the federal party of Piedmont (7th–9th of April, 1821); so that Russia had no occasion to permit its army of 100,000 men, already put in motion, to advance against the Italian nations. For the history of those military revolutions, see *Naples* and *Piedmont*. Respecting the congress of monarchs and ministers held at Troppan, from October to December, 1820; at Laybach, from January to the 13th May, 1821; and the congress, as splendid as it was numerous, held at Verona, from October to the 14th December, 1822, where the question of armed interference in the internal affairs of states, in reference to Italy and Spain, was discussed, and decided against the claims of the popular party, though, in Verona, without the acquiescence of Britain, (see *Congress*, *Interference*, and *Holy Alliance*.) In the congress of Verona the Porte had no share, because it did not recognise the right of interfering in its internal affairs (with reference to the Greeks). Even the deputies of the provisional government of Greece (see *Greece*, *Revolution of*) were not admitted at Verona; the pope, however, opened an asylum to the Greeks in general in Ancona, and suffered the letter of count Metaxa to be published, in which he solicited the mediation of the holy father in behalf of the affairs of Greece at the congress of Verona. The affairs of Italy were discussed in the last sessions of the congress. The plenipotentiaries of the Italian states were as follows, and voted in the following order:—Rome, the cardinal Spina, and Leardi, the nuncio at the court of Vienna (who died 1823); Naples, the prince Alvaro Ruffo, minister of foreign affairs, and the marquis Ruffo, private secretary of king Ferdinand; Sardinia, the count Della Torre, minister of foreign affairs, and the count Pralorne, Sardinian minister to the court of Vienna;

Tuscany, the minister, prince Veri-Corsini; Parma, the count Magarj, minister of state; Lucca, the minister Mausi, and count Guicciardini. The petitions of the Maltese order for their restoration as a sovereign power were submitted by the commander, Antonio Busco; nothing, however, was decided on the subject, and the loan which the order subsequently attempted to negotiate in London, in 1823, had as little success as the negotiation with the Greek senate for the cession of an island. The political maxims which the monarchs followed at these congresses, with respect to Italy, were laid before the world, in the Circular Note of Verona of December 14, 1822. After the dissolution of the congress of Verona, the king of Naples followed the emperor of Austria to Vienna, where he remained till July, 1823, and then returned to his states,—his various oaths taken to support a constitutional form of government having been all violated. The efforts of the most intelligent Italians, from the time of Macchiavelli and Cæsar Borgia, son of Pope Alexander VI. (see *Alexander VI.*), to restore the political unity of their native country, have given rise to the numerous secret political societies in Italy, which in Bologna were called the *Gueffi*; in the Roman and Neapolitan states, the *Patriotti Europei*, and *Carbonari*; to Upper Italy, the *Spilla nera*; in Piedmont and Lombardy, the *Filadelfi* and *Federati*. In Milan, the *Adelfa*, or the *Società de' sublimi maestri perfetti*, laboured to produce a general outbreak of insurrections in Italy, in order to surround the Austrian army on its advance against Naples. Even the advocates of the illiberal system, or the *theocratic faction*, as it was termed, which likewise pursued its objects in secret societies, took advantage of the national desire of greater unity in Italy. It was therefore natural that the idea of connecting the Italian states in a political system, similar to the Germanic confederation, should have been agitated by the statesmen of the congress; but it seems to have been entirely given up, and Italy was left in the hands of Austria. On the other hand, measures were adopted, by all the Italian states, to extirpate the liberal spirit which, propagating itself under a perpetual variety of new forms (for example, in the sect of the *Ordini di Napoli*, of the *Descamisados*, of the *Barabisti*, in Naples and the rest of Italy), had not ceased in the year 1825, in the June of which year a conspiracy was detected at Rome, to pursue its ancient object of uniting all the Italian states into one confederacy as a republic or constitutional monarchy, and freeing them from foreign influence. This display of revolutionary spirit is nothing new in the history of Italy. The middle ages, that golden period of absolute power, exhibit there an almost uninterrupted series of such political conspiracies, republican schemes, and destructive convulsions, because Italy has never yet been permitted to be politically a nation, and to adopt a form required by its wants and its rights. One leading measure was, to occupy for some years the kingdom of the Two Sicilies and Piedmont (in which the old troops were disbanded), at the expense of these states, with Austrian armies, which had restored the former state of things. This was done conformably with the treaties between Austria and king Ferdinand, of October 18, 1821, and the king of Sardinia, Charles Felix, at Novara, July 24, 1821. But, in compliance with the decrees of Verona (December 14, 1822), the Austrian troops, 12,000 in number, were gradually removed from Piedmont in 1823, and the fortress of Alessandria was surrendered, September 30, 1823, to Sardinian troops. In the same year, after a new Neapolitan army had been organised in Naples, the Austrian garrison, of about 42,000 men, was diminished about 17,000, and, in Sicily,

only the citadel of Palermo continued to be occupied by Austrian troops. The last detachment left the kingdom in 1827. The influence of Austria on the internal administration was likewise every where felt. The police of each state adopted the strictest measures for maintaining internal tranquillity. Secret societies were strictly prohibited (for example, in the Austrian Italian states, by a proclamation of August 20, 1820); tribunals were erected, and, in Naples, supported by moveable columns, to punish the authors of revolutions; executions, proscription, and banishment ensued. Some condemned Neapolitans and Lombards were carried to the Austrian fortresses of Spielberg and Munkatsch. The Neapolitan government proceeded with the utmost rigour against political criminals, as did also the Sardinian and Modenese. Both Naples and Sardinia, nevertheless, issued decrees of amnesty, from which only the authors and leaders of the insurrection were excluded. Notwithstanding this severity, political offences were so numerous, that, in Naples, in January, 1824, a more summary form of judicial proceeding was prescribed to the criminal courts. This was the fourth time, since 1821, that the government had been compelled, on account of the crowded state of the prisons, to have recourse to extraordinary expedients. The Lombardo-Venetian kingdom, Lucca, Parma, Tuscany, and the church displayed the same anxiety in relation to secret associations. In Venice, the court of justice condemned thirty-two, and in Milan sixteen persons to death; but the emperor, in 1823, and January, 1824, transmuted the sentence into that of perpetual or temporary imprisonment. In September, 1821, the pope excommunicated the sect of the Carbonari, and all similar associations, as branches of the long prohibited freemasons; but in the Roman state, Tuscany, Parma, and Lucca, no punishments were inflicted for participation in former political societies. In general, the papal government, under the direction of the cardinal Gonsalvi, was distinguished from the others for conciliatory measures, and for moderation in establishing internal tranquillity. The influence of the apostolic see on the states convulsed by revolutions was thus, in some degree, increased. The press, universities, and schools, were, in particular, closely watched. In the kingdom of the Two Sicilies, and in Piedmont, strict measures were taken for the purification and discipline of the literary institutions; the Jesuits were restored, and rendered influential in the education of youth, by having committed to them, at Rome, and other places, the schools, colleges, and oratories, which they had before conducted. On the other hand, numerous banditti disturbed the public security, especially in Naples and the States of the Church. One of them got in their power (January, 1822), an Austrian colonel, for whose liberation they had the audacity to demand 40,000 Roman dollars; but they released him on seeing themselves surrounded by Austrian troops. In January, 1824, according to the *Diario di Roma*, a numerous band of roving youths was discovered in Italy, who had run away from their parents, organized themselves into companies, and subsisted by frauds and robbery. Among the single events, important for the history of Italy in late times, we must mention the death of pope Pius VII., in consequence of fracturing his leg, August 20, 1823. After a short conclave (from 3d to 27th September), he was succeeded by cardinal Annibal della Genga, born in 1760, at the family castle of the same name, near Spoleto, a prelate distinguished for his diplomatic services; he assumed the name of Leo XII., September 27, 1823.\* In the

year 1825, Leo caused a jubilee to be celebrated in the States of the Church. (See *Jubilee*.) The friend and secretary of Pius VII., the statesman cardinal Gonsalvi, who effected great changes in the system of internal administration, died at Rome, Jan. 24, 1824. He had bestowed the presents received from the European sovereigns (upwards of 100,000 scudi in value), on the college *de propaganda fide*, of which he was the last prefect; and a great sum of money for rebuilding St Paul's church, burned in Rome, in 1823. A somewhat milder spirit prevailed in the Two Sicilies, after the accession of Francis I. (Jan. 4, 1825.)

Italy depends almost solely on its agriculture for subsistence; the sources from which it formerly drew its support, the arts, manufactures, and commerce, being almost dried up. Commerce with foreign countries, which, in Naples especially, is altogether stagnant, is, for the most part, in the hands of foreigners, and, in a great measure, dependent on the British; thence the universal want of specie, the financial embarrassments of the governments, and the loans negotiated with Rothschild. Italy no longer lives, as formerly, on her cities, but on her soil. And even this source of prosperity maintains but a feeble existence, while taxes and tariffs impede the exportation of the staple productions to foreign countries, or bands of banditti and the want of good roads obstruct internal intercourse, as in Sicily and Calabria. The natural advantages of Italy entitle her to the highest rank in agriculture, commerce, and the arts; but all branches of industry groan under political oppression. The government and people look on each other with jealousy and hate, and the ecclesiastical establishment poisons the springs of national activity. A political excitement is continually kept up by means of secret societies, which are found also in Spain and Switzerland, under different appellations—*Consistorato*, *Croceignati*, *Crocefieri*, *Società della Santa Fede*, *Società del Anello*, and of the *Bruti*. The most count Le Maistre was, for a long time, in Piedmont, the head of these malcontents, who sought to accomplish desperate, ambitious plans, while apparently zealous in the cause of religion or morality. Even the Calderari, in Naples, whose head was the examiner of the police of Naples, prince Canosa, have become one with the Sanfedists, who were connected with the *gouvernement occulte* (as it was denominated, of France. These ultras hate even Austria, because it seems to act with too great moderation. The grand duke of Tuscany is a man of lenient principles, and, in that country, not a single Tuscan has been brought to account for political transgressions. Like the rest of Europe, Italy is on the eve of momentous events; but the convulsions in that country will be more violent than in many others, in consequence of its having to struggle at once for unity and independence, against a deeply rooted and obnoxious ecclesiastical establishment, the ignorance of a vast number of the people, and powerful enemies.

For the general history of Italy, previous to the last period, see Muratori's invaluable works: *Annali d'Italia* (12 vols. 4to); *Rerum Italicarum Scriptores*, (28 vols. folio); and Sismondi's *Histoire des Républiques Italiennes* (third edition, 16 vols. 1825). A continuation of Guicciardini's *Storia d'Italia*, circa 1789, by C. Botta, has lately been announced. Percival's *History of Italy*, (2 vols.), contains a shorter view of the modern history of that country. For further information on the modern history and the statistics of Italy, see Carlo Botta's *Storia d'Italia*

\* Leo XII. died Feb. 10, 1829, and cardinal Castiglione

was elected pope, March 21. He took the name of Pius VIII., and died in December, 1830. Early in 1831, cardinal Cappellari was elected pope, and assumed the name of Gregory XVI.

dal 1780 al 1814 (Paris, 1824, 4 vols. 4to, and in French, 5 vols.); the *Annali d'Italia dal 1750* (continuation of Muratori), compilati dal Abbate A. Coppi (3 vols., Rome, 1825); Bossi's *Storia d'Italia antica e moderna*; the *Memoires sur la Cour du Prince Eugene, et sur le Royaume d'Italie, pendant la Domination de Napoleon*, &c. (Paris, 1824); also, Leo's *Geschichte der Italienischen Staaten* (4th vol., Hamburg, 1830), and the historical works which are mentioned in the subsequent article on *Italian Literature*; also, the above-mentioned work of Lullin de Chateaufieux (*Letters on Italy*). This author investigates the causes of the decline of Italy, and describes regions which are not visited by most travellers. His comparison of the Italian system of agriculture with the English is interesting.

**Italian Language.** The boundaries of the Italian language cannot be given with precision. In the north, towards Switzerland, Tyrol, and the other neighbouring countries, the valleys in which German, Italian, and dialects of the ancient Roman language, are spoken, alternate with each other. Even the sea is not a definite limit. On account of the early extension of the Italians over the islands of the Mediterranean, including those of Greece and the coasts of the Grecian main land, it is not easy to determine where the last Italian sound is heard. It is spoken, more or less corrupted, in all the ports of the Mediterranean, Christian and Turkish. Of late, however, the Italian language has lost ground on many islands, as, for instance, on the Ionian islands. (q.v.) The origin of this beautiful and most harmonious tongue, is also lost in obscurity. The general opinion, that the Italian originated from a mixture of the classical Latin with the languages of the barbarians who overran Italy, is erroneous. The Roman literary language, which the scholar learns from Horace and Cicero, was not the dialect of the common people. That the former could not have been corrupted by the mixture of the barbarous languages, is proved by the fact, that Latin was written in the beginning of the middle ages, long before the revival of learning, with a surprising purity, considering the circumstances. After the language of common life had been entirely changed by the invasion of the northern tribes, in its whole spirit, rather than by the mere admixture of foreign words (a consequence of the change of the spirit of the people), then a new language of literature was formed, though the classical Roman still continued to be used. The new language was opposed to the variety of dialects which had grown out of common life; the formation of it, however, was slow, because the learned and the poets, from whom it was necessary to receive its stamp and development, despised it as an intruder on the Latin, which was venerable as well by its age, and the treasures handed down in it, as on account of the recollections of former greatness, with which the suffering Italians were fond of flattering themselves. Even down to the present day, that idiom, the melody of which carries us away in the most unimportant author, is not to be found as the common idiom of the people in any part of Italy.\* It is a mistake to suppose that Boccaccio's language is to be heard from the lips of Tuscan peasant girls, or Florentine porters. Even the Tuscan and Florentine dialect

differs from the pure language of literature, which, during the first centuries of Italian literature, is found purer in the poets of Sicily and Naples than in the contemporary writers of Tuscany. The circumstance, that the most distinguished Italian poets and prose writers were born in Florence, and the authority assumed by later Tuscan academies, particularly the Crusca (q.v.), are the causes why the Tuscan dialect, in spite of its rough gutturals, which are intolerable to the other Italians,† became predominant in the language of literature. Dante, the creator, as it were, of Italian prose and poetry, and whose works are full of peculiarities of different dialects, distinctly maintains, in a treatise *De vulgari Eloquentia*, that it is inadmissible to attempt to raise a dialect to a literary language. Dante, indeed, distinguishes in the *lingua volgare* (so the language was called, which originated after the invasion of the barbarians) a *volgare illustre, cardinale, aulicum, curiale*; but this sufficiently proves that he held the opinion above stated. Fernow (in his *Roman Studies*, Book viii., No. 11) mentions fifteen chief dialects, of which the Tuscan has six subdivisions. Those dialects, in which no literary productions exist, are not enumerated. The Italian, as we find it at present, in literature and with the well educated, is essentially a Latin dialect. Its stock is Latin, changed, to be sure, in its grammar and construction, by the infusion of the modern spirit into the antique, as the character of the people underwent the same change. A number of Latin forms of words, which, even in the time of the Romans, existed in common language (as, for instance, *o* instead of *um*, at the end of a word), have been, by the course of time and revolutions in literature, elevated to a grammatical rank; and the same is very probably true of forms of phraseology. In many instances, the Italian exhibits changes in the Latin forms, which have evidently taken place in the same way, in which common people, in our days, corrupt the correct modes of speech by a rapid, or slurred, or mistaken pronunciation. This is partly the reason why the Italian has changed so considerably the proportion of the consonants to the vowels in Latin (from 1·2 : 1, the Latin proportion, to 1·1 : 1, the Italian proportion); and this is one of the chief reasons of the great and uniform harmony in the Italian language. A careful investigation will show that, in fact, little admixture of Teutonic words took place, but that it is much more the Teutonic, or modern spirit, which changed the language so considerably.‡ The study of Italian has been carried on, in modern times, with great zeal, and a recurrence to the old writers, has much diminished the influence of the French models, so general after the time of Algarotti. The principles, according to which purity is now judged, have been clearly laid down by count Julius Perticari, son-in-law to Monti, in the work *Amor Patrio di Dante* (Milan, 1820), which powerfully opposes the presumption of the Tuscans in claiming to be in possession of the only good Italian. This work was considered, for a long time, the production of Monti, who, by his *Proposta di alcune Correzioni ed Aggiunte al Vocabolario della Crusca*, gave sufficient reason for such conjecture. To render

\* The sweetness of this tongue, which often gives to a passage a charm independent of the meaning of the words, and resembling that of music, is, in our opinion, no where so apparent as in Tasso's Jerusalem Delivered, and many stanzas have struck us as attracting the hearer irresistibly, though some of them have no particular charm in the meaning of the words. This also gives the Italian improviser a great advantage over one who attempts a similar performance in another language, in which he is entirely thrown upon the meaning of what he says.

† The beau-ideal of Italian is set forth in the saying, *Lingua Toscana in bocca Romana* (the Tuscan dialect in a Roman mouth.)

‡ See the article *Consonant*.

§ This change is also manifest in the difference between authors who wrote before the great revival of letters, and still later, before the French influence had taken place. This may, perhaps, account for the difficulty which an Italian reader finds in understanding many passages of Dante, which do not strike a German as particularly obscure.

the nobler language also the common property of the provinces to which it had hitherto remained foreign, was the aim of Gherardini's *Introduzione* (Milan, 1815). More was promised by the *Vocabolario della Lingua Italiana*, published at Bologna, the authors of which are arbitrary in the explanation and application of words. Bonavilla's *Vocabolario Etimologico* (Milan, 5 vols., 1825) hardly excited the attention of the Milanese, under whose eyes it originated. Romani's *Teoria e Dizionario gen. de Simoni* (Milan, 1825) seems to be more useful. Respecting the history of the Italian language, we may expect much from the profound researches of Benci. The philological treasures of a nation, in which the ancient writers are studied with so much zeal, and which is so extensively connected with foreign countries, must be continually augmenting. Wherever a line of Tasso has been found unprinted, wherever the pen of Guarini has been traced, the fragment has been published with a pious devotion, most probably not desired by the authors. Nevertheless, many interesting additions to the literature of Italy have been made in this way: thus, for instance, a work of Peter Perugino (*Di uno Scritto Autografo del Pittore P. Perugino nell' Archivio dell' Acad. di B. Arti di Perugia*, &c., Perugia, 1820), poems of Bojardo (*Poesie di Matteo Maria Bojardo, Conte di Scandiano ecc. scelte ed illustrate del Caval. Venturi*, Modena, 1820), poems of Lorenzo the Magnificent, *Poesie del magnifico Lorenzo de' Medici*, Florence, 1820), poems of Luigi Alemanni (Florence, 1819), a work of Montecuculi, unknown till it was published by Grassi (Turin, 1820), and letters of Galilei, published by Venturi (Modena, 1821, 16mo, 2 vols.) Still greater has been the demand for editions of the acknowledged classics. Dante has been published in all shapes and sizes. Among these editions, that of *De Romani* (Rome, 1820, 4to), the edition of Biagioli (Milan, 1820), and one published at Roveta, in the Rhaetian Alps, by an admirer of the poet, Aloisio Fantoni (1820), of which a manuscript in the hand-writing of Boccaccio was made the basis, deserve mention. The edition printed from the Bartolinian manuscript (Vienna, 1823) has acquired some distinction among the most recent, as have likewise Scolari's explanations (*Della piena e giusta Intelligenza di Dante*, Padua, 1822). Ugo Foscolo had prepared an edition, accompanied with notes and commentaries, which is now (1831) in course of publication at London. Similar attention has been paid to Petrarca, in the famous edition of Marsaud (Padua, 1819, 4to.), and several editions for common use. Ariosto's *Orlando Furioso* has met with equal homage; the edition at Florence, by Molini (1821 and 1822, 5 vols.), unites every thing which is required for the understanding of the poet. No less care was bestowed on Torquato Tasso in the edition made by the typographical society (Milan, 1823 et seq.), and hardly an Italian author of note can be mentioned whose works have not been carefully edited. The *Società Tipografica de' Classici Italiani* even undertook the reprint of Muratori's *Annali d'Italia* (Milan, 1820 et seq., 20 large volumes), trusting to the zeal for collecting among travelling foreigners, and in so doing were more fortunate than the editor of the *Famiglie celebri Italiane*, which, with all its undisputed merit, has had but a heavy sale. Since the death of Morelli, the spirit of criticism, as regards the classics, seems to have died. The best Italian and English dictionary is that of Petronj. (Italian, French, and English, 3 vols., London.) Alberti (Italian and French) is very valuable. The best modern grammars are the *Grammaire des Grammaires Italiennes*, Biagioli's *Grammaire Italienne*.

*Italian Literature and Learning* (excluding poetry). One consequence of the irruption of the barbarians into Italy was a period of darkness and ignorance, as well as of disorder and distraction, from whose chaotic confusion the germs of a new civilisation could only be developed slowly and laboriously.

*First Period.—From Charlemagne to the Death of Otto III.*, 1002.—The influence of Charlemagne on the friend of letters and the restorer of peace was favourable. We find an Italian, Petrus, deacon of Pisa, mentioned as his teacher in grammar. No less deserving of mention is Lothaire, who was king of Italy in 823, and founded the first public schools in many cities. Of the instructors in these schools, we know only Dungalus of Pisa, of whom, while he was still a monk at Bobbio, Charlemagne requested an explanation of two solar eclipses, and under whose name several works are still extant. Lothaire's example was imitated by pope Eugene II., in the States of the Church. The consequences, however, of these institutions, although valuable in themselves, were unimportant; for competent teachers were wanting, and the later Carolingians and popes suffered the new institutions of learning to fall to decay. In addition to this, the incursions of the Saracens and Hungarians into Italy, and the civil wars, had a very injurious influence. There were few individuals, in this dark period celebrated for learning. In theology, were distinguished the popes Adrian I., the above-mentioned Eugene II., Leo V., Nicolas I., and Sylvester II.; Paulinus, patriarch of Aquileia (his works were published, Venice, 1737), Theodolphus, bishop of Orleans (his works, Paris, 1646), both contemporaries of Charlemagne; the two archbishops of Milan, Petrus and Albertus; Maxentius, patriarch of Aquileia; and, finally, the two abbots of Monte Casino, Autpertus and Bertarius. Among the historians of this time, whose writings contain valuable information, though in a rude and barbarous style, the principal are Paulus Warnefried, surnamed *Diaconus*, author of several works, especially of a history of the Lombards, and Erchempertus, with two unknown persons of Salerno and Benevento, who continued the above work; a priest of Ravenna, by name Agnellus (also Andreas), who wrote a history of the bishops of Ravenna; Andrew of Bergamo, author of a chronicle of Italy from 868 to 873; Anastasius, librarian of the Roman church, known by his lives of the Roman bishops, and Luitprandus of Pavia, author of a history of his own times.

*Second Period.—From the Death of Otto III.* 1002, to the Peace of Constance, 1183. In this period, also, the condition of Italy was unfavourable to the interests of learning. The Italian cities were contending for their freedom with the emperors, and the conflict between the spiritual and secular power was no less injurious. The crusades, which began at the close of the 11th century, salutary as they were in their ultimate influence, contributed, in their immediate results, to augment the general confusion. Of the popes, the ambitious Gregory VII. and Alexander III. took measures for improving the schools. The copies of ancient classic works were multiplied, and individuals took pains to collect books. Among the learned theologians of this period, we must mention Fulbert, bishop of Chartres, a native Roman; the two famous archbishops of Canterbury, Lanfranc and his scholar Anselm; Petrus Lombardus, teacher of theology at Paris, most famous for his four books *Sententiarum*; Petrus Damianus; the cardinal Albericus; Bruno, bishop of Segni; Anselmus, bishop of Lucca; Petrus Gratianus; or Chrysolanus, archbishop of Milan, and Bonizone, bishop of Sutri, afterwards of Piaccenza.

All have left works, on which we shall not dwell. In philosophy, or rather dialectics, besides Lanfranc and Anselm, were distinguished Gerardus of Cremona, who taught at Toledo, and, among other things, translated, from the Arabic into Latin, the works of Avicenna and the Almagest of Ptolemy, and Johannes, the Italian, who expounded Plato and Aristotle at Constantinople, and gave instruction in logic. Music underwent an entire transformation through Guido of Arezzo. The medical art flourished in the school at Salerno, at the end of the 10th century. The physicians there seem to have first studied the works of the Arabians. The oldest monument of the Salernitan school consists of certain diœtical rules, composed in Leonine verses, entitled *Medicina Salernitana*, or *De Conservanda Bona Valitudine*. Several physicians, both of Salerno and the neighbourhood, were distinguished in these times for their works, viz. Matthæus Platearius, Saladinus of Ascoli (the last for his compendium of aromatic medicines), and several monks, whom we pass over. Jurisprudence revived with the freedom of the cities, and became a subject of general study. Throughout Italy there were schools in which it was taught; namely, at Modena, Mantua, Padua, Pisa, Piacenza, Milan, and above all at Bologna, where Imerius, who acquired for this city the appellation of *learned*, taught and explained the Roman law, and brought to light the concealed treasures of the Pandects. We might mention many distinguished lawyers of this period, but content ourselves with citing the famous Gratian, who first digested the canon law (in his *Decretum sive Concordia Canonum Discordantium*), for the use of the tribunals, and is to be regarded as the founder of the canon law. Although the grossest barbarism prevailed in every thing that related to taste, there were, nevertheless, individuals who paved the way to a knowledge of the ancients, by the study of the Greek and Latin languages, and sought to imitate their style. Among them was Papias, one of the first who compiled a Latin dictionary. The 11th and 12th centuries exhibit many scholars, whose works are destitute of elegance, but written in a clear and intelligible style. Such are Arnolphus, the two Landolphuses, Sire Raul, Otho Morena and his son Acerbus, Godofredus Malaterra, and several writers of chronicles, and authors of monastic histories, respecting whose names and works we refer the inquirer to Muratori's invaluable collection.

*Third Period.*—*From the Peace of Constance, 1183, to the End of the 13th Century.* In this period, the literature of Italy assumes a more pleasing aspect. Hitherto all works had been written in barbarous Latin, but attempts now began to be made in the language (rude, indeed, as yet) of the people (*lingua vulgare*). Poetry, as usual, preceded prose. Dialectics and philosophy were improved, and as the sciences gained in solidity and extent, their mutual connexion became more apparent. The crusades had led to new sources of knowledge, and gave, in general, a new impulse to the mind. Notwithstanding the internal wars of Italy, letters flourished; for princes and republics vied with each other in encouraging scholars, and in founding new schools and institutions of education. The emperors Frederic I. and II. effected great improvements. The former promoted the study of jurisprudence in particular, and founded schools; the latter was himself a scholar, possessed an extensive knowledge of the languages, and established public schools throughout the south of Italy. His court, and that of his son Manfred, in Palermo, were thronged with the learned. Besides some poems in Italian, he also wrote a work on the natural history of birds. His learned chancellor, Pietro delle Vigne (Petrus de Vineis), was

animated by the same spirit, and not less familiar with the science of law than with the conduct of political affairs. Besides six books of letters, his collection of Sicilian laws is still extant. Several of the popes were profound scholars, and distinguished as authors, particularly Innocent III. and IV., and Urban IV. The university of Bologna, at the beginning of the 13th century, contained 13,000 students from all countries of Europe; and Padua, Arezzo, Vicenza, Naples, &c., competed with it. The chief theologians of this period were Thomas Aquinas, the Franciscan Bonaventura, and Egidio Colonna, all three authors of numerous works. In philosophy, a new epoch began in Italy in this period, when the writings of Aristotle became known to the Italians, though in a somewhat corrupt state. Thomas Aquinas wrote a commentary on them by the command of the pope, and translated them, partly from the Greek, partly from the Arabic. Brunetto Latini produced an epitome of the Ethics of Aristotle, in his *Tesoro*, which was originally written in French, and is remarkable as an encyclopædia of the knowledge of the age. Mathematics and astronomy, in connexion with astrology, were cultivated. Campano, the most learned geometer and astronomer of his time, wrote a commentary on Euclid. After him we may name Lanfranco, Leonardo of Pistoia, and Guido Bonatti, the chief astrologer of the time. From this period dates the invention of spectacles and of the magnetic needle. The school of Salerno was the central point of medical study. It had able teachers in Pietro Musandino, Matteo Plateario, Mauro, &c.; but there were also distinguished physicians out of Salerno, such as Ugo of Lucca, the Florentine Taddeo (who wrote commentaries on the Aphorisms of Hippocrates, and on some works of Galen), Simon of Genoa (author of the *Clavis Sanitatis*, which may be regarded as the first medical and botanical dictionary), and others. Surgery made still greater progress under such men as Ruggieri of Parma (who wrote a *Practica Medicina*), and his countryman and contemporary Rolando (author of a Surgery, on which four of the principal physicians of Salerno wrote commentaries), Bruno, Teodorico, Guglielmo of Saliceto, and Lanfranco, of whom we have likewise treatises on surgery; but no science was more zealously or successfully pursued in the 13th century than jurisprudence. In Ferrar, Modena, Milan, Verona, and other Lombard cities, codes were compiled, on which a Dominican, who passed for a performer of miracles, John of Vicenza, bestowed a sort of consecration. The first lawyers of this time were Amo of Bologna (whose *Summa* on the institutions and *Apparatus ad Codicem* have been printed), Ugolino del Prete, also a Bolognese (who incorporated with the *corpus juris* the feudal laws, compiled by Anselmus of Orto, and the decrees of the modern emperors), Accorso, a Florentine (who obtained the surname of *Glossator*, from his having collected the best glosses of his predecessors, and annexed others of his own), Odofredo (author of a commentary on the Codes and the digests), &c. In the canon law, Gratian's collection had been hitherto held as authority. To this were now added the four collections of Bernardo of Pavia, of Pietro Collivaccino, &c., which were regarded as works of authority till they were supplanted by the collection made under the supervision of Gregory IX., which even yet constitutes the greater part of the canonical law. To this Boniface VIII. added, in 1298, the sixth book of decretals. Without dwelling on the most distinguished canonists, we pass to the principal historians, most of whom wrote with simplicity and integrity:—Goffredo of Viterbo (a German, who wrote a chronicle, from the creation of the world to 1168, under

the title of *Pantheon*), Sicardus (author of a similar chronicle), Giovanni Colonna (author of an universal history—*Mare Historiarum*), Riccobaldi (author of a similar work, entitled *Pomarium*), the Sicilian Riccardo of San Germano (who relates, with much fidelity, events from 1189 to 1243), Matteo Spinello (whose history reaches from 1247 to 1268, and is the first learned work in Italian prose), Niccolò di Iam-silla, Saba Malaspina and Bartolommeo da Neocastro, (whose works have been published by Muratori). Florence had its first historian in Ricordano Malaspini. The history of Milan was written by Filippo di Castelseprio, and the Dominican Stefanardo of Vimerate, and thus each province and city had its chronicler, whose names we have not room to enumerate. Grammar, which then comprehended the belles-lettres, had been hitherto neglected; but in the thirteenth century, it found students and teachers, as Buoncampagno Bertoluccio, Galeotto (who wrote in Italian, and translated Cicero's rhetorical books into that language), and, above all, Brunetto Latini, Dante's instructor, who has already been mentioned, and of whom, besides his above-mentioned *Tesoro*, we have several other works in prose, such as *La Rettorica di Tullio*, *De' Vizi e delle Virtù*, &c. At the close of this period, we must mention the famous Marco Polo, his father Matteo, and his uncle Niccolò. They were among the first who made distant journeys through Asia, and rendered that part of the world better known to their countrymen.

*Fourth Period.*—From 1300 to 1400. Amid civil disturbances, the sciences continued to make great advances. While the emperors were attempting, in vain, to restore peace to Italy, and subject it to their authority, separate sovereignties and principalities were formed, the rulers of which emulated each other in their patronage of literature. Robert, king of Naples, was the most distinguished in this respect. After him ranked the Della Scala at Verona, the house of Este at Ferrara, the Gonsaga at Mantua, &c. The number of universities increased, and many of them, such as those of Padua, Naples, Pisa, and Pavia, were very flourishing, though Bologna, formerly the first, fell into decay. The libraries were enriched with the works of the ancients, which were rescued from oblivion. Men like Petrarch and Boccaccio, by their researches and studies, rendered lasting services, as the restorers of learning. Both collected books, and the first collected also Roman coins. By the invention of paper, the multiplication of copies of the classics was facilitated. Their corruption by ignorant transcribers soon became evident. Criticism was required to restore them, and Coluccio Salutato, by the collation of several manuscripts, made a beginning in this art, and recommended it to others. Divinity was treated of by numberless scholastic theologians, but by most of them was obscured rather than illustrated. The following deserve honourable mention: Albert of Padua, Gregory of Rimini, Mich. Aiguani of Bologna, Bartol. Carusio of Urbino, Alessandro Fassitelli, who all taught at Paris, besides Porchetto de' Salvatici of Genoa, Raniero of Pisa or of Ripalta, Jac. Passavanti, Simon of Cascia, Peter of Aquila, Bonaventura da Perugia, Marsiglio Raimondini of Padua, and Lodovico Marsigli. Philosophy was highly complicated and obscure, as it was built on the mutilated and disfigured works of Aristotle, assisted by an Arabian commentator, Averroes, whose mistaken explanations were first made known, and were, in turn, expounded and illustrated by the monk Urban of Bologna. The only philosophical writer, who does honour to the age, is the famous Petrarcha, who wrote several Latin works on moral subjects—*De Remediis utriusque Fortune*; *De Vita solitaria*; *De Contemptu Mundi*;

*De Ignorantia sui ipsius et Aliorum*, &c. The rest that was written in the department of morality deserves mention only for the purity of the Italian, such as *Animastramenti degli Antichi volgarizzati*, by Bartolommeo of Pisa. Of the mathematical sciences, astronomy and, in connexion with it, astrology, were most cultivated. The most noted scholars, who devoted themselves to these branches, were Pietro of Albano, and Cecco of Ascoli.—the former distinguished for his *Conciliator*, in which the various opinions of famous physicians and philosophers are reconciled; the latter for an astrological work, for a treatise on the sphere, and his poem *Acerbia*, for which he was burned as a heretic. Besides these, there were Andalone del Nero, who travelled much for the sake of enlarging his astronomical knowledge, and was esteemed by Boccaccio as the first astronomer of his age, and Paolo, surnamed *Geometra*, of whom Villani narrates, that he discovered all the motions of the stars, by means of instruments of his invention, and who is quoted by Boccaccio, as having prepared machines representing all the celestial motions. Jacopo Dondi and his son, Giovanni, gained reputation and the surname *Dall' Orologio*, by an ingenious clock, showing not only the hours, but also the course of the sun, moon, and planets, as well as the months, days, and festivals. Pietro de' Crescenzi, a Bolognese, wrote in Latin his even yet interesting work on agriculture; but, in the same century, there appeared an Italian translation of it, distinguished for its language and style. Medicine was zealously studied by a number of scholars, but was still, however, in a very imperfect state, and deserved, at least in a measure, the ridicule with which Petrarch treated it. The celebrated school of Salerno was on the decline. The Arabians were everywhere esteemed as models and teachers. Among the most famous physicians of the time, were the Florentine Dino dal Garbo, who wrote commentaries upon some writings of Avicenna and Hippocrates, and on the love songs of Guido Cavalcanti, also a treatise on surgery, &c.; his son Tommaso, Petrarch's friend, who wrote a *Summa Medicinalis*, and directions how to treat the plague, and explained Galen's works on the difference of fevers and on generation; Torrigiano Rusticelli, who wrote on Galen's *Ars parva*; Gentile of Foligno; Jacopo of Forlì; Marsiglio of Santa Sofia, and others whose works are forgotten; finally, Mundino of Bologna, who was the first that wrote a complete work on anatomy, which was esteemed for two centuries. In jurisprudence, several persons were eminent as writers on civil law: Rolando Placius; Albert of Gandino (*De Maleficiis*); Oldrado da Ponte (*Consilia* and *Questiones*); Jacopo Belviso (who wrote, among other things, on fiefs); Francesco Ramponi (who explained some books of the *Code*); Cino (q. v.) of Pistoia; and the two most celebrated lawyers of this age—Bartolo and Baldo. In the canon law, which was extended by the Clementine decretals and Extravagants, the most illustrious was the Florentine Giovanni d'Andrea, who commented upon the six books of the decretals, and educated several distinguished scholars. In history, the increasing intimacy with the works of the ancients had the most favourable influence; it was freed from a great many errors and fables. Petrarcha and Boccaccio distinguished themselves by several historical works, written in Latin:—the former by four books, *Arrus Memorandarum*, and biographies of famous men;—the latter by *De Genealogia Dorum*; *De Casibus Virorum et Feminarum illustrium*; *De claris Mulieribus*; *De Montium, Sylvarum, Lacuum, Fluminum, Stagnorum et Marium Nominibus*. In addition to these, there is a long train of authors of general history and of chronicles; especially Bevenuto d

Imola (who wrote a history of emperors, from Julius Cæsar down to Wenceslaus, and commented on Dante); Francesco Pipino of Bologna (who wrote a chronicle, from the time of the first Frankish kings down to 1314); and Guglielmo di Pastrengo (author of the first universal library of the writers of all nations, which displays a wonderful extent of reading for those times); the Florentine Paolino di Pietro, Dima Compagni, and the Villanis (see *Villani*), who contributed much to the improvement of their native language; the Venetian Andrea Dandolo (who wrote a valuable Latin chronicle of his native city, from the birth of Christ to 1342); and Raffaello Caresini (who continued it till 1388); the Paduan Alberto Musato (who wrote several historical works in good Latin, partly in prose, partly in verse); and others. (See Muratori's *Scriptores*.) The want of proper teachers was a great obstacle, in this period, to the study of foreign languages. Clement V. gave orders, indeed, for the erection of professors' chairs for the Oriental languages, not only in the papal cities of residence, but also in several universities at home and abroad, but with little effect. More was done for Greek literature, especially through the instrumentality of Petrarca and Boccaccio: the two Calabrians Barlaamo and Leonzio Pilato were the most zealous cultivators of it. At Florence, the first professorship of the Greek language was founded and conferred on Leonzio Pilato, by the influence of Boccaccio. In this period occur the first Italian tales and romances. The oldest collection of tales extant is the *Cento Novelle antiche*, short and very simple stories by unknown authors. These were followed by Boccaccio (q. v.) with his *Decameron* and his *Fiammetta*, by which he became the real creator of the Italian prose, in all its fullness, luxuriance, and flexibility: his imitators were Francesco Sacchetti, author of a collection of tales, and Ser. Giovanni, author of *Pecorone*, both, however, far inferior to Boccaccio. Dante (q. v.), too, must be mentioned, both on account of his Italian works, the *Vita Nuova* and the *Convito*, and also on account of his *De Monarchia*, and *De Vulgari Eloquentia*. Connected with this is the *De Rhythmis Vulgaribus* of Ant. di Tempo, which treats, though imperfectly, of Italian verse, as the former had treated of Italian prose, and the various kinds of style. In general, grammar and elegance of style were much cultivated, by reason of the study of the ancients. Not only were the models of antiquity translated and explained, but a professorship was founded at Florence for illustrating Dante. Yet the specimens of elegant prose are few. Among the writers of travels of this century, Petrarca and the Minorite Odorico of Pordenone hold the first rank. The former made a journey to Germany, and gives an interesting account of it in his letters; he also wrote for a friend an *Itinerarium Syriacum*, without having ever been in Syria himself. Odorico travelled through a great part of Asia as a missionary, and, after his return, published a description of his travels, which may be found in Ramusio's work, but unfortunately so altered, that we can hardly venture to give credence to the accounts.

**Fifth Period.—From 1400 to 1500.** During this century, notwithstanding the continuance of internal troubles, Italian literature was in a highly flourishing condition. Two events, in particular, had a favourable influence: first, the conquest of Constantinople by the Turks, in consequence of which many learned Greeks fled to Italy, and diffused knowledge there; secondly, the flourishing state of the house of the Medici in Tuscany, the members of which were distinguished for their patronage of the arts and sciences, and were emulated by the Visconti, Sforza, Este, the kings of Naples, the marquises of Mantua

and Monterrat, the dukes of Urbino, and other princes, popes, magistrates, and private persons. Without dwelling on the universities, we merely say, that two new ones were added at Parma and Turin. In the preceding century, an academy of poetry had been established, and scientific academies were now instituted. The first of this kind was founded by the great Cosmo, at Florence, for the revival of the Platonic philosophy. Similar societies were formed at Rome, at Naples, and, under the patronage of the learned Aldus Manutius, at Venice. Men like Guarino of Verona, Giovanni Aurispa, and Francesco Filelfo, brought the works of the Greeks from obscurity; others were not less zealous in the cause of Roman literature. Public and private libraries were established in several places. This progress was promoted by the invention of printing, which was quickly spread and brought to perfection in Italy. As ancient literature became more generally studied, antiquities likewise attracted greater attention. Ciriaco of Ancona, in particular, thus gained a high reputation. No one of the many learned theologians of these times is much distinguished. We shall merely mention Nic. Malermi, or Malerbi, who first translated the Bible into Italian; Bonino Mombrizio, who collected the lives of the martyrs; and Platina, who, with great erudition, and not without critical acuteness, wrote the history of the popes, in an elegant and forcible style. After the arrival of the Greeks in Italy, a new impulse was communicated to the study of philosophy. Among several others, Paolo Veneto had already acquired fame as a philosopher by his logic or dialectics, and his *Summule Rerum naturalium*, in which he illustrated the physics and metaphysics of Aristotle. Among the Greeks who fled to Italy in the first half of this century, one of the principal was Johannes Argyropolus, of whom Lorenzo de' Medici, Donato Acciaiuoli, and Politian were scholars. "Without entering into controversies, he explained Aristotle, and translated several of his works. But after him, Georgius Gemistus (also called *Pletho*) gave rise to an obstinate contest respecting the relative superiority of Aristotle and Plato. He himself, as the advocate of Plato, ridiculed Aristotle and his admirers. Georgius Scoliarius (afterwards patriarch of Constantinople) answered with vehemence, and provoked Pletho to a still more violent reply. The famous Theodore Gaza, the cardinal Bessarion, and George of Trebison, took part in the controversy. On the other hand, the admirers of Plato, at Florence, remained quiet spectators. The Platonic academy, founded there by Cosmo, was in a flourishing state. Marsilius Ficinus and Johannes Picus of Mirandola, were its chief ornaments. The former translated the works of Plato into Latin, and wrote on the philosophy of Plato and of the Platonists. Their most eminent successors were A. Politian and Cristoforo Landino. Astronomy was still mixed with astrology. Some of the most learned astronomers were Giovanni Bianchino, whose astronomical tables of the orbits of the planets were several times printed; Domenico Maria Novara, instructor of the great Copernicus; and, above all, Paolo Toscanello, celebrated for the sun-dial made by him, in the cathedral at Florence. Mathematics and music now revived in Italy. One of the restorers of arithmetic and geometry was Luca Paccioli of Borgo San Sepolcro. Leone Battista Alberti, the author of numerous works on architecture, wrote in a manner no less elegant than profound; he was also the author of valuable treatises on other subjects. The first writer on the art of war, was Robert Valturio da Rimini. For music, Ludovico Sforza first founded a public school at Milan, and made Franchino Gafurio its teacher, from whose pen we have several works,

such as a Theory of Music; also, a work on the practice of music, and a treatise on the harmony of musical instruments. Medical science was but little promoted, considering the number of physicians; they were satisfied with collecting the observations of their predecessors. Bartol. Montagna (*Consilia Medica*, and observations on the baths of Padua), Giovanni di Concoreggio (*Praxis nova totius fere Medicinæ*, &c.), Giov. Marliano, likewise an able mathematician and philosopher (a commentary on Avicenna), Gabriel Zerbi, Alessandro Achillini and Nic. Leonicensi (who exposed the errors of the ancients in a particular work, and was perhaps the first who wrote *De Gallico Morbo*), were distinguished in anatomy. Civil jurisprudence still stood in high estimation. In it were distinguished Cristoforo di Castiglione and his scholars, Raffaello de' Raimondi and Raffaello de' Fulgosi, who wrote *Consilia*, and explanations of the digests; Giovanni di Imola, who wrote a commentary on the first part of the *Digestum novum*; Paolo of Castro, who wrote explanations of the code and digests; Pietro Filippo Corneo, who left legal *Consilia*; Antony of Pratovecchio, who improved the feudal law, and wrote a *Lexicon Juridicum*; Angelo Gambiglione, who wrote *De Maleficiis*, &c.; the great Accolti of Arezzo, Alessandro di Imola, surnamed *Tartagni*, who left many law treatises on the digests, the code, the decretals and Clementines, many *Consilia*, &c.; Bartol. Cipolla, who wrote *De Servitutibus*; Pietro da Ravenna, who, besides several legal works, wrote rules for the art of memory, under the title *Phoenix*; Bartol. Soccino and his opponent, Giasone dal Maino, and many others. In canonical law, the most famous authors were Nic. Tedeschi, Giov. of Anagni, Ant. Roselli, Felino Sandeo and the cardinal Giannantonio da San Giorgio. History made the greatest progress; it aimed not only at truth, but also at beauty of diction. Among the many historians of this period, some may be regarded as models of historical description. Roman antiquities and ancient history were treated of by Biondo Flavio, whose principal works are *Roma instaurata*, *Roma triumphans*, *Italia illustrata*, *Historia Romana*, *De Origine et Gestis Venetorum*; Bernardo Rucellai (*De Urbe Roma*); Pomponio Leto (*De Antiquitatibus Urbis Romæ*, *De Magistratibus Romanorum*, *Compendium Historiæ Romanæ*), &c.; and Annio of Viterbo, whose *Antiquitatum variarum Volumina XVII.* contain the works of ancient authors, now acknowledged to be spurious. Histories from the beginning of the world to their own times, were written by the archbishop Antonio of Florence, Pietro Ransano, Jac. Filippo Foresti, Matteo and Matthia Palmieri, and Sossimeno, all of which are valuable only as far as they treat of their own times. As historians of their times, and of their country in general, the following are deserving of notice: *Æneas Sylvius*, afterwards pope Pius II., who left a great number of historical works, and whose history of his own times has been continued by cardinal Jacopo Ammirato; Giov. Mich. Alberto of Carrara, Leonardo Bruni of Arezzo, the Florentines Poggio and Bartolommeo Scala; the Venetians Marco Antonio Sabellico, Bernardo Giustiniano; the Paduans Pietro Paolo Vergerio and Michael Savonarola (the physician); the Vicentine Giambattista Pagliarini; the Brescian Jacopo Malvezi and Cristoforo da Soldo; the Milanese Andrea Biglia, Pietro Candido Decembrio, Lodrisio Crivelli, Giovanni Simonetta, Giorgio Merula, Donato Bosso, Bernardino Corio and Tristano Calchi; the Neapolitans Lorenzo Valla, Bartolommeo Fasio, Antonio Panormita, Gioviano Pontano, Michele Ricci, Giovanni Albino, Tristano Caraccioli, Antonio Ferrario and others, to whom is to be added

Pandolfo Colennuccio of Pesaro, the only one who wrote a general history of Naples. Giorgio and Giovanni Stella, and Bartolommeo Seneroga and Jacopo Bracello wrote the history of Genoa. Savoy had, in this period, two historians,—Antonio of Ami (who wrote a chronicle of his paternal city in verse) and Benvenuto da San Giorgio (a history of Montferrat, accompanied with documents). As an historian of Mantua, Platina deserves mention. As geographers were distinguished Cristoforo Buondelmonte, who travelled in Asia; Francesco Berlinghieri, who wrote a geographical work in verse; Caterino Zeno, who described his travels through Persia; the famous navigators Cada Mosto, Amerigo Vespucci and Cabotto (Cabot) and others. In the Oriental languages, Giannomo Maureti was distinguished. The study of the Greek language was spread by Manuel Chrysoloras, Lascaris, and many other Greeks, who fled to Italy, on whom and on their scholars, some of them men of great learning, we cannot here dwell. With no less zeal was Roman literature cultivated. The names of Guarini, Aurispa, Filelfo, Lorenzo Valla, and Angelo Poliziano, are distinguished.

*Sixth Period.*—From 1500 to 1650.—In this period, Italy attained the summit of its greatness. Its rich materials for satisfying both the physical and intellectual wants of man; the power of its republics and princely houses; their seal and munificence in favour of all that could restore the splendour of ancient times, made Italy a model for the rest of Europe. The wars which Ferdinand the Catholic, Maximilian I., Charles V., and Francis I. prosecuted on her soil, did not, therefore, produce permanent injury. The former universities continued, and new ones were added, among which that of Padua was eminently conspicuous. The number of academies and libraries increased to such a degree, that hardly a city of importance in Italy was without them. Among the popes, there were many patrons and promoters of the arts and sciences, particularly Julius II., the magnificent Leo X., Clement VII. (whose unfavourable circumstances did not allow to accomplish his designs, but whose place was supplied, in many respects, by the cardinal Hippolytus of Este), Paul III., Gregory XIII., (who, as Ugo Boncompagni, had edited an improved and enlarged edition of the *Corpus Juris canonici*, and, as pope, corrected the calendar), Sixtus V. (who removed the library of the Lateran to the splendid palace of the Vatican, and enlarged it, completed the publication of the works of Ambrosius and of the Septuagint, caused a new edition of the Vulgate to be published, &c.), and Urban VIII. (who united the Heidelberg library with the Vatican, and founded the Barberini.) We must next mention, as scholars and patrons of scholars, the cardinals Bembo, Carlo, and Federico Borromeo (the last was the founder of the Ambrosian library at Milan), and Agostino Valera. The princes were not behind the popes and cardinals. The most distinguished for activity and liberality were the Gonzaga of Mantua, the Este at Ferrara, the Medici at Florence, and the duke Charles Emmanuel I. of Savoy. Notwithstanding favourable circumstances, theology made but slight advances. For after the storm of reformation had broken out in Germany, established doctrines were more obstinately maintained, and farther investigation discouraged, with the exception of the editions of the Septuagint and Vulgate already mentioned. The study of the Holy Scriptures gained but little by the literary treasures that Italy possessed. Cajetan, the most celebrated commentator on the Bible, effected nothing worthy of note; and Diadati's translation, as it was not modelled servilely on the Vulgate, found no favour among the defenders of the established

cardinal Bellarmine surpasses all the others in intrinsic merit. Cesare Baronio, the historical defender of the disputed papal prerogatives, brought to light the most important documents and monuments; and Paolo Surpi, the assailant of them, united modesty, and incorruptible love of truth, with the deepest insight into the Catholic religion. But, notwithstanding all exertions to uphold the established doctrines of the church, the active spirit of philosophy could no longer be restrained, not even in Italy. Besides the scholastics in the monasteries, and the Peripatetics among the Humanists, who revived and explained the ancient systems of philosophy, there appeared a philosophical sect of free-thinkers, who, together with the superstitions, rejected religion also. Pietro Pomponazzi, who taught annihilation after death, left behind a numerous school of sceptics, to which belonged scholars like cardinal Gonsaga, Contarini, Paul Jovius, and Julius Cæsar Scaliger. By their side stood Bernardino Telesio, also a preacher of infidelity, like Pomponazzi and his school, honoured by the great, while Cesare Vanini and Giordano Bruno atoned for a smaller measure of impiety at the stake; and Campanella, who, as the opponent of Aristotle, and an independent thinker, prepared the revolution that took place in the seventeenth century, languished in prison. This spirit of inquiry gave an impulse to mathematics and physics. B. Telesio, Giordano Bruno, and Th. Campanella endeavoured to deduce the phenomena of nature from general principles. Hiero. Cardanus united these speculations with mathematics. The great Galileo brought mathematics and natural philosophy into the closest connexion by new experiments, and became a model to all, especially to the naturalists of his native country. In mathematics, Tartaglia, Cardanus, and Bombelli were distinguished for their labours in algebra; Buonaventura Cavalieri prepared the way for the infinitesimal calculus; Commandino became celebrated for his labours on Euclid's Elements, and Marino Gheraldi explained Archimedes' theory of hydraulics. Luca Valerio enlarged the limits of mechanics by his discoveries; Castelli produced a revolution in hydraulics; Maurolico opened the way in optics; Della Porta invented the camera obscura, and made the first experiments in aerometry; Grimaldi discovered refraction; Magini perfected the burning glass; Torricelli invented the barometer, and Riccioli made important celestial observations. Natural knowledge was amplified in all its branches. As students of the human frame and anatomists, Fracastoro, Fallopio, Piccolomini, Aggiunti, and Malpighi were celebrated. Ulyss. Aldrovandi travelled through Europe, to investigate the natural history of quadrupeds, birds, and insects, and established a botanical garden at Bologna. Similar gardens were laid out by the university of Padua, by Cosmo duke of Florence, and various private persons. As botanists, Mattioli, Fabio Colonna, and the above mentioned Malpighi, were distinguished. The academy of the Lincei laboured in the cause of natural history from 1625 to 1640. The first professorship of chemistry was founded at Pisa, in 1615. In physics and medicine, the men of most note are Fallopio and his great scholar Fabricius ab Acquapendente (who led Harvey to the discovery of the circulation of the blood), Borelli, Torricelli, Bellini, Malpighi, and Alpini. Among the jurists of this period, we find no great names after the age of the scholastics. History was cultivated with greater success. Historians and historical inquirers treated particularly of native history; Carlo Sigonio wrote a general history in Latin, Girolamo Briani in Italian, and finally, Guicciardini in a classic style, in which his continuator, Adriani, is inferior to him. In local

history, Macchiavelli's History of Florence was the earliest masterpiece of modern times. Davila, Bentivoglio, Bembo (both for his History of Venice—a continuation of the work of Andrea Navagiero—and for his *Asolani* and Letters), Angelo di Costanzo. Varchi, Paolo Sarpi, the cardinal Bentivoglio and others, are likewise celebrated. Numberless are the historical, geographical, and topographical descriptions of single states, districts, cities, and even of monasteries, libraries, and cabinets. Men like Paolo Giovio, Giambattista Adriani and Vittorio Siri were assiduous in preserving the memory of the literary services of their contemporaries and predecessors. Since the end of the fifteenth century, Venice had been the centre of diplomacy and politics. Much was written there on political subjects, as Sansovino's work on Government, and Botero's State Policy. The study of the Oriental languages was promoted by religious motives. The Maronites on mount Lebanon were received into the Catholic communion. In order to render the union indissoluble, Gregory XIII. erected a Maronite college in Rome, and established for its use an Arabic press. Sixtus V. added salaries. This institution transplanted Oriental literature to Rome, and carried thither a great number of manuscripts. George Amira (who wrote the first Syriac grammar of consequence), Ferrari (who compiled the first Syriac dictionary), Gabriel Sionita and Abraham Ecchellensis were distinguished. From Roman presses issued the Arabic works of Ebn Sina, the geography of Sherif Edrisi, the Arabic commentary on Euclid. At Genoa an Arabic, and at Rome an Ethiopian Psalter had been previously printed. Giggeus published at Milan the first complete Arabic Dictionary, and Maraccius, at Padua, the first edition of the Koran, illustrated by a commentary. Thus Italy was the seat of the study, not only of the Hebrew, but also of the other Shemitish languages. The study of the ancients must have been increased to a great degree, after the art of printing had multiplied the copies of their works. Francesco Robertelli, Julius Cæsar Scaliger, Pietro Vittorini, and Fulvio Ursino, deserve the name of philologists. Others paid more attention to the information afforded by the ancients, and this study was facilitated by translations. Monuments of antiquity were collected, examined, and explained with zeal. Mazzochio, and still more Andrea Fulvio, beginners, indeed, in the science, published ancient Roman inscriptions on coins. Giacomo and Ottavio di Strada made similar researches with greater success, and at length Fulvio Ursino illustrated this department with treasures of erudition. After him, Francesco Angeloni and Giovanni Pietro Bellori, Filippo Buonarroti, Filippo Paruta and Leonardo Agostino acquired reputation. But, in consequence of the study of the ancients, classical perfection of style became the aim of literature. The historians distinguished in this respect have already been named. Of a similar character, in point of style, are Sperone Speroni (*Dialoghi* and *Discorsi*), Annib. Caro (*Lettere Famigliari*, &c.), Castiglione (*Il Cortegiano*), Della Casa (*Il Galateo* and *Lettere*), Giovanbattista Gelli (*Dialoghi*), Franc. Berni (*Discorsi* and *Capricci*), Pietro Aretino (*Ragionamenti*, &c.), Nicolo Franco (*Dialoghi* *Piacevolissimi*), the two poets Bernardo and Torquato Tasso (the former for his Letters, the latter for his Philosophical Essays and Dialogues); finally, Pietro Badoaro (*Orazioni*), Alberto Lollio (*Lettere* and *Orazioni*), Claudio Tolommei and others. The *Cicalate*, as they were termed (academic prate), pieces in ridicule of the academies, published after the foundation of the Crusca, in the last half of the sixteenth century, are valued principally in point of style. The early novelists found several imitators

in this period; Bandello (q. v.). Firenzola, Parabosco, Maseuccio, Sabudino degli Arienti, Luigi da Porto, Molza, Giovanni Brevio, Marco Cadamosto, Grazzini, Ant. Mariconda, Ortensio Lando, Giov. Francesco Straparola, Giambattista Giraldis, called *Cinthio*, to which are added the romance writer Franc. Loredano and the original Ferrante Pallavicino. Criticism began at last to erect its tribunals; but the principles on which it judged were vague and indefinite. This is proved by the contests respecting Tasso's *Jerusalem Delivered*, Guarini's *Pastor Fido*, by Tassoni's attack on Petrarca, &c. There was no want, however, of theoretical works. By his excellent essay *Della Volgare Lingua*, Bembo became the father of Italian criticism. Trissino (Poetics) and Castellano are not without merit. Claudio Tolomei wrote rules for modern poetry; Sperone Speroni, *Dialogues on Rhetoric* (Sansovino, Cavalcanti and others had already preceded him); Benedetto Varchi, a *Dialogue on the Tuscan and Florentine Language* (on occasion of the contest between Caro and Castelvetro); and Foglietta, *On the Manner of writing History*.

*Seventh Period.*—From 1650 to 1820. Hitherto, Italy had been the instructress of Europe, but, in the middle of the seventeenth century, it began to sink from its literary eminence. The principal causes of this change were the restrictions on the freedom of thought and of the press, which had been constantly increasing, ever since the reformation, and the decrease of wealth since Italy had lost the commerce of the world. The moral corruption, which became more and more prevalent, had enervated the physical strength of the people, and deprived the mind of its vigour and energy. The long subjection to foreign powers had created a servile feeling. The nation was afflicted, from 1630 to 1749, by numerous wars, and at length sunk into a lethargy and a stupid indifference to its own greatness. Some popes, princes, and even private persons, were, nevertheless, the active patrons of letters. At Florence, Sienna, Bologna, Turin, Pisa, institutions were established, some at great expense, by Leopold de' Medici, the count Marsigli Pazzi, &c., which promoted the cultivation of mathematics and natural science. Clement XI. Benedict XIII. and XIV. Clement XIV., men of great learning and enlightened views, together with the cardinals Tolomei, Passionei, Albani (Annibale and Alessandro) and Quirini, and, in later times, the cardinal Borgia, the learned Venetian Nani, and the noble prince of Torremuzza, rendered the greatest services. The reign of Maria Theresa and Leopold was favourable to Lombardy and Florence. But none of the sciences, except the mathematical and physical, made much progress. After Machiavelli, politics had no general writer of importance: only single departments of the subject, far removed from danger of collision with the doctrines of the church, were treated with spirit by Beccaria and Filangieri. Philosophy continued scholastic: Italy neither invented any new system, nor gave admission to the systems of foreign countries. Theology gained not a single thinker. Though highly esteemed in his native country, the dogmatic system of Berti was of little value. The works of Ughelli and Lucentius, entitled *Italia Sacra*, evince the industry of the compilers; as do Galland's *Library of the Fathers of the Church*, and Mansi's *Collection of Councils*. Bianchini's fragments of old Latin translations, and De' Rossi's various readings of the Hebrew text of the Old Testament, are valuable; but Scriptural criticism and exegesis have produced nothing in Italy important for foreign countries. The authority of the Vulgate is still unimpaired, and the translation

of the Florentine Antonio Martini, celebrated for its pure style, was made from it. But for the study of the Asiatic languages and literature, the missionary zeal has had the most beneficial results. The learned J. S. Assemani published rich extracts from Oriental manuscripts. The Propaganda formed excellent Oriental scholars, and published several Arabic alphabets and grammars. As regards the critical study and illustration of the ancient classics, the Italians have remained behind other countries. The most eminent scholars in the department of Latin literature are Volpi, Targa, Facciolo, and, as a lexicographer, Forcellini; in that of the Greek, Mazzocchi and Morelli. Much more was done in investigating, copying, describing, and illustrating antiquities, especially after Winckelmann had taught the Italians to examine them, not only in a historical and antiquarian point of view, but also as works of art. This study led likewise to the investigation of the primitive languages of Italy, especially the Etruscan. Gori, Maffei, Lami, Passeri, opened the way for Lamsi. Polite literature, particularly elegant prose, of which alone we here speak, continued to decline till an effort was made, after the time of Voltaire, to imitate the French. Then Algarotti wrote *Dialogues on Optics* elegantly and propaenously, but superficially; Bettinelli, *On Improvism in the Fine Arts*, with much spirit; Beccaria, *Crimes and Punishments*; Filangieri, *On Legislation*, with dignity and simplicity; Gasparo *Dialogues*, in a pure and agreeable style. In history and its auxiliary sciences, little was done in the period. Giannone was eminent in local, Dezza in general history. As an investigator and collector of historical materials, Muratori acquired a lasting reputation; Maffei also should be honourably mentioned. Manni laboured for the illustration of seals, and of genealogy. Still less was done in geography. The most celebrated geographer of Italy is the Minorite Vincenzo Coronelli, who established a cosmographical academy at Venice and whose loss (1718) has never been supplied. Even among travellers, there are but few prominent. Something was done by Martini, who travelled through Cyprus, Syria and Palestine; Sestini, who travelled through Sicily and Turkey; Grisellini, who travelled through Inner Austria and Hungary; and Acerbi, who travelled in the North. No jurist, except Beccaria and Filangieri, effected any thing of importance. But the works which appeared in the mathematical, physical, and medical sciences still form the boast of Italian literature. Frisi and Girolamo Mazzucchelli were great masters in mechanics, hydrostatics, and hydraulics; Borelli and Mascheroni in the higher analysis and geometry. In mensuration, Lorgna, Fontana, Cagnoli, Ruffa and Casella are respected names even in our day. Manfredo Settala made a celebrated burning glass. Cassino enlarged the bounds of astronomy by great discoveries; Campani was distinguished for preparing optical glasses; Torelli explained the elements of perspective with geometrical strictness; Zucchi presented the world with valuable celestial observations; and Piazzi acquired renown as the discoverer of Ceres. Physics, for the promotion of which several institutions were active in various places, made the greatest progress. Marsiglio Landino, Felice Fontana, Toaldo, Tiberio Cavallo, Giovanni and others enriched it by important discoveries. Botany was advanced by Malpighi, Giovanni Del Franchi, Micheli, Giuseppe, Ginnia, Valsassina, and others. The Italians were successful in the use of the microscope. With its assistance, Redi wrote classical works on natural history. Valsassina, Felice Fontana, Lamaro Spallanzani, made a great

number of observations. With all the lovers of natural science and of chemistry, Volta is an honoured name. In the study of the natural history of man and of anatomy, Gagliardi, Malpighi, Paolo Manfredi, and, after them, Valsalva, Santorini, Fantoni and Morgagni were distinguished. Practical medicine likewise was not neglected. Franc. Torti taught the use of Peruvian bark; Rammasini trode in Sydenham's footsteps in pathology and therapeutics; Borelli, Baglivi (who followed Hippocrates, however, in practice), Guglielmini, Bellini and Michelotti made Italy the birthplace of the latromathematical school in medicine. In literary history, the labours of Crescimbeni, Quadrio Fontanini, A. Zeno, Mazzucchelli Fabroni, Tiraboschi, Corniوني and others (of Artengo, for example, for the history of the opera), are highly valuable.

*Eighth Period.—Italian Literature of the present Day, since 1820.* Of late years, the literature of Italy is not to be compared, either in extent or in profundity, with the literature of the neighbouring countries. The indolence which springs from a too favourable climate, the restraints arising from the political state of the country and the condition of the look trade, which, in several parts of the peninsula, is under great restrictions, oppose serious obstacles to the free interchange of ideas. The infringements in one city on the copyrights of others increase these difficulties. The universities of Pavia and Padua still maintain their hereditary reputation, and augment it by a zealous cultivation of the natural sciences; Pisa may stand next to them; Sienna and Perugia have made less effort to deserve the notice of foreign countries, and the universities of Rome, Naples, and Turin are of a limited character. With these universities, to which, in Lombardy, gymnasia and elementary schools afford suitable preparation, a number of academies are appropriated to every department of science and art, though they are not all so active as the Lombardo-Venetian institution at Milan, which has published several valuable volumes of memoirs. Names like Oriani, Carlini, Breislak, Configliachi, Brunatelli, are the best pledges of its devotion to the exact sciences. After it, the academy at Turin (*Memorie della R. Accad. delle Scienze di Torino*, vol. xxx., 1826), and the scientific society of Modena (*Memorie della Società Ital. delle Scienze residente in Modena*, t. 19), deserve honourable mention. Foreign countries rarely hear any thing concerning the scientific bodies of Naples. The Herculanean academy at present pays, for the most part, with promises, and the sessions of many other academies are mere ceremonies. The *Crusca* and the *Accad. de' Georgofili* at Florence, with the *Accad. Archeologica* at Rome, alone sustain their place in the memory of foreign countries. Among the periodicals, the *Biblioteca Italiana* is a work of merit, and exerts a decisive influence by means of sagacious criticisms; but it has been often disfigured by injustice and harshness, especially when under Acerbi's guidance. Brugnatelli and Configliacchi's *Giornale di Fisica, Chimica, Storia naturale, Medicina ed Arti*, is the periodical most deserving the notice of foreign countries. The study of the Oriental languages, in Italy, is not so much advanced as in other countries. Gr. Castiglioni's explanation of the coins in the cabinet of Milan has found an impartial critic in Frahn of Ptersburg; and Rampoldi's *Annali Musulmanni* (Milan, 1823, 5 vols.) display a judicious and critical use of Oriental sources. Much has been done for the diffusion of the knowledge of the Armenian language by the publications of the Metocharists of St Lazzaro, in the vicinity of Venice; and father Auger, the Venetian editor of Moses of Chorene, and the discoverer of an ancient Armenian translation of Philo

(Ven., 1822), is said to be distinguished for knowledge of the language. Europe acknowledges Angelo Maio's merits in increasing the means of acquiring a knowledge of ancient classical literature. The discovery of the fragments of Cicero *De Republica*, and of so many other remnants of a classic age (though the complete *Fronto* did not correspond to its fame and the general expectation), give Maio lasting claims to the gratitude of scholars. Maio's success induced professor Peyron, at Turin, to make similar searches into the treasures of the public library intrusted to him, and his sagacity was not altogether fruitless. Mazzucchelli of Milan contributed to the extension of ancient literature by the *Johanneis* of Corippus (Milan, 1820), and Rossini by the publication of Eudemos, from Herculanean manuscripts. Ciampi, after his return from Warsaw to Italy, Manzoni, Amati, Nibby, are among those who have rendered service to classical literature by valuable commentaries. The count Ippoliti Pindemonti's translation of the *Odyssey* (Verona, 1822, 2 vols.), the odes of Pindar, by Merzaniotte (Pisa, 1819 and 1820, 2 vols.), and the Isthmian odes (*Le Odi Istmiche di Pindaro traduzione di Gius. Borghi*, Pisa, 1822), by Borghi, Mancini's *Iliad*, in stanzas (Flor. 1824), can satisfy those only who do not exact a strict fidelity of translation. Among the translations from modern languages into the Italian, are the works of Sir Walter Scott and Byron. Klopstock's *Messiah* was translated by Andrea Maffei. Bossi's *Storia d'Italia antica e moderna* (Milan) dwells very long on ancient times, and shows very frequent traces of French influence. There still appear historical works, which are better received by foreigners than by the country to which they belong; as the above-mentioned *Famiglie celebri Italiane* of the count Pompeo Litta (Milan, since 1820); the *Storia di Milano*, by Rosmini; the *Codice diplomatico Colombico Americano* (Genoa, 1823); Scina's *Prosp. della Storia letter. della Sicilia*, and Spoto's excellent *Storia letter. della Liguria* (Genoa, 1824); Beucci's *Elogi*, and Affio's *Vita di Pierluigi Farnese*, though the last belongs to the more favourite department of biography, for which materials may be found in Pelli's *Memorie per la Vita di Dante* (Florence, 1823); Nelli's *Vita e Commercio Letterario di Galileo Galilei* (Florence 1793, but not published till 1820), and contributions in the *Biografia Cremonese*, by Lancetti, and in the Italian edition of the *Biografia Universale* (Venice, Missaglia). One hope, however, notwithstanding such are the signs of the times, remains to the friend of Italian literature, that the abundance of monuments of former times in this land will always preserve alive historical recollections. The explanation of the present gives an opportunity to recur to the past, and to animate its dim recollections by their connexion with tangible realities. How interesting, for example, is the history of the cathedral of Milan! But Italy's associations are not limited to Christian times. *L'Italia avanti il Dominio de' Romani*, by Micali (new ed. Livorno, 1821, folio), indicates the point to which the inquirer may ascend. Investigations connected with ancient monuments cannot be wanting in a country where so much remains to be explored. Inghirami's *Monumenti Etruschi o di Etrusco Nome*, the illustrations of the editor of the *Galleria di Firenze*, so far as they relate to ancient monuments; the Memoirs of the archaeological academy of Rome, and the rare works of the Bourbon academy, are among the phenomena not to be overlooked in foreign countries; and the essays of Nibby, Fea, Borghesi, Lama, Cattaneo, and Brocchi, unite solidity with perspicuity and a comprehensive survey. But how little the proper mode of treating this department is understood, may

be seen from Vermiglioli's *Lezioni elementarie di Archeologia* (Verona, 1822, 2 vols.), which are as useless to foreign countries as Labu's investigations on Roman inscriptions, which either treat of what is well known, or explain obscurely whatever they give of new. The *Raccolta di Antichità Greche e Romane ad Uso degli Artisti, dis. ed Incise da Gio. Bignoli*, is not without merit. The activity of the trade in works of art in Italy, promotes also the publication of views of the monuments of the middle ages (for example, the *Monumenti sepolcrali di Toscana*, the *Raccolta degli migliori Fabbriche, Monumenti ed Antichità di Milano*; the *Fabbriche di Venezia*, Franchioni, Cisa di Gresy, Piola, Venturoli, Bonati), for explaining which associations of men of talent have been formed. Almost every book of travels by an Italian, presents inquiries into the remains of antiquity; and Helsoni, who first kindled the enthusiasm of the succeeding travellers for investigating the remains of the Egyptian art, only followed the taste of his country. Della Cella, the naturalist Brocchi, one of the most intelligent of the late writers of Italy, the learned writer on numismatics Sestini, and Camillo Borghese, prove this position. It is not, however, so much the custom in Italy to embellish travels with engravings as it is in France and Britain. Even the descriptions of cities, of which new ones are ever in demand, are without this embellishment, and retain their old defects. Italy is more independent in the exact sciences than in literature, properly so called, particularly in the physical department; and, by its mathematicians, astronomers, naturalists, has acquired a reputation, to which it has been less true in the fine arts, with the exception of the plastic arts. Where men like Sangro, Flauti, Borgnis, Brunnacci, Lotteri, Bordoni, employ themselves in geometry and its application to geodesy and mechanics; where astronomers like Plana, Brambilla, Inghirami, Oriani, Carlini, Piazz, Cacciatores, De Cesaris, are engaged in observatories like those at Naples, at Palermo, at Milan, Turin, Bologna, Florence, Rome,—the sciences must make a rapid progress. The *Correspondance astronomique* of baron Zach (see Zach) afforded the Italian scholars an opportunity to make their discoveries and researches known to the rest of Europe. Zach, who lived in Genoa till 1827, promoted thence the diffusion of useful knowledge connected with his science, by an *Almanacco Genovese*. Unhappily, a part of the strict mathematical investigations is buried in the transactions of literary societies; for example, in the Transactions of the royal academy of sciences at Naples; in the Transactions of the Pontonine society (Naples, 1819); in the Memoirs of the Lombardo-Venetian institute; in the reports of the scientific society at Modena; in the *Ricerche geometriche ed idrometriche fatte nella Scuola degl' Ingegneri pontifici d'Acque e Strade* (Rome, 1820), which but too rarely pass the Alps. Geodesy, especially, is prosecuted with great ardour, and two trigonometrical measurements, connected with each other, have given satisfactory results. Equal zeal is manifested in the physical sciences, in which names like Zamboni, Brugnatelli, Configliacchi, Bellingeri, and Ranconi answer for the exactness of the observations and correctness of the calculations. The experiments on magnetism and electricity (Banarelli) have excited a lively interest even in Italy, and Configliacchi's and Brugnatelli's *Giornale di Fisica, Chimica, Storia Naturale, Medicina ed Arti*, which is published very regularly, gives the best account of their variety and thoroughness. Even the *Opuscoli scientifici di Bologna* are almost exclusively devoted to the natural sciences in the widest comprehension, and maintain an honourable name. The geological observations

of the count Martini Pencati, who thought himself able to refute by ocular evidence the Wernerian theory of the formation of the earth, have attracted much attention. Among the geologists of Italy must be mentioned the talented and learned Brocchi (who died in 1827, in Egypt), the author of the *Geologia subappennina*, and who, by his interesting essays, did much towards increasing the popularity of the *Bibl. Ital.* Renier, Corniani, Monticelli, and Cordoli (*Prodromo della Mineralogia l'Esuviana*) keep up the interest in these studies. Patronised by government, the physical sciences have received the most extensive application to agriculture and technology, which have made respectable progress, at least in Upper Italy. New branches of industry, as well as new kinds of plants (rice from China, and grain from Mongolia), have been introduced; and the best mode of rearing silk-worms, manufacturing wine, and managing bees, has been made the object of public investigation, and the results have been very favourable. The labours of the *Accad. de' Georgofili* at Florence, have contributed much to the promotion of agriculture. Botany cannot be slighted in the Garden of Europe. Savii's *Elementi di Botanica* afford foreign countries nothing new, but the works of Sebastiani, of Maunri, of Brignoli, Moriconi, Tironore, of the superintendents of the gardens at Pisa, Rome, Naples, Palermo, evince the interest which is taken in this department; and the *Pomona in Italia* of Pizzagalli, and Degaspari and Bergamaschi; *Osereaz. Micologiche*, evince the zeal of the authors. The investigation of the higher economy of nature has received valuable contributions from Brunatelli, Configliacchi, from Angelini, Meucci the describer of the *Proteus anguinus*, Ramus, Petagna, Laurenti, and Cavolini; and the structure of the human body was illustrated by Palletta, Macagna and others. The medical literature of Germany has attracted much attention, and several of the most distinguished German writers in the department have obtained successful translators and editors, especially for the use of the lecturers at Pavia, Padua, and Bologna. Many of the German works in the department of metaphysics have been also translated, although the French, like Destutt de Tracy, accorded more with the taste of the Italians. Besides Gioia, the author of the *Ideologia repubblicana*, Talia, the editor of a *Saggio di Estetica*, German Simoni, and some unsuccessful commentators upon Beccaria, the *Collezione de' classici Metafisici* (Pavia, 1819—22) was, perhaps the best production in the department. De' Simoni has treated of natural law. Numerous explanations and editions have appeared of the Austrian code, which is possessed of less authority in some of the states that speak Italian. It is worthy of mention, that Lorente's History of the Inquisition, and Sismondi's History of the Italian Republics of the Middle Ages, may be freely sold in the Italian states, while they are strictly prohibited by the neighbouring states.

*Italian Poetry.* Italian poetry sprang from the Provençal, which was the first to flourish in Europe on the revival of civilization, and which was also communicated to Italy. Until the thirteenth century we find in Italy only the poetry of chivalry by the Provençals and Troubadours. These wandering bards, intelligible to the Italians, and particularly to the Lombards, by the affinity of their sister language traversed Italy, and were welcome guests at the courts, especially of the nobles of Lombardy, at a time when poetry was considered as indispensable to feasts. An instance of the estimation in which Troubadours (q. v.) were held, as the chief ornaments of a princely court, is found in the visit of Ramon Berlinghieri, count of Barcelona and Provence.

Frederic Barbarossa, the German emperor, at Turin, in 1162, attended by a train of Provençal poets. The emperor was so delighted with their *gaya ciencia*, that he not only made munificent presents to the minstrels, but also composed a madrigal in their language himself. At the court of Azzo VII. of Este, at Ferrara (1215—1264), some distinguished Provençals—Rambaldo di Vacheiras, Raimondo d'Artes, Americo di Reguilain—resided, and sang the praises of his daughters, Constanza and Beatrice. Here also flourished Maestro Ferrari, a native of that city, who, as well as many other Italians (Alberto Guglielmo, Percivalle Doria, Alberto de' Marchesi Malaspina, &c.), sang in the Provençal language. No one acquired so great a reputation as Sordello of Mantua, who visited Provence for the purpose of making himself familiar with the language and poetry of the country. Only a few fragments of these Italian troubadours are extant; but the first attempts to compose in the Italian language are not to be looked for in Lombardy, where the vicinity to Provence did not allow a taste for native poetry to spring up. Besides, the Italian of Lombardy was the least agreeable to the ear. The Genoese and Venetians were too much occupied with commerce; the Florentines, disturbed by domestic factions, were ignorant of the spirit of chivalry, and the popes were absorbed in theology and the canon law, and strangers to the spirit of poetry. In Sicily only could Italian poetry develop itself, because the Sicilians, always a poetical people, spoke a dialect sufficiently soft to afford the means of graceful verse. Neither commerce nor scholastic disputes occupied their thoughts, and their beautiful climate invited them to repose, and to fill the moments of leisure with poetry. They could not draw the poets of Provence to their country so easily as the Lombards, nor could they themselves so easily visit that country of love and poetry; but enough of the Provençal songs reached them, to awaken them to similar attempts in their own language. They had also a court rich in every knightly and noble accomplishment. Frederic II. the German emperor, resided, for a time, in Palermo (from 1198—1212)—he who crowned a poet with his own hand, to whose court, as the old novelists relate, thronged troubadours, musicians, orators, artists, champions, and all persons of any kind of skill, from all countries, because of his munificence, and his courtesy, whose noble character is praised by Dante; but, not satisfied with hearing the verses of others, Frederic and his court composed poetry themselves, and productions of his, of his natural son Enzo, and his celebrated chancellor, Pietro delle Vigne, are still extant. One of the most distinguished Sicilian poets of that time was Ciuilo d'Alcamo, of whom we possess a song entirely Provençal in form and character. We have also the names and fragments of Jacopo da Lentino, surnamed *il Notajo*, of Guido, and Oddo delle Colonne, Ranieri, Ruggieri, and Inghilfredi of Palermo, of Arrigo Testa, Stefano, protonotary of Messina, and Monna Nina, who come down to the period of Dante, and were the cause that every thing composed in Italian was then called *Sicilian*. After the year 1300, Sicily gave no farther auxiliaries to Italy; but the real founders of Italian poetry appear in Bologna, Florence, and other cities of Tuscany. The oldest known to us is, perhaps, Folcacchiero de' Folcacchieri, but the most important is Guido Guinicelli of Bologna. A number of poets appeared in Tuscany, whose names Crescimbeni enumerates, and of whom he gives specimens. In the thirteenth century, Guittone d'Arezzo (author of a book of poems and forty letters, interspersed with verses), Brunetto Latini (author of two poetical works—*Il Tesoretto* and *Il Pataffio*), Guido Cavalcanti

(author of a celebrated *canzone* and other poems), Ugolino Ubaldini (author of an excellent idyl in the form of irregular *canzoni*), and Dante di Majano (author of a book of poems), deserve mention; but we find hardly a poet of eminence in the other provinces. By the side of the amatory poets Jacopone da Todi stands alone, as a sacred poet. The forms of the early Italian poetry are borrowed from Arnaut Daniel, and other Provençals, and are, for the most part, the same which, in a more perfect state, characterize the later Italian poetry, viz., *canzoni*, sonnets, ballads, and *sestine*. With the Sicilians, we already find the *ottave* also. Its character is, even at this early period, decidedly marked. Its ruling spirit is love—an idealising love, to which the spirit of Christianity contributed the tendency to adore and attribute perfection to the beloved object. Whether the new character which appears in all the productions of this time had its origin, as some maintain, in the spirit of Christianity, or only in certain feelings which sprang up at this time, and naturally connected themselves with Christianity, at least in appearance, we shall not here venture to decide, and refer the reader to the article *Chivalry*. It is certain that the modern spirit is essentially different from the ancient. (See *Classical*.) After this preparatory period of Italian poetry was passed, appeared the great Florentine, Dante Alighieri (born 1265). He left at once the trodden path, and stands without predecessor or follower among all the great names which ornament Italy. We do not speak of the form of his *Divina Commedia*, which, from its nature, could not but be unique, but of the peculiarity of his genius; but even his great poem, in which, as he says, heaven and earth assisted, and which cost the poet the study of years, is connected with love, his Beatrice being his guide in the highest spheres of heaven; and we should greatly misconceive the poet and his age, if we should suppose that this circumstance was merely intended to commemorate his early passion. The spirit of the age unavoidably led him to exhibit love as the great mover of the human soul. (See *Dante*.) As Dante's production is important in the history of the human mind and the progress of civilization, it is of equal importance in the history of Italian literature. Dante made the Italian dialect the lawful currency of literature. His intention to write his poem in Latin hexameters sufficiently shows in what a state he found the Italian language; how little the light play of graceful rhymes had developed it for his great object. Hence his apology for attempting so serious a subject in the *lingua volgare*. The enthusiasm for Dante's poem was so great, that in Florence, Bologna, and Pisa, professorships were early established for the explanation of his *Commedia*. In Florence, Boccaccio was the first who filled this chair. Of the commentators we shall mention, besides the later Landino, only Dante's own sons, Pietro and Jacopo, with Benvenuto of Imola, and Martino Paolo Nidobato. The archbishop of Milan, Giovanni Visconti, appointed two theologians, two philosophers, and two juris-consults of Florence, to undertake jointly the interpretation of the theology, philosophy, and jurisprudence of Dante. Besides Dante, there flourished several other poets, among whom Cino da Pistoia (q. v.) is the most distinguished. He excelled in tender love poems, in which he celebrated his mistress Selvaggia, and was the precursor of Petrarca, for whom he also prepared the language. Cecco d'Ascoli, also a contemporary of Dante, wrote a didactic poem, in five books, on physics, morals, and religion, under the title *Acerba* (properly *Acerbo* or *Acervo*). Francesco da Barberino composed his *Documenti d'Amore*, in which he treats of virtue and its rewards, in rude and irregular verses, and his

other poem, *Del Reggimento e de' Costumi delle Donne*, also a moral and didactic poem. Fazio degli Uberti wrote, at the same period, his *Dittamondo*—a system of astronomy and geography in verse, in which Dante served him as a model. Without dwelling on the less important lyrical poets, Benuccio Salimbeni, Bindo Bonichi, Antonio da Ferrara, Francesco degli Albini, Sennuccio del Bene, a friend of Petrarca, we come immediately to the latter. (See *Petrarca*.) His love did not, like Dante's, inspire the idea of one great poem, treating of all the acts and efforts of man, and his religious conceptions were still more strongly the ideal of love. His sonnets and *canzoni* are very differently esteemed; but if they appear to many readers of our age frequently overstrained, and sometimes devoid of the spirit and fullness of genuine poetry, to others they are a model of lyrical excellence; and his influence on the language of Italian poetry has been very great, rendering it softer and more flexible than Dante had left it. Petrarca was an excellent scholar, and well acquainted with Roman elegance, and he elevated his language to the greatest purity, beauty, and melody. His followers are innumerable. Among them, in the fourteenth century, are the two Buonaccorsi da Montemagno, and Franco Sacchetti, the writer of *novelle*. The glory which Petrarca had acquired in a species of poetry easy in itself, and so consonant with the taste which his nation has preserved even to the present time, and to the spirit of the age, was too enticing; but the Petrarchists forgot that it is the spirit of their master which gained him his fame, and not merely the harmonious sound of his musical rhymes; and they poured forth innumerable poems, a comparison of which with those of Petrarca could only raise him still higher. Petrarca not only wrote lyrical poems, but in his *capitoli*, or triumphs, approaches the didactic. He composed also Latin poems, eclogues, and an epic, *Africa*, celebrating his favourite hero, Scipio, the latter of which obtained him the poetic laurel, in the capitol, in Rome, and which—so easily do great poets mistake their own merits—he himself valued most, whilst he considered his lyrical poems of little value, and in his old age wished that he had not written them. Not less famous than Petrarca is his friend Boccaccio. (See the article *Boccaccio* for an account of his great service in the formation of Italian prose.) The satirical sonnets of Pucci, the didactic essay on agriculture by the Bolognese Paganino Bonafede, and the Four Kingdoms of Love, Satan, Vice, and Virtue, by his countryman Frederigo Frezzi, under the title *Quadrivregno*, an unsuccessful imitation of Dante, belong also to this period. In the fifteenth century, Giusto de' Conti first meets us—an imitator of Petrarca. In his sonnets he celebrates the beautiful hand of his mistress, on which account the whole collection is called *La Bella Mano*. About 1413, the barber Burchiello, at Florence, acquired no little reputation by his peculiar, but, for us, unintelligible sonnets. The attempt of the painter and architect, Leon Battista Alberti (somewhat later, under Cosmo de' Medici), to compose hexameters and pentameters in Italian, is worthy of mention. Lorenzo de' Medici, after the death of his grandfather (1464), the Pericles of the Florentine republic, was inspired by his passion for Lucretia Donati, a noble Florentine lady, to imitate Petrarca; yet he did it with independence. He was the pupil of the Platonist Marsiglio Ficino. Besides sonnets and *canzoni*, we have *capitoli*, *stanze*, *terzine*, and carnival songs, by him. His *Symposium*, or the Drinkers (*Broni*), a sportive imitation of Dante, describes three journeys into a wine cellar. The most distinguished of the contemporaneous poets was Angelo Ambrogini, called *Policiano*, from the small village

Montepulciano, who is celebrated also as a scholar and philosopher. Besides a dramatic poem, *Orfeo*, there is a fragment by him, in beautiful stanzas, in praise of Julian of Medici, on occasion of a tournament, exhibited by the brothers, at Florence. A friend of his was the graceful amatory poet Girolamo Benivieni. Of the three brothers Pulci, Bernardo wrote two elegies, a poem on the passion of Christ, and was the first who translated the eclogues of Virgil into Italian. Luca was the author of the *Heroides*, a poem in *ottave rime*, in which he celebrated, earlier, but not less beautifully than Poliziano, a tournament of Lorenzo of Medici, a pastoral, also in *ottave rime*, entitled *Driadeo d'Amore*, and an epic poem of chivalry, *Ciriffo Calaneo*, which in itself is of little value, and was left incomplete (Bernardo Giambullari finished it after the death of the poet), but which is remarkable as the commencement of those ironical and serious poems of chivalry, which, with the decline of chivalry and the poetry of the middle ages, became natural, and, we might almost say, necessary to the poetical spirit of the Italians. Luigi, the most celebrated of the three, owes his fame not to the whimsical sonnets in which he and his friend, Matteo Franco, held each other up to the laughter of Lorenzo and his guests (*often in the most indecent language*), nor to his *Beca da Dicomano*, &c., but to his *Morgante Maggior*, by which he became the predecessor of Ariosto, who, however, surpassed him as much as he himself surpassed the first rude attempts of the fourteenth and fifteenth centuries in this department, of which the *Buovo d'Antona*, *La Spagna Historiata*, and *La Regina Acreoya*, are the most known. The *Membrano* of Francesco Cieco da Ferrara, which is not unworthy to stand by the side of the *Morgante*, served to amuse the Gonzaga, at Mantua; but a more immediate predecessor of Ariosto was Matteo Maria Boiardo, author of the *Orlando Innamorato*, which at first was not much relished by the Italians, on account of its gravity, as they had already become too fond of irony in these epics of chivalry; so much so, that Boiardo, continued by Niccolò degli Agostini, was entirely recast by Domenichi, and, at a later period, by Berni. Contemporary with these epic poets were the satirist Berni, Bellicioni, and numberless Petrarchists, as Francesco Cei, Gasparo Visconti, Agostino Staccoli d'Urbino, Serafino d'Aquila, Antonio Tebaldeo, Bernardo Accolti, a celebrated improvisatore, who assumed the modest surname *L'Unico*, a Neapolitan under the name of *Naturna*, a Florentine, Cristoforo, under the name of *L'Altissimo*, &c. Antonio Fregueso, surnamed *Filareta*, wrote a moral erotic poem, *La Cerce Bona*, of moderate value, with *Selce*, and gay and melancholy *capitoli*. Gian Filoteo Achillini deserves to be mentioned, on account of his scientific-moral poems, *Il Viridario* and *Il Fedele*, and Cornazzano dal Vorsetti, for his poem on the art of war, entitled *De Re Militari*. Distinguished as female poets of this century are, Battista Montefeltro, wife to Galeazzo Malaspina, her niece Costanza, Bianca of Este, Damigella Trivulzi, Cassandra Fedele, and the two Isotta. The sixteenth century, the period of Italian poetry, in which the princes of Italy, and particularly the popes, extended the most munificent patronage to poetry and the arts, begins with the *Orlando* and other poems of the admirable Ariosto. Giovanni Giorgio Trissino attempted, without success, the serious epic. His work is dry and cold. Giovanni Rucellai displays much tenderness and feeling in his didactic poem *Le Api*. Luigi Alamanni, author of a didactic poem on agriculture (*La Coltivazione*), a romantic epic, *Girone il Cortese*, and *Arturade* (a modern *Iliad*, on the whole a failure), belongs rather

to poets of the second rank. Sannazzaro distinguished himself in his *Arcadia*, and in his lyric poems, by delicacy of feeling and beauty of expression. Berni became the creator of a new department. Among the Petrarchists of this age are Bembo, Castiglione, and Molza. Lodovico Domenichi published, in 1539, the poems of fifty noble ladies. Among these was Vittoria Colonna, wife of Fernando d'Avalos, marquis of Pescara. (Respecting Aretino, equally known for genius and licentiousness, see *Aretino*.) Bernardo Tasso, in his epic, and still more in his lyric poems, appears as an excellent poet, but was surpassed by his son Torquato Tasso. (See *Tasso*.) Guarini displays much grace in his lyrics (madrigals and sonnets), but he owes his fame to his *Pastor Fido*. Gabriello Chiabrera was distinguished as a lyric poet. He also wrote several epic poems and pastoral dramas. The learned father Bernardino Baldi published, besides sonnets and *canzoni*, a hundred apologies in prose. Attempts had already been made in the *Æsopic* fable by Cesare Pavese, under the name of *Targa*, and by Giammaria Verdisotti, but with less success. Teofilo Folengi, more known under the name of *Merlin Coccajo*, must be mentioned as the inventor of macaronic poetry. As early as the second half of the sixteenth century, the corruption of taste had begun, and continually increased, so that the seventeenth century produced but very few works which can be considered as exceptions. We should mention, however, Marino (q. v.), who, as it were, founded his own school, from which proceeded Claudio Achillini, Girolamo Preti, Casoni and Antonio Bruni, who were his most ardent admirers. Alessandro Tassoni is known as the author of *La Secchia Rapita*, a comic and satiric epic. Francesco Bracciolini, who had imitated Tasso, in his *Croce Racquistato*, with no great success, by his *Scherzo degli Dei*, disputed with Tassoni the honour of the invention of the mock-heroic, but does not equal him in grace and ingenuity. Two later mock-heroic poems—*Il Malmantile Racquistato*, by Lorenzo Lippi, and *Il Torracchione Desolato*, by Paolo Minucci—have no other merit than the purity of their Tuscan language. The works of Carlo de' Dottori, Bartolomeo Bocchini, Cesari Caporali, are not of distinguished merit. Filicina's lyrical poems glow with patriotic feeling, and a noble elevation, which will always render him popular. Count Fulvio Testi was the Horace of his nation, but his epic productions were mere fragments. The caustic satires of the painter Salvator Rosa are not to be passed over in silence, amidst the general barrenness of Italian poetry, about the middle of the seventeenth century. The residence of Christina, queen of Sweden, in Rome, and her predilection for the classic muse, served to banish from the circle of poets, who assembled round her, the Marinistic exaggeration, and to substitute for it a frigid correctness. Her conversion to the Catholic faith also attracted more attention to sacred poetry than it had previously received in Italy; but no poet of her circle merits particular notice. Deserving of mention is Niccolò Fortiguerra, author of the *Riccardetto*, the last epic of chivalry. Nolli, whose songs and odes were popular, translated Milton's *Paradise Lost*, and was the first who made his countrymen acquainted with English literature, whilst, at the same time, the French taste began to prevail, which exercised a decided influence, particularly on the dramatic literature of Italy. Fewer candidates now appear on the Italian Parnassus. The abbat Carlo Innocenzio Frugoni, among other poetical productions (mostly frigid occasional pieces), composed sonnets and *canzoni*, of which the sportive ones are praised. There is a successful translation of the *Psalms* by Mattei. The *Arte Rappresentativa* (the

Histrionic Art) is a didactic poem worthy of mention, by Lodovico Riccoboni, who raised the character of the Italian theatre at Paris. Francesco Algarotti, the companion of Frederic the Great, belonging to the French school, in his odes, poetic epistles, and translations, exhibited the pleasing ease, but, at the same time, the coldness of the French. Roberti and Pignotti wrote *Æsopic* fables with originality and elegance. Twenty poets were united in the composition of a comic poem, under the title *Bertoldo, Bertoldino*, and *Cacasenno*. Luigi Savioli sung of love in the style of Anacreon. As erotic and lyric poets, must be mentioned with him Gherardo de' Rossi and Giovanni Fantoni, called, among the Arcadians (see *Arcadia*), *Labindo*. A pleasing enthusiasm pervades the poetry of Ippolito Pindemonti; and, among the productions of his friend Aurelio Bertola of Rimini, the fables rank the highest. Clem. Bondi is pleasing, but without creative power. Giuseppe Parini, who imitated Pope's Rape of the Lock, displays true poetic elevation and fine feeling. Onofrio Menzoni, who is not without poetic originality, confined himself almost entirely to sacred poems. Alfieri was distinguished for his satires, lyric poems, his *Etruria Vendicata*, and his dramatic compositions, translations, &c. (See *Alfieri*.) The abbat Giambattista Casti was distinguished for elegance, wit, and humour. His *Animali Parlanti*, a mock-heroic poem, is rich in satiric and humorous traits. His *Novelle Galanti* are often indecent. The late Vincenzo Monti is pronounced unanimously to have been the greatest among the recent poets of Italy. Besides his dramatic compositions, his most celebrated poem is his *Bassavigliana*, in which he imitates Dante. But who can enumerate the host which now lays claim to the poetic laurel, particularly since the souvenirs flourish in Italy also, and offer so fine a field for sonnets, of which there is hardly an educated Italian who has not composed some? The grave character which the times are assuming will perhaps put an end to these elegant trifles, whose abundance cannot be considered favourable to an elevated tone, either in literature or the fine arts. The souvenirs have already declined in Germany, where they originated. The latest epic attempts have not been successful. The *Italiade* and *S. Benedetto*, by A. M. Ricci, *Mosè*, by Robiola, the *Moabitide*, by Franchi di Pont, were inferior to the specimens which have appeared of Palomba's *Medoro Coronato*. More interest has been excited by the tragedies, the authors of which, however, are restrained by their party views of the romantic and classical. Fabbri of Cesena, Marsuzi, the duke of Vendigiano, follow the example of Alfieri, respecting whose poetical system, see the article *Alfieri*. Ugo Foscolo's *Ricciarda* (*Londra*, i. e. Turin, 1820) was intended to introduce a taste for the romantic style into Italy; but it is already forgotten. Manzoni, a cultivator of this kind of poetry, or of what the Italians understand by this name, has been more successful. Goethe praised Manzoni's *Conte di Carmagnola* (Milan, 1820) highly. Pindemonti, Maffei, and Nicolini, however, are placed higher than Manzoni by all parties. The productions in the comic department are poor; they appear, at least to other nations, heavy and dragging, and the *Commedia dell'Arte* (see *Drama*) is not considered worthy of notice by the high classes; yet its strong humour might perhaps please an unprejudiced mind more than the writings of Nota, Giraud, and Panzadoro. Barbieri's *Nuova Raccolta Teatrale, ossia Repertorio ad l'uso de' Teatri Italiani* (Milan, 1820), and Marchisio's *Opera Teatrale* (Milan, 1820), endeavour to supply the want of native productions by translations of French and German works—proof enough that the

natural gayety of the south, formerly the home of pleasure, is departing. How can it be otherwise under the Austrian sceptre? Our limits do not permit us to mention the writers of sonnets and operas. Trite subjects are brought up under forms a thousand times repeated, and thus the miracle, that Sgrizzi can astonish his audience with improvised tragedies is partly explained. (See *Improvvisatori*.) The treasure of the *novelle*, of which Shakspeare so happily made use, lies before the Italian poets, untouched, and seems even to be little known to the Italian public at large. Theatres like those of S. Carlo at Naples, Della Scala at Milan, Pergola at Florence, where whole regiments might appear on the stage, do not afford much reason to hope for the restoration of dramatic excellence. The historical novel, which Sir Walter Scott has rendered so popular with all nations, has been attempted in Italy, as in Livati's *I viaggi di Fr. Petrarca* (Milan, 1820), Grossi's *Il degode*, Manzoni's *Promessi Sposi*, and the *Monaca di Monza*. The history of Italian poetry, particularly of the older periods, is to be found in the works of Crescimbeni, Quadrio, Tiraboschi, and also in Ginguené's *Histoire Littéraire d'Italie*, Sismondi's work *De la Littérature du Midi*, and in Bouterwek (q. v.) the two last of which works come down to our own times.

*Italian Theatre.* The political state of Italy, and the easy, careless life of the people, in their mild and beautiful climate, have co-operated in causing the dramatic literature of Italy to remain in a very backward state. It was revived, as has been shown in the article *Drama*, earlier among the Italians than among other nations, because they had the model of the ancient drama before their eyes; but this very circumstance was one reason why a national drama was not formed in Italy. The modern Italian, generally speaking, has not that reflecting turn of mind, which is necessary for the composition and enjoyment of a truly good drama; nor has sufficient liberty existed for centuries in Italy to afford a fair field for dramatic talent. If it be objected that the Spanish drama attained its perfection under the stern sway of an absolute government, it may be answered, that the higher drama, with the Spaniards, is of a religious cast—a consequence of that religious gloom which belongs to the Spanish character, but which the gay Italian does not feel. The extemporaneous mask, which is such a favourite with the lower classes of Italy, is contemned for this very reason by the higher classes; and whilst the people in general relish nothing but the *commedia dell' arte* (see *Drama*), the higher classes care only for the opera. The *drama*, therefore, properly so called, does not appear like a natural part of Italian literature, and we trust it will not be considered an arbitrary division, if we treat the Italian drama separately from the body of Italian literature. The dramatic writers of this country started with so close an imitation of the ancients, that no Italian, down to the last quarter of the fifteenth century, wrote a tragedy in any language except Latin; and the *Orfeo* of Angelo Poliziano, of that time, is a series of lyrical poems dramatically attached to each other—a tragedy merely in name. The *Sofonisbe* of Trissino imitates in every point the ancient model, even to retaining the chorus; it is not without merit, but, on the whole, is a pedantic work: yet, in the time of Leo X., in 1516, it was received with so much applause, as to be represented in Rome with great pomp. Ruccellai (1525) bears the same marks of imitation and want of poetical invention; even Tasso's *Torrismondo* (about 1595), though particular passages remind us of his immortal poems, is stamped with the same character. Amidst the minute and anxious

observance of the rules of Aristotle, closely followed by many Italian writers of tragedies not worthy of mention, count Prospero Buonacelli deserves credit for venturing to omit the chorus; on the other hand, the lawyer Vincenzo Gravina once more attempted to show that imitation of Seneca was the only way to tragic perfection. After Mortello, in the beginning of the eighteenth century, had finally attempted to improve the Italian drama by the imitation of Racine and Corneille (he even endeavoured to introduce the French Alexandrine), Maffei, in his *Merope*, aimed at a middle course, and, without imitating either, to unite the excellencies of Seneca and of the French theatre. In this absence of real tragedies, the serious operas, the musical dramas of Metastasio (born 1728), may be properly mentioned. Their tone had been settled by the attempts of Apostolo Zeno. Without marked character or free play of imagination, they always preserve the decorum of the French theatre; but in elegance and melody of language, and in musical softness of expression for the common places of passion, particularly of love, they are unrivalled. Alfieri, who wrote towards the end of the last century, is, throughout his writings, a contrast to Metastasio. (See *Alfieri*.) He does not satisfy a German or an Englishman in his conception of dramatic excellence. Among his followers are Vincenzo Monti of Ferrara, Alessandro Pelopi of Bologna, and particularly Giambattista Niccolini of Florence, whose *Polyxena* received a prize in 1811. The pastoral dramas of Tasso and Guarini, viz., the *Aminta* of the former, and the *Pastor Fido* of the latter, form a novel kind of dramatic poetry. They entirely eclipsed those of Niccolò of Coreggio, Agostino Reccati, Cinthio Giraldi, Agostino Argenti, and Buonarelli. Tasso succeeded in uniting the sweetest tones of Theocritus, Anacreon, and of the eclogues of Virgil, without injuring his originality. In comedy, the Italians also began with a close imitation of the ancients, not, however, of the comedy of Aristophanes, but of the Romans, Plautus and the calm Terence. These productions were called, in contradistinction from the extemporaneous comedy, *commedie erudite* (learned comedies). The comedies of Ariosto and the *Clizia* of Machiavelli exhibit this imitation. The other comedies of the latter are altogether Florentine in their character, but we must admit that they are deficient in that elevated tone of comedy, which we admire in Shakspeare. We mention Tasso's *Gli Intrighi d'Amore* only on account of the author's name. The *Tancia*, by the younger Michael Angelo Buonarroti (1620), is one of the most remarkable Italian comedies, on account of the Florentine nationality so well portrayed in it. Goldoni endeavoured to put an end to the *commedie dell' arte*, by his grave moralizing comedies. On the other hand, Gossi strove to save the extemporaneous comedy, by elevating its character. In comedies, the subjects of which were taken from fairy tales, and in tragi-comedies, the materials of which were from Calderon and Moreto, without, however, having their poetical execution or genius, he only wrote the chief parts, and these in very easy verses. In the less important parts, which were intended for the standing masks, he was satisfied with indicating merely the leading ideas, leaving the execution to the talent of the actor. He remained without a follower. Among the latest writers of comedies, we may mention Albergati, whose *Prisoner* received a prize at Parma, and who wrote a number of agreeable farces; the Venetian Francesco Antonio Avelloni, surnamed *il Poetino*, an imitator of the French; Antonio Simeone Sogradi; the Neapolitan Gualzetti; the abbot Chari; the Piedmontese Camillo Federici; the Roman Gherardo de' Rossi; count Giraud; Giovanni Fu-

dramatic, &c. (See *Italian Poetry*.) Augustus William von Schlegel says (vol. ii. p. 68, of his *Dramatische Vorlesungen*), "We think it not saying too much to assert, that dramatic poetry, as well as the histrionic art, is in the lowest state in Italy. The foundation of a national theatre has never yet been laid, and, without a total reform in principles, there is no prospect that it ever will be."

**Italian Art.** The art of painting was early introduced both into Italy and Germany by Greek masters; but the diversities of national character, climate, and religion, produced different results in the two countries. A glowing imagination, an easy life, an innate sense for the beautiful, enthusiastic poetry, the constant sight of nature in her fairest forms, and the contemplation of the masterpieces of ancient art, occasioned painting, in Italy, to unfold with great magnificence; while, in Germany, the ancient painters loved rather to dwell on the inward life and character. They were poets and philosophers, who selected colours instead of words. The Italians have therefore remained inimitable in the ideal of this art, as the Greeks in statuary. The twelfth century is generally taken as the period of the beginning of the history of painting in Italy; but, even before that time, it had been the scene of the labours of Greek and Byzantine artists. During the pontificate of Leo the Great, in the year 441, a large picture in mosaic was executed in the Basilica of St Paul, on the road to Ostia, and the portraits of the forty-two first bishops, which are seen in the same church, date their origin from the same time. Mosaic and encaustic painting was then the prevalent mode. Painting in distemper was afterwards introduced. About the end of the sixth century, there were many paintings, which were not believed to be the work of mortal hands, but were attributed to angels or blessed spirits. To this class belongs one of the most famous representations of the Saviour, in wood, at Rome, called *Axiocanona*, of which a sight can be obtained only with difficulty, in the *sanc-tum sanctorum*. Whether the evangelist Luke, whom painters afterwards chose for their patron saint, was himself a painter, has been the subject of much controversy. In Rome, especially, the *madonnas* in Sta. Maria Maggiore, Sta. Maria del Popolo, Sta. Maria in Araceli, and the one in the neighbourhood *Gratta Ferrata*, have been ascribed to the pencil of the evangelist. In the eighth century, painting on glass, mosaic on a ground of gold, and painting in enamel, were zealously prosecuted in Italy. There were already many native artists. One of the oldest monuments of art is the celebrated Christ on the Cross, in the Trinity church at Florence, which existed there as early as 1003. About 1200, a Greek artist, Theophanes, founded a school of painting in Venice. The genuine Italian style first bloomed, however, in Florence, and may be treated under three leading periods: 1. from Cimabue to Raphael; 2. from Raphael to the Caracci; 3. from the Caracci to the present time.

**First Period.** The art was first pursued with zeal in Pisa. Giotto Pisano, Guido di Siena, Andr. Insi and Buffalmacco precede Cimabue, who was born at Florence, in 1240. This artist, who was regarded as a prodigy by his contemporaries, first introduced more correct proportions, and gave his figures more life and expression. His scholar Giotto excelled him even in these respects, and exhibited a grace hitherto unknown. He was the friend of Dante and Petrarch, and practised, with equal success, historical painting, mosaic, sculpture, architecture, and portrait and miniature painting. He first attempted foreshortening and a natural disposition of drapery, but his style, nevertheless, remained dry and stiff. Boniface VIII.

invited him to Rome, where he painted the still celebrated Navicella. He was followed by Gaddi, Stefano, Maso, and Simone Memmi, who painted the celebrated portraits of Petrarch and Laura. But Masaccio first dispelled the darkness of the middle ages, and a brighter dawn illumined the art. The Florentine republic, in the beginning of the fifteenth century, had attained the summit of its splendour. Cosmo of Medici patronized all the arts and sciences; Brunelleschi then built the dome of the cathedral; Lorenzo Ghiberti cast the famous doors of the baptistery in bronze; and Donatello was to statuary what Masaccio was to painting. Masaccio's real name was Tommaso Guidi. He was born at St Giovanni, in Val d'Arno, in the year 1402. His paintings have keeping, character, and spirit. His scholars first began to paint in oil, but only upon wooden tablets or upon walls, coated with plaster of Paris. Canvas was not used till long after. Paolo Uccelli laid the foundation for the study of perspective. Luca Signorelli, who first studied anatomy, and Domenico Ghirlandaio, who combined noble forms and expression with a knowledge of perspective, and abolished the excessive use of gilding, were distinguished in their profession. The elevated mind of Leonardo da Vinci (see *Vinci*), who was born in 1444, and died 1519, and who was a master in all the arts and sciences, infused so much philosophy and feeling into the art, that, by his instrumentality, it quickly reached maturity. From him the Florentine school acquired that grave, contemplative, and almost melancholy character, to which it originally leaned, and which it afterwards united with the boldness and gigantic energy of Michael Angelo. The Roman school already enumerated among its founders the miniature painter Oderigi, who died in 1300. He embellished manuscripts with small figures. Guido Palmerucci, Pietro Cavallini and Gentile da Fabriano were his most distinguished successors. Almost all the painters of this time were accustomed to annex inscriptions to their pictures: the annunciation to the virgin Mary was their favourite subject. Perugia was the principal seat of the Roman school. As early as the thirteenth century, there was a society of painters there. Pietro Vanucci, called *Perugino* (who was born 1446, died 1524), first introduced more grace and nobler forms into this school, whose character acquired from him something intellectual, noble, simply pious and natural, which always remained peculiar to the Roman school. Perugino's great scholar, Raphael, soon surpassed all former masters, and banished their poverty, stiffness, and dryness of style. Taste came into Venice from the East. Andr. Murano and Vittore Carpaccio are among the earliest artists of that city. Giovanni and Gentile Bellino are the most distinguished painters of the earlier Venetian school. The former was born 1424, and died 1514. The latter laboured some time in Constantinople under the reign of Mohammed II. They introduced the glowing colours of the East; their style was simple and pure, without rising to the ideal. Andr. Mantegna (born at Padua, in 1431, died 1506) was the first to study the ancient models. Padua was the principal seat of the Venetian school. Mantegna afterwards transferred it to Mantua, and his style formed the transition to the Lombard school. Schools of painting flourished in Verona, Bassano, and Brescia. Giovanni of Udine (who was so distinguished by his faithful imitation of nature in secondary things, that he painted for Raphael the garlands around his pictures in the Farnesina), Pellegrino, and Pordenone, were the most able predecessors of the two great masters of the Venetian school, Giorgione and Titian. No capital city served as the central point of the Lombard school: Bologna subsequently became the

centre. Imola, Conto, Ferrara, Modena, Reggio, Parma, Mantua, and Milan were afterwards considered the seats of this school. Galasio, who lived about 1220, Alighieri, Alghisi, Cosimo Tura, Ercole Grandi, and especially Dosso Dossi (born 1479, died 1560), were the principal painters of Ferrara. The last, a friend of Ariosto, possesses a remarkable grandeur of style, united with a richness of colouring which may bear comparison with that of Titian. Bramante, (born 1444, died 1514), who was likewise a great architect, Lippo Dalmasi, and especially Francesco Raibolini (born 1450), called *Francesco Francia*, were highly distinguished among the Bolognese masters. The latter, who was marked by a tender religious expression and uncommon industry, had the greatest veneration for Raphael. It is asserted that, at the sight of the St Cecilia of this master, he was so struck with the impossibility of attaining the same perfection, that he fell into a deep melancholy, and soon after died. Here also belongs the charming Innocenzo da Imola. But all these were far surpassed by the incomparable Antonio Allegri da Correggio, who, in fact, first founded the character of the Lombard school, so distinguished for harmony of colours, expression replete with feeling, and genuine grace.

*Second Period.* We now come to the greatest masters of any age, who, almost at the same time, as heads of the four schools, carried every branch of the art to the highest perfection. In Italy, they and their scholars are called *Cinquecentisti*, from the century in which they flourished. This period of perfection passed away rapidly, and soon required the violent restoration, with which the third period commences. After Leonardo da Vinci, in the Florentine school, had settled the proportions of figures, and the rules of perspective and of light and shade, and his scholars, Luini (who united Raphael's style with that of his master), Salaino and Melzo, besides the admirable Baccio della Porta, who is famous under the name of *Fra Bartolommeo*, (born 1469), and whose works are distinguished for elevated conception, warmth of devotion, and glowing colours, had done much for the art, and after the gentle and feeling Andrea del Sarto (born 1488, died 1530), the intellectual Balthasar Peruzzi and the gay Rossi had made this school distinguished, arose the most extraordinary of all masters, Michael Angelo Buonarroti (born 1474, died 1564). His gigantic mind grasped, with equal power, statuary, architecture, and painting. His fire of composition, his knowledge of anatomy, the boldness of his attitudes and foreshortenings, leave him without a rival; but, as a model, he was detrimental to the art, because his imitators necessarily fell into exaggeration and contempt of a simple style. In grandeur, his fresco painting, the Last Judgment, in the Sistine chapel at Rome, is inimitable. Beauty was never so much his object, as power and sublimity, especially since, in the former, he could never equal Raphael, but in the latter stood alone. Dante was his favourite poet. In his later years, the erection of St Peter's church almost entirely engrossed his thoughts. Rosso de' Rossi, Daniel of Volterra, Salvati, Angelo Bronzino, Alessandro Allori, and many others, were his scholars and imitators. In 1580, Ludov. Cigoli and Greg. Paganini began to awaken a new spirit. They returned to nature, and sought to create a better taste in the *chiaro oscuro*. Domenico Passigiani, Cristoforo Allori, and Conodi were their followers. If we turn our attention to the Roman school, we find at its head the first of artists—Raphael Sanzio da Urbino (born 1483, died 1520). His genius showed itself as elevated in his fresco paintings, in the *stanzas and loggie* of the Vatican (the former of which contain the School of Athens, the Parnassus,

and the Conflagration of the Borgo, while the latter contain scriptural scenes, from the creation through the whole Old Testament), as it appears lively, spiritual and original in the frescos of the Farnesina (representing the life of Psyche). No less superior are his oil paintings, of which we shall only mention his *madonnas*, celebrated throughout the world, especially the *Madonna del Sisto* (in the Dresden gallery), the *Madonna della Sedia* (in Florence), *Madonna della Pace* (in Madrid), *Maria Guardasigna* (in Paris), *Madonna di Foligno* (in Rome), his St Cecilia (in Bologna), and his last work, the *Transfiguration* of Christ. His scholars and successors—the bold Giulio Romano (born 1492, died 1546), the more gloomy Francis Penni il Fattore (born 1510, died 1528), the lofty Bartolommeo Rameneta, surnamed *Bagnacavallo*, Pierino del Vaga, Pouduro da Caravaggio, Gemigniani, Benvenuto Tisi, called *Garofolo*, and many others—were skilful masters, but they forsook the path of their great pattern, and degenerated into mannerism. Federico Barrocci (born 1528, died 1612) endeavoured to counteract this tendency. In spirit, he belonged to the Lombard school, as he aimed at the grace of Correggio. He possesses an uncommon degree of grace and expression. With his scholars Francesco Vanni, Pellegrini, and the brothers Zuccheri, he infused a new life into the Roman school, though the latter produced picces rather than great works, and fell into mannerism. Muziano was distinguished in landscape painting, and Nogari, Pulzone, and Faccibelli in portrait painting. At the head of the Venetian school, we find the two excellent colourists Giorgione Barbarelli di Castelfranco (born 1477, died 1511) and Tiziano Vercelli (born 1477, died 1576). The portraits of the former are celebrated for their warmth and truth. The latter was great in all the departments of art, inimitable in the disposition of his compositions, excellent as an historical and portrait painter, and the first great landscape painter. Even at an extreme old age, his powers were unimpaired. Ariosto and Aretino were friends of the gay, happy Titian. He executed many works for the Spanish kings. Some of his most famous works are the altar piece of St Pietro Martire, his pictures of *Venus*, *Bacchanal*, and his *Children Playing*, in Madrid, *Cristo della Moneta*, &c. He first understood the art of painting with transparent colours. In groups, he selected the form of a bunch of grapes for a model. His successors—Sebastiano del Piombo, Palma Vecchio, Lorenzo Lotto, Paris Bordone, Pordenone—are distinguished, especially in colouring. Schiavone, whose *chiaro oscuro* and richness of colour are truly remarkable; Giacomo da Ponte, called *Basano*, who imitated reality, even in common things, to deception, and who was the head of a whole family of painters; the ardent, ardent Robusti, called *Il Tintoretto* (born 1512, died 1596), whom Titian, through jealousy, dismissed from his school; the fantastic, splendid Paul Veronese (born 1532, died 1588), who painted boldly and brilliantly with a free pencil, but neglected all propriety of costume, and frequently mingled masks in his paintings, and the Veronese Cagliari, were members of the Venetian school. It likewise degenerated, and its mannerists were worse than those of the other schools, because they did not study the antique as the ideal. At the head of the Lombard school, we find the charming Antonio Allegri, called Correggio (born 1494, died 1534), whose works are full of feeling. (See *Correggio*.) His successors and scholars were Francesco Rondani, Gatti, Leito Orsi, and especially Francesco Mazzola il Parmegianino (born 1533, died 1540). This artist possessed much of the fire, and a peculiar grace, which frequently occurs

on mannerism. Gaudenzio Ferrari, and many others, are the ornaments of the Milanese school. In landscape painting, Lavizzario was called the *Titian of Milan*. The famous Sofonisba Angosciola (born 1530), of Cremona, was highly distinguished in music and painting. As an excellent portrait-painter, she was invited to Madrid, where she painted don Carlos and the whole royal family, and gave instruction to queen Elisabeth. Van Dyke declared that he had learned more from the conversation of this woman, when she was blind from age, than he had from the study of the masters. She died in 1620. Lavinia Fontana, Artemisia Gentileschi, Maria Robusti, and Elis Sirani were celebrated female artists of this time. Camillo and Giulio Procaccino were distinguished for strength of imagination and excellent colouring. In Bologna, we find Bagnacavallo, a distinguished artist of this period, whom we have already mentioned as one of Raphael's scholars. He flourished about 1542. Francesco Primaticcio (born 1498, died 1570), Niccolo dell'Abbate, Pellegrino Tibaldi, Passarotti, and Fontana were very able Bolognese artists.

*Third Period.* It begins with the age of the three Carracci. These excellent artists endeavoured to restore a pure style, and, by the combined study of the ancient masters of nature and science, to give a new splendour to the degraded art. Their influence was powerful. The division into the four principal schools now ceases, and we find but two principal divisions—the followers of the Carracci, who are called *eclectics*, and the followers of Michael Angelo Caravaggio, who are called *naturalists*. Lodovico Carracci (born 1555, died 1619) was the uncle of the two brothers Agostino (born 1558, died 1601) and Annibale (born 1560, died 1609). Lodovico was quiet, contemplative, soft, and serious. His passionate teachers, Fontana and Tintoretto, at first denied him any talent: he studied therefore more zealously, and acquired the deepest views as an artist. Agostino united uncommon sagacity and the most extensive knowledge with a noble character. His brother Annibale, who made extraordinary progress in the art, under Lodovico's direction, became jealous of Agostino. The disputes between the two brothers never ceased, and the offended Agostino devoted himself chiefly to the art of engraving. The attacks of their enemies first united them, and they founded together a great academy. The brothers were invited to Rome to paint the gallery of the duke of Farnese. They soon disagreed, and Agostino retired, and left the work to his fiery brother. Annibale completed the undertaking with honour, but was shamefully cheated of the greatest part of his pay. Deeply mortified, he sought to divert his mind by new labours and a journey to Naples; but the hostility which he there experienced, hastened his death. Meanwhile, the quiet Lodovico finished, with the aid of his scholars, one of the greatest works—the famous *portrait of St Michael in Bosco*, in Bologna, on which are represented seven fine paintings, from the legends of St Benedict and St Cecilia. The last of the labours of this great master was the *Annunciation to Mary*, represented in two colossal figures, in the cathedral of Bologna. The angel is clothed in a light dress, and, by an unhappy distribution of drapery, his right foot seems to stand where his left belongs, and *vice versa*. Near at hand, this is not observed; but, as soon as the large scaffold was removed, Lodovico saw the fault, which gave occasion to the bitterest criticisms from his enemies. The design which he suffered on this occasion brought him to the grave. The scholars of the Carracci are numberless. The most famous endeavoured to unite the grace of Correggio with the grandeur of

the Roman masters. Cesare Aretusi was distinguished for the most faithful copies of Correggio and Guido Reni (born at Bologna, 1575, died 1642), especially for the ideal beauty of his heads, the loveliness of his infant figures, and the uncommon facility of his pencil. His fresco representing *Aurora*, in the palace Borghese, and his oil painting, the *Ascension of Mary*, in Munich, are well known. Francesco Albani (born 1578 at Bologna, died 1660) lived in constant rivalry with Guido. He produced many large church paintings, but was most celebrated for the indescribable charm with which he represented, on a smaller scale, lovely subjects from mythology, and especially groups of Cupids. His paintings in the Verospi gallery, and his *Four Elements*, which he painted for the Borghese family, gained him universal reputation. The background of his landscapes is excellent. All his works breathe serenity, pleasure, and grace. The third great contemporary of those already mentioned, Domenico Zampieri, called *Domenichino* (born 1581, died 1641), was at first little esteemed by them, on account of his great modesty and timidity. Thrice were prizes awarded by Lodovico to drawings, the author of which no one could discover. At last Agostino made inquiries, and the young Domenichino timidly confessed that the drawings were his. His industry and perseverance rendered him the favourite of his master. His works evince the most thorough knowledge, and are rich in expression of character, in force, and truth. His *Communion of St Jerome*, his *Martyrdom of St Agnes*, and his fresco in the Grotta Ferrata, are immortal masterpieces. He was always remarkable for his timidity. He was invited to Naples, but was there persecuted and tormented by the painters; and it is even suspected that he was poisoned. Giovanni Lanfranco (born at Parma, 1580, died 1647) was especially distinguished for the effect of his light. Bartol. Schidone is one of the best colourists of this school. The Bibienas, the Molas, Al. Tierini, Pietro di Cortona, Ciro Ferri also deserve mention. At the head of the naturalists, who, with a bold and often rash pencil, imitated nature, without selection, stands Michael Angelo Merigi, or Amerigi da Caravaggio (born 1569). His chief opponent in Rome was D'Arpino, who stood at the head of the idealists, or rather of the mannerists. Caravaggio and his successors, Manfredi, Leonello Spada, Guercino da Cento, &c., often took common nature for a model, which they servilely imitated, thus profaning the genuine dignity of the art, though they cannot be denied strength and genius. About this time, the beginning of the seventeenth century, the *bambocciate* were introduced. (See *Peter Laar*.) Many artists, especially Michael Ang. Cerquozzi, surnamed *delle battaglie*, and *delle bambocciate*, followed this degenerate taste. Andrea Sacchi made great efforts to oppose him. His drawing was correct and grand; Raphael was his model. His most famous scholar was Carlo Maratto (born 1625, at Camerano), whose style was noble and tasteful. The cavalier Pietro Liberi, Andrea Celesti, the female portrait painter Rosalba Carriera (born at Venice, 1675, died 1757), who was distinguished for her drawings in pastel, the graceful Francesco Trevisani, Pinzetta Tiepolo, and Canaletto, a painter in perspective, were the celebrated Venetian painters of this time. Carlo Cignani (born 1628, died at Bologna, 1719) acquired a great reputation by his originality and the strength and agreeableness of his colouring. Of his scholars, Marc. Antonio Franceschini was distinguished (born 1648, died 1720), whose works are charming and full of soul. Giuseppe Crespi, called *Spagnuolo*, deserves mention for his industry and correct style, but his pictures have unfortunately become very much

defaced by time. Among the Romans, Pompeo Battoni (born 1708, died 1787) was principally distinguished, and was a rival of the celebrated Mengs. Angelica Kauffmann deserves to be mentioned.—We must not forget the Neapolitan and the Genoese schools. Of the Neapolitans, we name Tommaso de' Stefani (born 1290), Fil. Tesauro, Simone, Colantonio de' Fiori (born 1362), Solario il Zingaro, Sabatino (born 1480), Belisario, Caracciolo, Giuseppe Ribera Spagnoletto (born 1593), Spadaro, Francesco di Maria (born 1623), Andrea Vaccaro, the spirited landscape-painter Salvator Rosa (born 1615), Preti, called *il Calabrese* (born 1613), and Luca Giordano (born 1632, died 1705), who was called, from the rapidity of his execution, *Luca fa Presto*. Solimena (born 1657) and Conca belong to the modern masters of this school. The Genoese can name among their artists Semino (born 1485), Luca Cambiasi (born 1527), Paggi Stromi, called *il Prete Genovese*, Castiglione (born 1616), Biscaino, Gaulli, and Parodi. Perhaps the most distinguished of the living painters of Italy is Camocchini. This reputation, however, is not allowed him without dispute by foreign countries, and even by many artists of his native land. His style is grand, and purely historical; his drawings are even more highly esteemed than his paintings. His pieces, however, are cold, and their estimation seems to have diminished. Landi is a distinguished portrait painter, though his colouring is rather cold. The pencil of Grassi possesses an inimitable grace, and a true enchantment. Benvenuti, director of the academy in Florence, is the first artist there. A French artist (Fabre) in Florence is the competitor of Benvenuti; his landscapes and his pastoral scenes are equally excellent. Colignon is also a very able artist, in the same place. Appiani, who died a few years ago at Milan, was particularly celebrated for the grace of his female figures; and Bossi had equal reputation, in a more serious and severe style. The Florentine Sabatelli's sketches with the pen are highly esteemed. Ermini, in Florence, is a charming miniature painter, in Isabey's manner. Alvarez, a Spaniard, and Ayes, a young Venetian, are in high repute at Rome. The young artist Agricola is particularly distinguished among the artists of Rome. He is a native of Urbino. In purity of style, he is thought to surpass all modern artists. (For the history of Italian painters, see Lami's *Storia Pittorica*.)—In the art of engraving, the Italians have acquired great eminence. Tommaso Finiguerra, who flourished 1460, was the first celebrated master of this art, which he taught to Baccio Bandini. They were succeeded by Mantegna; but Marco Antonio Raimondi, of Bologna, who lived in 1500, was the first to introduce greater freedom into his engravings. His copies of Raphael have always been highly valued, on account of their correctness. His manner was imitated by Bonasone, Marco di Ravenna, Di Ghisi, and others. Agostino Carracci, Parmeggiano, Carlo Maratti and Pietro Testa etched some excellent works. Stefano della Bella was distinguished for his small, spirited, and elegant pieces. Among the moderns, Bartolozzi deserves mention in stippled engraving. Cunego, Volpato, and Bettelini are also distinguished; but, above all, the Florentine Raphael Morghen, who has carried the art of engraving to a degree of perfection never before anticipated. The labours of Morghen, and yet more those of Longhi, perhaps the most admirable of all modern engravers, of Toschi, of Anderloni, of Folo, of Palmerini, of Lasinio, of Garavaglia, Lapi, Schiavonetti, evince an activity, to which new employment and new excitement have been afforded by the eagerness of travellers, and the number of splendid works on buildings (such as those on the cathedral of Milan,

the Carthusian monastery of Pavia, the sacristy of Sienna, the Campo Santo of Pisa, the *Mausolei sepolcrali* of Tuscany, the principal edifices of Venice, the *Chiese principali di Europa*). One of the latest and best is the work of the brothers, Durelli, *La Certosa di Pavia*. The painter Francesco Pirosano, whose description of Milan exceeds all others in exactness, has also given us a description of the celebrated Carthusian monastery. As a medium between painting and sculpture (see *Sculpture*), we must mention mosaic, in which many paintings have been imitated in Italy, from the wish to render the master works imperishable. There is a distinction made between the Roman mosaic executed by Tad. Giotto, and Cavallini, and the Florentine. (See *Mosaic*.) Mosaic painting seems to have flourished as well in France, whither it was transplanted, as in Rome. The art of working in *scagliola* (see *Scagliola*) has flourished for two centuries in Tuscany. In later times, Lamberto Gori has distinguished himself in this branch. Rome is still the metropolis of the arts. Pope Pius VII. generously supported the plans of that lover of the arts, cardinal Gonsalvi; and the Chiaramonti museum, by every account the most superb part of the long galleries of the Vatican, will be a lasting monument of his noble patronage. All friends of the sublime and beautiful deeply felt the accident that befell St Paul's church, near Rome, in the conflagration of 1823. To restore it would hardly be possible. The loss of this noble Basilica is not adequately compensated by the church of St Peter and Paul, built opposite the castle of Naples, nor by the temple of Posagno, which, before it was finished, received the ashes of its founder, the great Canova. As a monument, to the embellishment of which that distinguished man contributed the last efforts of his genius, this church is a legacy highly to be esteemed by Italian artists. Sculpture and painting here again meet architecture in a sisterly embrace. Canova's death was the cause of its first solemn consecration. (For a particular account of Canova, see the article.) Notwithstanding the excellence of their master, little is to be expected from the Italians of Canova's school. The monuments which were executed or planned by Ricci for the present grand-duke of Tuscany at Arezzo, by Fieschi for the princesses of the house of Este at Reggio, and by Antonio Bosa to the memory of Wackerhausen, rather depress our hopes than exalt them. The principal ground of hope of future excellence is in the love which has been generally awakened for the plastic arts. Gem engraving has been carried to a very high degree of perfection; and Berini's labours well merit the wide reputation which they have acquired. As medalists, Manfredini in Milan, Pichler and Mercandelli have produced works with which other countries present little that can compare. In Rome, Girometti and Cerbara are highly esteemed in this branch of art.

*Italian Music.* The style of music now prevalent in Italy is characterized by the predominance of melody and song to the neglect of harmony, and is distinguished from the old Italian music. Like other branches of modern art, the music of modern times sprang from religion. The history of the art, after pointing out a few imperfect glimmerings of ancient music, conducts us to Italy, where, in the course of centuries, the ancient was first lost in the modern. Here we first find the proper choral song, the foundation of modern church music, which was at first sung in unison, chiefly in melodies derived from the old Greco-Roman music, and adapted to Christian hymns and psalms. (See *Music*, and *Music, Sacred*.) It seems to have had its origin when bishop Ambrose, in the fourth century, introduced into the western

church songs and hymns adapted to the four authentic modes of the Greeks, and appointed psalmists or precentors. Gregory the Great, in the sixth century enlarged the choral song by the plagal modes. From this time singing-schools were multiplied, and much was written upon music. The most important innovations for the improvement of music generally, were made in the eleventh century, and particularly to the Benedictine Guido of Arezzo, who, if he did not invent the mode of writing musical notes and the use of the clef, improved and enlarged them, determined the exact relations of the tones, named the six tones of the scale (see *Solfeggio*), and divided the scale into hexachords. In the thirteenth century, the invention of music in measure was spread in Italy, dependent upon which was that of counterpoint and figured music. Instruments were multiplied and improved in the fourteenth and fifteenth centuries. Many popes favoured music, particularly vocal, and consecrated it by their briefs; yet the ecclesiastical ordinances restrained the independent development of music. Much instruction was given in singing in the fifteenth century, and not entirely by monks. Music acquired the rank of a science, and vocal music in counterpoint was developed. In the sixteenth century, we discover distinguished composers and musicians—Palestrina, composer for the chapel of pope Clement XI., whose works possess great dignity and scientific modulation, and his successor, Felice Anerio. Nennio da Vallerano, who, together with Giovanni da Balletri, were considered as distinguished musicians; also the celebrated contrapuntist and singer, Gregorio Allegri, and the great writer upon harmony, Giuseppe Zarlino, chapel-master at Venice. Music at Rome and Venice was cultivated with the greatest zeal. Hence it went to Naples and Genoa; and all Italy, Schubert says, was soon a loud-sounding concert-hall, to which all Europe resorted to hear genuine music, particularly beautiful singing. In the seventeenth century, we meet with the first profane music. The first opera was performed at Venice 1624, at first with unaccompanied recitatives and choruses in unison; it spread so quickly, that the composers of spectacles were soon unable to supply the demands of the people, and from forty to fifty new operas appeared yearly in Italy. This caused great competition among the Italian musicians. Thus the peculiar character of the Italian music, not to be changed by foreign influence, was developed the more quickly, because this species was cultivated independently, and unrestrained by the church. Already, in the middle of the seventeenth century, when the music of the theatre was continually advancing, simplicity began to give place to pomp and luxuriance, and the church style to decline. Music (says Schubert) united the profane air of the drama with the fervour of the church style, and this was the first cause of the decline of the latter. Let us now consider the principal periods of the former. Vocal music must have been first; it was regulated by the discovery and improvement of instruments; thence arose the simple, grand church music of the fifteenth and sixteenth centuries; with it various forms of national song were developed. On the stage, the higher style of music flourished independently. Here the Italian, without much attention to the poetical part of the performance, which was, indeed, only the hasty work of a moment, followed his inclination for melody and sweet sounds, which appears even in his language. All the southern nations show a great sensitiveness, and melody is to them as necessary as harmony to the inhabitants of the north; but to no nation so much as to the Italians, whose beautiful climate and happy organization for song (Italy produces the most beautiful alto

and tenor voices—few bass) made melody their chief aim in their music. On the other hand, the simplicity of melody degenerated into effeminacy and luxuriance, from the time when vocal music developed itself independently, and the voice, but little supported by the instrumental music, began to be cultivated like an instrument; when, instead of poetical expression and truth, mere gratification of the ears, not deep emotion, but a momentary excitement, and a rapid change of tones, with the avoidance of all dissonance, were principally desired; when music began to predominate over poetry, which first took place on the stage, and thus the musical part of the performance obstructed the improvement of the dramatic and poetic. This taste spread over other countries so much the more easily, as Italian music had advanced, by rapid strides, far before that of the rest of Europe, as appears even from the predominance of Italian terms in musical language. This artificial development of the song was promoted by the introduction of soprano singers on the stage, which destroyed the possibility of poetic truth in dramatic representation. The voice was cultivated to the highest degree by means of the numerous conservatorios and singing schools. To this was added the great encouragement and the extravagant rewards of distinguished singers (Farinelli purchased a duchy); the great opportunities afforded for singing (as every place of consequence in Italy had its theatre, and many had several); besides which, music is an essential part of the service of the Catholic church, and castration was permitted *ad honorem Dei*, as a papal brief expresses it. The excessive culture of the voice must necessarily lead to the treatment of it as an instrument, to the neglect of poetical expression. Instrumental music, too, in this case, necessarily becomes subordinate. Instrumental music should not indeed overpower the song, as is the case in much of the French and German music; but in the Italian music, the composer is almost restricted to showing off the singer, and cannot develop the fullness and depth of harmony which depends upon the mingling of consonance and dissonance. This is the reason why the masterpieces of Mozart have never entirely satisfied the Italians. Among the best composers, since the seventeenth century, are Girolamo Frescobaldi, Francesco Foggia, Bapt. Lully, the celebrated violinist and composer Arcangelo Corelli. To the singers, of whom the most were also composers, belong Antimo Liberati, Matteo Simonelli, both singers in the chapel of the pope. In the beginning of the eighteenth century, Ant. Caldara was distinguished. He increased the effect of the singing by the addition of instruments, but his style partook much of the theatrical. There were, besides, Brescianello, Toniri, and Marotti. In the middle of this century, Italian music, especially theatrical, flourished, particularly at Naples, Lisbon, and also in Berlin. This has been declared by some the most brilliant period of Italian music. There are some distinguished instrumentalists in Italy, as the organist Scarlatti and Martinielli, the violinist Tartini (who, even in the theory of his instrument, was distinguished, and established a school, which was devoted particularly to the church style), Domenico Ferrari, Geminiani, Ant. Lolli and Nardini, scholars of Tartini, also the player upon the harpsichord and composer, Clementi, in London, and Paganini. Among the composers of the eighteenth century, are mentioned Traetta, who, through his refinements, injured the simplicity of composition; Galuppi, distinguished by simple and pleasing song, rich invention, and good harmony; Jonelli (q. v.), who gave greater importance to instrumental music; Maio; Nic. Porpora, the founder of a new style of singing, distinguished

for his *solfeggios* in church music; Leo; Pergolesi, whose music is always delightful, from its simple beauty (e. g. his *Stabat Mater*); Pater Martini, at Bologna; the sweet Piccini, rival of Gluck; Anfossi; the agreeable Sacchini (*Edip.*); Sarti. Of a later date are Paesello, Cimarosa, the ornament of the *opera buffa*, and Zingarelli (*Romeo and Juliet*), Nasolini, Paganini, Niccolini, Pavesi, and the now much celebrated Generali and the copious Rossini. More like the Germans were Salieri, and the thorough Righini (he likewise has written *solfeggios*). Cherubini and Spontini have more of the French character. Among the celebrated male and female singers of Italy, since the eighteenth century, are Francesca Cuzzoni Samdoni, and her rival Faustina Bordoni (afterwards the wife of Hasse), and the Allegrandi, the sopranists Farinelli, Caffarelli, Genesino, Caristini, Marchesi: in later times, the celebrated Crescentini and Veluti; also the singers Baldassore Ferri, Siface Matteucci; the tenorists Millico, Pacchierotti, Bixi Benelli; the female singers Tesi, Mingotti, Gabrielli, Todi, Vandi, Marchetti, the sisters Sessi, particularly Imperatrice and Mariana Sessi, Angelica Catalani, Camporesi, Borgondio. The Italian school is yet unequalled in whatever depends upon the mere improvement of the voice; but the slavish imitation of their manner leads to affectation; therefore the German singers employ it no further than they can without losing the spirit and poetical expression which the German song aims at.

*Travels in Italy.* No part of Europe has been so much visited as Italy, and none deserves to be visited more than this charming country, where a cloudless sky sheds perpetual brilliancy on the monuments of ancient greatness, and the relics of ancient art, which conspire with the finest works of modern genius, to delight the eye, and to carry back the mind to the great men and great events of former times. The sight of modern Italy led Gibbon to write the sad story of the decline of her ancient grandeur; and how many poets have owed to Italy their inspiration! It is impossible to see Italy, and not feel the grave monitions of history, or to pass through her happy vineyards without being cheered by the scene, or to gaze on her works of genius without feeling the worth and the dignity of the fine arts. No wonder, then, that Italy is visited from all quarters. During the general peace in Europe, from 1815 until 1830, crowds of foreigners, particularly Englishmen, hastened to the beautiful peninsula. The latter were so numerous, that the lower classes of Italy called every foreigner *un Inglese*. Among these there were, of course, great numbers who, without capacity for enjoying what they saw, hurried through the country according to the direction of their guide-books, in order to be able to say, at the tea-tables in London, How beautiful the view from Monte Pincio is! Every one who has been in Rome must have met with such a traveller, his *l'asari* in his hand, working his way with servile conscientiousness, through the beauties of the place. Expedition being an object with many of them, the shortest process for seeing all that was to be seen was soon found out, and flocks of travellers, at particular seasons, migrated to particular places. The average period of a jaunt through Italy is six months. The end of the journey is usually Naples, from which travellers advance south as far as the ruins of Paestum. The Alps must be passed early in the autumn. The fairy islands of the Lago Maggiore, at that time, still wear their delightful drapery of fruits and leaves. The traveller then enters, at once, the south of Europe, so different from the north. For visiting the principal places in Upper Italy, the Bolognese, and Tuscany, there are two months before the beginning of the

carnival, which, of course, must be enjoyed in Rome. After having visited the galleries and monuments at and about Rome, the traveller proceeds, during Lent, to Naples, to see the spring awaken in the Campagna. At Easter, he returns to Rome. He could visit Italy without hearing the heavenly music in the Capella Sistina, during Passion week! There will perhaps be time, on the return, to make an excursion to the Mark of Ancona; if not, no one who has been to Rome through Sienna, will now fail to take the road through Terni, Perugia, and Arezzo. Genoa and Venice, as the most western and eastern points, are convenient to begin or close the journey with. It may be better, however, to begin with Lombardy and Genoa, in the autumn, and not to extend the period of return far into the hot season. Lombardy attracts but little, after Rome, Florence, and Naples, have been visited; but Venice, this melancholy Venice, still remains an object of interest, even in her decrepitude under the Austrian yoke. Such a journey will occupy from the beginning of October until the middle of May, and will enable a traveller to see the finest parts of the country and the most remarkable works of art. But to become thoroughly acquainted with Italy, as it is and as it was, no one can stay long enough. Rome alone will fully occupy a man's life. He who wishes to become particularly acquainted with the middle ages, and to form a lively picture of them, will remain longer at Florence and Pisa. Late in a moonshiny night, when every thing is quiet, walk through the streets of Florence, and you may easily imagine yourself contemporary with the Medici. He who wishes to devote himself to the antique or to Roman history will stay longer in the *alma città*. Here he will also find himself at the fountain head of numismatics. He who desires to enjoy the beauties of a bountiful nature, will remain longer in Naples, here like a paradise surrounded by the fields of Campania, where the gigantic vine twines round the lofty pillars, and forms an embowering shade over the radiant grain. He who prefers to see a country where nature and man have not been much influenced by civilization, will proceed to Calabria and Sicily, which afford also the richest harvest to the human and mineralogist. He who wishes to become more fully acquainted with the history of the fine arts of the middle ages, will go to the smaller places, distant from the great roads, where he will find innumerable treasures, often unknown to most Italians themselves; as the historian finds rich treasures in the manuscripts stored up in the monasteries, illustrative of the contests of Italian powers among themselves in the middle ages, as well as of the great contest between the secular and ecclesiastical powers, the emperor and the pope: and what a boundless field is opened before the scholar in the Vatican! There are no ways of travelling in Italy, with post-horses, in which case a carriage belonging to the traveller is almost indispensable), or with the *retturno* (a hired coach). He who travels without a family and wishes to become acquainted with the province will do best to adopt the latter mode. The traveller makes his bargain with the *retturno*, not only for conveyance, but also for supper and lodging. The general price for the conveyance, from thirty to forty miles a day, together with the meal and lodging, is about a ducat per day. As the reputation of a *retturno* depends upon the good treatment of the travellers, it is his interest to procure a good horse and a clean bed; thus travellers are spared the trouble of bargaining with the host. That the innkeepers in Italy have a general disposition to swindle the traveller, is certain; and this leads many travellers, particularly English, not to touch a trifle in the

man without making a bargain; for which very reason they are regularly overreached. The same disposition makes many English travellers so troublesome in Germany, where, the living being cheap, they expect to pay next to nothing in the first hotels, so that some hotels have actually refused to admit them. In large cities, where the traveller expects to stay some time, his best rule will be to make a fair bargain after the first day, when he knows what he has to expect. Another great inconvenience for travellers arises from the *ciceroni* or *servitori di piazza*. These people, who have a share of what the *custodi* and the poorer possessors of some single curiosities receive from the travellers, have an interest in directing the traveller to every corner where an inscription, a piece of a column, &c., is to be found. But how avoid this, since a *cicerone* is indispensable? Two general rules may be found serviceable; not to attend, in Italy, to any thing but what is peculiar to Italy; collections of minerals, Japan porcelain, &c., are to be found in other countries; and, secondly, to prepare one's self for the journey, and to know beforehand, in general, what is to be seen. Of course, these rules are only for those who do not stay for a long time in a place, and have no time to make acquaintances for themselves. Three nations, particularly, have furnished descriptions of Italy, the British, Germans, and French. We recollect to have seen a very old and curious little book, a Guide through Italy for Pilgrims. The images of the virgin, miraculous relics, &c., of course formed the great mass of the book; but antiques, columns, &c. had received a Christian character, and were named after the apostles, &c. The works of which we here speak, properly begin toward the end of the seventeenth century, at which time the descriptions of Italy assume a more independent character. Since that time, the number has, particularly of late, greatly increased, so that this branch of literature, in Germany, is almost in disrepute. Among the earlier works in English, the most esteemed are those of Burnet, Addison, and the others mentioned below. Gilbert Burnet, bishop of Salisbury, travelled, in voluntary exile, through France, Germany, Switzerland and Italy, in 1685. His observations relate principally to religion and politics, on which subjects his views are those of a zealous Protestant and Whig. His work was succeeded by that of Adkisson—Remarks on several Parts of Italy (1705), chiefly devoted to antiquity—and the less known works of John Breval (1726) and Edward Wright (1727). The journal of the French emigrant Blainville, who had become naturalized in England, appeared after his death, and was edited by Turnbull and Guthrie in 1742. The remarks of these travellers are chiefly directed to the classical antiquities of Italy, and they therefore have been designated by the name of *classical travellers*. Smollett's travels treat chiefly of modern Italy and the inhabitants, and are full of a morbid querulousness. The same is true of Sharp's. Barretti defended his country from the attacks of Smollett and Sharp, in his Account of the Manners and Customs of Italy (1767). John Moore's View of Society and Manners in Italy is still interesting, and is rich in characteristic anecdotes. Patrick Brydone's picturesque description of Sicily is too celebrated to be passed over in silence, though it relates merely to that island. Among the numerous recent publications on Italy, few have acquired reputation in foreign countries. We may mention Forsyth's Remarks on Antiquities, Arts and Manners during an Excursion in Italy in 1802–3 (London, 1813). Eustace's Classical Tour through Italy (1802, in two vols., much enlarged in 1817, in four vols.) is prejudiced and inaccurate. Lady Morgan's Italy betrays the novelist. It is not to be recom-

mended as a guide through Italy. The Florentine A. Vieusseux, who left his country in early youth, and entered the British service, travelled through Italy, and wrote Italy and the Italians in the nineteenth Century (London, 1824, two vols.). Among the other English books of travels in Italy, which have appeared within late years, may be mentioned Bell's Observations on Italy. Simon's valuable Tour in Italy and Sicily appeared in 1828; Narrative of three Years' Residence in Italy appeared in London, 1828; Lyman's Political State of Italy, Boston, 1820; Rembrandt Peale's Notes on Italy, Philadelphia, 1831; Bigelow's Tour in Sicily and Malta, Boston, 1831. Of the French works on this subject, we may cite first the work of Maximilian Misson, a counsellor of parliament (in 1691), much read at the time in England and Germany. The works of Rogissart (1706), of Grosley (*Mémoires sur l'Italie par deux Gentilshommes Suédois*, 1764), and of madame du Bocage (1765), did not preserve their reputation long. The abbé Richard's *Description de l'Italie*, &c. (1766, six vols.) was useful, as was also the work of Lalande (most complete edition, 1767), written on the same plan. It is a systematic description of a tour, and is the basis of the German work of Volkmann. Dupaty's popular *Lettres sur l'Italie* (1788) are recommended by elegance of style and warm feeling. Their matter is not important, and affords little information to the traveller. The Corinna of madame de Stael does not belong to this branch of literature in form, but it does in substance. It is a noble production throughout, and even where the views are erroneous, they are nevertheless instructive. The *Lettres sur l'Italie, par A. L. Castellan* (Paris, 1819, three vols.), are entertaining and instructive. Germany, which is fertile in every branch of literature, is so in descriptions of Italy, or travels in Italy. There are some excellent works in German, treating of the scientific treasures of Italy; but this is not the place to enumerate them. The German descriptions of Italy are often characterized either by a minute collection of facts, without much attention to agreeable arrangement, or a romantic exaggeration, which arrays all Italy in heavenly colours, and inhales fragrance from the very *immondezza*. The learned Keyssler, who wrote in 1740, complains of a host of predecessors. His work (which was augmented in 1751 and 1776) was followed by a number of translations and *rifacimenti* of English and French works, particularly the excellent account of Volkmann, already mentioned (in 1770 and 1771, with additions by Bernouilli since 1777, six vols.). A new continuation and correction of this work would afford a very useful manual for travellers. Archenholz's *Italien* (1785, augmented in 1787) represents the country according to English views. Jagemann opposed him in a vindication of Italy (*Deutsches Museum*, 1786). To this class of works belong Goethe's Fragments on Italy, published at the end of the last century, and his Journal, published but a few years since. Count Leopold von Stolberg (1794) wrote a description of his journey. Frederica Brun, Kuttner, (1796 and 1801), E. M. Arndt, Seume (his *Spaziergang nach Syrakus* is a work fitted to gratify a sound mind, and appears to advantage among the host of sentimental publications, though it is by no means a guide), Gerning, Benkowitz, and J. H. Eichholz, are among the legion of writers on Italy. Kotzebue poured his satirical spirit, also, on this country. P. S. Rehfues has, since 1807, published several works on Italy. Madame von der Recke's Journal was translated into French by Mad. de Montolieu, and is a compendious travelling library, which touches on almost every thing important to a traveller. Kephallides (1818) unites much information with

animated description. F. H. von der Hagen's work (1818—1821, four vols.) is valuable, particularly for its observations on the arts in the middle ages, as attention is generally paid only to classical art, and to the modern since the time of Raphael. Muller's *Rom, Römer, und Römerinnen*, has met with applause as a picture of manners and customs. There exist a number of descriptions of parts of Italy, which we have not room to enumerate. On Sicily, one of the latest works is *L'oyage en Sicile fait en 1820 et 1821, par Auguste de Saye* (Paris, 1825, three vols.). Neigelaur's *Handbuch zur Reise in Italien* (Leipzig, 1826) contains much information of value to travellers. Among the works which portray the beauties of Italy, one of the best is *Vues pittoresques de l'Italie*, by Coignet, lithographed (Paris, 1825).

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ITE, MISSA EST (*Latin*, go—the meeting is dissolved); a formula by which, on joyful feasts, the end of the low mass is announced to the people, and the assembly dismissed. The priest steps into the centre of the altar, and sings these words after the *Dominus vobiscum*. After a mass for the dead, instead of these words, he sings, *Requiescat in pace*, on which the response is, *Amen*. In Lent, Advent, and the days of penitence, he says, *Benedicamus Domino*, to which the response is *Deo gratias*. The word *mass* is derived from *missa est*.

ITHACA (*Uaan*), or, as it is called by the moderns, *Thiaki*; one of the seven Ionian islands lying in the gulf of Patras; lon. 21° 1' E., lat. 38° 36' N.; eighteen miles long, and not above five broad; population, 8000. The whole island is rugged and uneven. Ithaca is celebrated as the island of Ulysses, and is minutely described by Homer in the *Odyssey*. Of the places mentioned by Homer, many can be traced with great appearance of probability. The *Kepanos streps* (Od. xiii. 403) is still called *Coraro petra*. The ruins of Cyclopean walls are described as similar to those of Argos, Tiryns, and Mycenæ. The spring of Ithacus and the walls of the city, as well as the Acropolis, can also be traced. A sculptured rock, called *Homer's school*, somewhat resembles that which bears the same name in Scio (Chios). Patras, vases, bracelets, chains, strigils, mirrors, lamps, coins, &c., have been dug up in an ancient burying-ground here.

ITHACA, the name of an American town, in the

state of New York, situated about a mile and a half south of the head of the Cayuga lake, being 17 miles west of Albany; population about 4500.

ITURBIDE, AUGUSTIN, was born at Valladolid de Mechoacan, in New Spain, in 1784. Being of a family of some consideration in his country, he received a very careful education. Until 1810, he held no higher rank than that of a lieutenant in the provincial regiment of his native city. At this period, when the troubles in Mexico broke out, he entered into active service against the patriots, and was engaged in various contests with bodies of his insurgent countrymen. Borne along by circumstances in the career of arms, he had risen, in 1816, by his valour and capacity, to the command of what was called the *northern army*, which occupied the provinces of Guanajuato and Valladolid. About this time, he was suspected and accused of want of fidelity to their cause, by some of the royalists, but was acquitted of the imputation by the viceroys Calleja and Apodaca. But the disgust which he felt as a consequence of this charge, led him to retire for a while from active service. In 1820, we find Iturbide again in the field, under circumstances which gave him unexpected importance. At that period, the imprudent acts of the Spanish cortes produced so much exasperation among the clergy and the partisans of absolutism in Mexico, that these persons united to effect the independence of their country. They selected Iturbide as their agent, knowing his zealous agency in putting down the revolutionists and republicans of past years, and wholly unconscious of the views of personal aggrandizement which he entertained. Being furnished with some money by them, he set out for the south; and, having seized a convoy of specie on his route, he soon formed a junction with Guerrero, one of the patriot chiefs. Meanwhile emissaries had been despatched in all directions to prepare the people, who were accordingly ripe for revolution. At length the army reached Iguala, where (February 24, 1821) Iturbide proposed the plan which bears the name of that place;—the great objects of this instrument being the independence of Mexico, the protection of religion, and the union of the Spaniards and Mexicans. At the same time, an offer of the crown was made to Ferdinand VII., or to any other member of the royal family of Spain. On the strength of this plan, Iturbide continued his march to Queretaro, and was soon joined by Guadalupe Victoria, the most devoted of the friends of liberty. Meantime the viceroy O'Donoju arrived from Europe, and, finding the whole country virtually with Iturbide, signed a treaty at Cordova (August 27, 1821), according to the provisions of the plan of Iguala. The road to power was now entirely open before Iturbide. He took possession of the capital in the name of the nation, and established a regency, consisting of members nominated by himself, and wholly under his control. The republican party soon was the object of his movements. A congress had been assembled, which made various attempts to counteract his designs by diminishing his power, and at last brought the matter to an open rupture and a crisis. Iturbide, seeing no other way to preserve his authority, resolved to usurp the crown, through the subserviency of his troops. Accordingly, May 18, 1822, the garrison and a part of the population of Mexico rose and proclaimed Iturbide emperor, under the name of Augustin I. The next morning, congress was convened in extraordinary session, in the midst of the acclamations of the multitude, whose cries often drowned the voices of the deputies. The agents of Iturbide obtained a decree requiring his presence; and he appeared, accompanied by a number of military officers, having been drawn through

the streets by the rabble. His election to the imperial dignity was proposed and discussed in his presence, and was voted for by seventy-seven deputies, out of ninety-four who had assembled, being about one half the whole body of delegates. He returned to the palace as he came, in a coach drawn by the people. Shortly afterwards, the congress decided that the crown should be hereditary in the family of Iturbide, gave to his sons and his father the title of *princes*, fixed upon him a yearly allowance of a million and a half of dollars, and established an order of knighthood, called the *order of Guadalupe*, thus completing, in every thing, the accessories of the new monarchy. All these arrangements were voted with a degree of unanimity, which clearly proved the absence of liberty; and the provinces yielded a blind submission to what was decreed in the capital. The friends of liberal institutions, overawed and held at bay by the power of the usurper, fled to their wonted retreats, or temporised until a fitting season should arrive for acting with union and efficiency. But they could not, and did not, acquiesce in a state of things so adverse to their feelings. Iturbide was driven by his necessities to hasten affairs to a crisis. In October, 1822, he seized and confiscated, without legal process, a convoy of 1,200,000 dollars, on the way from Mexico to Havana. Also in the month of August preceding, he had caused several of the members of congress to be arrested, regardless of their privilege of personal inviolability. Finally (October 30, 1822), he ordered the dissolution of congress, causing the hall to be shut, of his own authority, and, on the same day, organised a junta to take the place of the legislative body, and nominated all the members himself. To supply the exigencies of the government, recourse was then had to forced loans, which served the more to exasperate the minds of the people, already disgusted with the successive usurpations of Iturbide. Circumstances, however, foreign to his acts of general oppression, brought on the catastrophe. At this time, the Spaniards retained possession of the castle of San Juan de Ulua, which commanded the port of Vera Cruz. The emperor had left the city of Mexico, and advanced as far as Jalapa, intending, if possible, to obtain an interview with the governor of the castle. Disputes had previously arisen between general Santa Anna, governor of Vera Cruz, and general Echavarri, who commanded the southern division of the Mexican army; and Santa Anna was summoned to Jalapa by the emperor, to answer to the charges of Echavarri. Santa Anna counted much upon the services which he had rendered Iturbide, and on his own popularity; but, to his great surprise, he was treated harshly, and dismissed from his command at Vera Cruz. Hastening back to the garrison, before the news of his disgrace could reach them, he excited them to revolt, for the purpose of dethroning Iturbide, and establishing a republican government. He found the troops ripe for his purpose, and lost no time in advancing to Puente del Rey, where several skirmishes took place between the republicans and the imperialists under Echavarri. At length Victoria made his appearance, and was appointed commander-in-chief of the insurgents; and, in February, 1823, Echavarri and his army joined forces with Victoria and Santa Anna, by the convention of Casa Mata. Defection now became general among the officers of the army, and in all the provinces, so that Iturbide saw plainly that his cause was hopeless, and hastily assembled at Mexico the dispersed members of congress, and tendered to them his abdication of the crown. This happened March 20, 1823. Congress very generously agreed to grant Iturbide a yearly pension of 25,000 dollars on condition of his leaving

the Mexican territory for ever, and residing somewhere in Italy, making suitable provision for his family in case of his death. He proceeded to the coast, under escort of general Bravo, and embarked May 11, 1823, for Leghorn. He might have continued to live happily in one of the charming villas of Tuscany, had he not been impelled by an insane ambition to attempt the recovery of his lost empire. With this object, he left Italy for England, and embarked for Mexico, May 11, 1824, precisely a year after his departure from it, and arrived in sight of the port of Soto la Marina, July 14. During the year that had elapsed, the Mexicans had adopted a republican constitution, and Iturbide had no party nor friends in the nation. The government had been apprised of his leaving Italy, and suspected his design. A decree was passed, bearing date April 28, 1824, declaring him to be proscribed as a traitor, and requiring that, in case he landed in the country, the mere fact should render him a public enemy. Wholly deceived in regard to the fate which awaited him, Iturbide landed at Soto la Marina, accompanied only by his secretary, a Pole, named Beneski, and was almost immediately arrested by order of D. Felipe de la Garza, the commandant-general of the state of Tamaulipas, in which Soto la Marina is situated. La Garza lost no time in conducting his prisoner to Padilla, the provincial capital, and demanding instruction how to act, of the provincial legislature. He was instructed to put in execution, forthwith, the decree of congress, of April 28, by causing Iturbide to be shot,—apprehensions being entertained lest any delay in the enforcement of the decree should be the cause of some troublesome, although of necessity abortive, movement, on the part of the people. This took place July 18th; and, on the 19th, La Garza notified Iturbide to prepare for death on the same day. Iturbide in vain solicited for a reprieve until the general government could be informed of his situation, and have opportunity to decide upon his case. This, of course, La Garza denied him; and at six o'clock in the afternoon, after having confessed himself, he was conducted to the place of execution, where sixty or seventy soldiers stood in their ranks, under command of La Garza. Iturbide then made a short address to the assembled people, protesting his innocence of any treasonable purpose, exhorting them to observe the duties of patriotism, religion, and civil subordination, and declaring that he pardoned his enemies. He was shot dead at the first fire; and his body was interred as decently as the means of the small town permitted. While this was passing at Padilla, the wife of Iturbide and two of his children, who had accompanied him from England, had landed at Soto la Marina. They brought with them a large quantity of proclamations, circulars, and other papers, intended to aid the design of the ex-emperor, together with his imperial mantle and other insignia. So soon as the captain of the brig in which they came learnt the fate of Iturbide, he cut his cables, and stood out to sea, leaving the widow and children of Iturbide totally destitute of every necessary, and at the mercy of the very men who had just ordered the execution of her husband. But the feelings of the Mexican government were just and liberal. They continued to the widow the pension promised the family of Iturbide at the time of his abdication, annexing only the condition that she should live either in Columbia or the United States, in which latter country she has ever since resided. Such was the end of a man, estimable in his private character, and not without talents, who, if his fortune had led him to use his influence in the establishment of a free government, might have con-

tinued long at the head of affairs, and finally have departed from life respected and honoured as a patriot, instead of prematurely suffering the ignominious death of a malefactor. *Pamphleteer*, No. 56; *Annales Biographiques pour 1826*; Poinsett's *Mexico*.

ITUZAINGO; the scene of a celebrated victory gained by the troops of Buenos Ayres, under Alvear, over the Brazilians. In the campaign of 1827, the republicans pushed their forces into the province of Rio Grande, and encountered the enemy on the field of Ituzaingo, February 20, 1827. The battle was obstinately disputed for six hours, but was gained at length by the reiterated and furious charges of the cavalry of the Banda Oriental. The Brazilians lost marshal Abreu, ten pieces of artillery, all their munitions of war, and baggage, and about 2000 men.

ITYS, son of Tereus and Procne. See *Philomela*.

IVICA, IVIZA, or IBIZA (*Ebusus*); an island of the Mediterranean, belonging to Spain, and the principal of the group called the *Pityusæ*. Its extent is 190 square miles; its population, 21,094. The soil is fertile, producing corn, wine, oil, fruit, flax, and hemp, with little labour. About 15,000 tons of salt are annually obtained by evaporation; and it forms, with fish and wood, the chief article of export. Fifty-two miles from Majorca. The capital is of the same name, and has a good harbour. Population, 2700.

IVORY; the substance of the tusk of the elephant. Ivory is esteemed for its beautiful cream colour, the fineness of its grain, and the high polish it is capable of receiving. That of India is apt to lose its colour, and turn yellow; but the ivory of Achem and Ceylon is not chargeable with this defect. Ivory is used as a material for toys, and as panels for miniature-paintings. To prepare it for the latter purpose, it is to be washed with the juice of garlic, or some other absorbent composition, to remove its oily particles. The shavings of ivory may be reduced into a jelly, of a nature similar to that of hartshorn; or by burning in a crucible, they may be converted into a black powder, which is used in painting, under the name of *ivory black*. Ivory may be stained or dyed: a black colour is given it by a solution of brass and a decoction of logwood; a green one, by a solution of verdigris; and a red, by being boiled with Brazil wood, in limewater. The use of ivory was well known in very early ages. We find it employed for arms, girdles, sceptres, harnesses of horses, sword-hilts, &c. The ancients were also acquainted with the art of sculpturing in ivory, of dyeing and encrusting it. Homer refers to the extreme whiteness of ivory. The coffer of Cypselus was doubtless the most ancient monument of this kind in basso-relievo, and we meet with similar instances in the temple of Juno at Olympus, in the time of Pausanias; that is to say, 700 years after it had been built. The ancients had numerous statues of ivory, particularly in the temples of Jupiter and of Juno, at Olympus. In these statues, there was very frequently a mixture of gold. The most celebrated are stated to have been the Olympian Jupiter and the Minerva of Phidias: the former was covered with a golden drapery, and seated on a throne formed of gold, of ivory, and cedar wood, and enriched with precious stones. In his hand the god held a figure of Victory, also of ivory and gold. The Minerva was erected in the Parthenon at Athens during the first year of the eighty-seventh Olympiad—the year which commenced the Peloponnesian war. Pausanias likewise makes mention of an ivory statue of Juno on her throne, of remarkable magnificence, by Polycletes, together with numerous others.

The importation of elephants' tusks into Great Britain in 1831 and 1832 was, at an average, 4,130

cwt. The medium weight of a tusk is about 60 lbs., so that the yearly imports of 1831 and 1832 may be taken at 7,709 tusks, to obtain which 3,854 male elephants must have been destroyed. If to the quantity of ivory required for Britain, be added that required for the other countries of Europe, Asia, and America, the number of elephants annually killed must appear immense, and, it is evident, that the passion for ivory must eventually lead to the extermination of its noble producer.

IVORY COAST; part of the coast of Guinea, between cape Apollonia and cape Palma. See *Guinea*.

IVY (*Hedera helix*); a shrubby vine, celebrated from remote antiquity, and held sacred in some countries, as in Greece and Egypt. The leaves are smooth and shining, varying much in form, from oval entire to three or five lobed; and their perpetual verdure gives the plant a very beautiful appearance. The flowers are greenish and inconspicuous, disposed in globose umbels, and are succeeded by deep green or almost blackish berries. It ascends to the summits of the tallest trees, having a stem sometimes three inches in diameter, and also clings to the sides of old walls, rocks, &c. It is found throughout almost the whole of Europe, and in many parts of Asia and Africa.

IWAN, or IVAN; the name of several persons distinguished in Russian history. The most celebrated are Ivan Wasiliewitch and Ivan II., who laid the foundation of the Russian empire. (See *Russia*.) Ivan V. (or II.), Alexejewitch, who inherited the crown during his minority, was half brother of Peter I., but, on account of his mental imbecility, took no part in the government. Ivan VI. (or III.) was grand nephew of the former, and son of the grand princess Anna and of Antony Ulrich, duke of Brunswick-Wolfenbuttel. The empress Anna (q. v.) took him, in 1740, out of the hands of her niece, declared him her son, and gave him an apartment near her own. She soon after declared the child her successor, and her favourite Biron was to be his guardian and regent. Biron caused the oath of allegiance to be taken to the prince, and, when he was crowned, the parents of the child assumed the reins of government, until the daughter of Peter I., Elizabeth, ascended the throne. The young Ivan was taken from his cradle by soldiers, and shared the fate of banished and imprisoned parents. He was at first imprisoned at Ivangorod, near Narva, it being intended to keep him always in Russia; but his parents, who were confined at first in Riga, were to be sent to Germany. He never saw them again, but always remained a prisoner in different places, particularly in Western Prussia. In 1758, he was carried to the fortress of Schlüsselburg. In 1763, Mirowitch, a nobleman of the Ukraine, who was lieutenant in the garrison of the above fortress, conceived the design of delivering the prince. He induced several soldiers to assist him, and, by means of a forged order from Catharine, he attempted to obtain admission to Ivan; but two officers, who guarded him, when they saw that resistance was fruitless, stabbed the unfortunate prisoner, in consequence of an order formerly given by the empress Catharine, that he should be put to death in case of an attempt to deliver him by force. She had already destroyed every proof of the claim of the prince to the throne, and prohibited, under penalty of death, the keeping of coins which could remind the nation of him. The chapel in Schlüsselburg, in which he was buried, was afterwards destroyed.

IXION; a king of Thessaly, son of Phlegyas, of Leontes, or, according to Diodorus, of Aëtion by Perimela, daughter of Amythaon. He married De-

daughter of Deioneus, and promised his father-in-law a valuable present for the choice he had made of him to be his daughter's husband. His unwillingness to fulfil his promises, obliged Deioneus to have recourse to violence, and he stole away some of Ixion's horses. Ixion concealed his resentment, invited his father-in-law to a feast at Larissa, the capital of his kingdom, and, when Deioneus was come according to the appointment, he threw him into a pit, which he had previously filled with wood and burning coals. This treachery so irritated the neighbouring princes, that all of them refused to perform the usual ceremony, by which a man was then purified of murder, and Ixion was shunned by all mankind. Jupiter had compassion upon him, and placed him at the table of the gods. Ixion became enamoured of Juno, and attempted to seduce her. Juno was willing to gratify the passion of Ixion, or, according to some, she informed Jupiter of the attempts which had been made upon her virtue. Jupiter made a cloud in the shape of Juno, and carried it to the place where Ixion had appointed to meet Juno. Ixion was caught in the snare, and from his embrace with the cloud he had the Centaurs. (See *Centaurs*.) Jupiter banished him from heaven; but when he heard that he had the rashness to boast that he had seduced Juno, the god struck him with his thunder, and ordered Mercury to tie him to a wheel in hell, which continually

whirls round. The wheel was perpetually in motion; therefore the punishment of Ixion was eternal.

LYNX; daughter of Pan and Echo, or of Peitho (the Suada of the Romans). She inveigled Jupiter into his intrigue with Io. As a punishment, Juno changed her into a bird, called the *wry-neck* (*lynx torquilla*), which still possessed the power of exciting love. When it became desirable that Medea should be enamoured of Jason, Venus gave the hero the magic lynx, and instructed him how to use it in order to inspire Medea with a passion for him. From this time, the lynx became a part of the love-spells among the Greeks. The enchantress tied the bird to a four-spoked wheel, which she turned while she muttered her incantations; or, according to some traditions, she only stretched upon the wheel the entrails of the wry-neck. Another method was, to consume the bird over the coals, on a wheel of wax. The magic wheel was also called *lynx*, because the bird or its entrails were extended upon it. It is sometimes used as a symbol of the art of exciting love in general, and more particularly of unchaste love. In the sequel, the signification of the word *lynx* became different; and it was extended to every charm in poetry and music. In this sense, the lynx went under the name of the nightingale; and it is thus represented on the monument of Sophocles, and in the temple of the Pythian Apollo.

## J

J; the tenth letter, and seventh consonant, of the English alphabet. The character *j* designates very different sounds in the different languages. In English, according to Mr Webster, it represents the sound *dzh* or *edzh*. It has, in fact, the same sound as *g* in *Giles*. In French, it is always sounded like the French *g* before *e* and *i*. In German, it has the sound of the English *y* in *you*. In Italian, it is always a vowel (long *i*), and the character *j* is now little used by Italian printers, except at the end of words, for *ii*. In Spanish, it is guttural, a little softer than the German *ch* in *ach*. How nearly the sounds which are expressed by *j* are related, has been shown in the article *G*; and, in the article *I*, it is mentioned, that *i* before another vowel naturally becomes the German *j*. (For other observations, also relating to *j*, see the article *I*.) Though the character *j* is very ancient, it is only in recent times that it has been taken for a consonant, and still more recent is its separation from *i* in dictionaries. In France, the use of *j* for the consonant, and *i* for the vowel, was not established in the middle of the seventeenth century. Among other nations the mixture continued later. James Pelletier, of Mons, is said to have first placed the *j* at the beginning of words which began with this consonant, in his French Grammar (1550). Gilles Beys, printer in Paris, imitated him in 1584. In regard to the separation of words beginning with the two letters, in dictionaries, the editors of the French *Grande Encyclopédie*, printed in 1765, did not dare to make it; and English dictionaries, even at the present day, are too often disfigured by the mixing together of *I* and *J*, as well as *U* and *V*. The *Encyclopédie Moderne* calls *j* a *lettre proprement Française*. The other nations adopted it from the French. The Romans, in inscriptions and legends of medals, wrote all words which we write with a *j*, as *Jupiter*, *Justinus*, with an *i*, as *Iupiter*, *Iustinus*. Yet the

character *j* existed several centuries before the fall of the Roman republic. The Greeks had it not.

JABLONSKY; the name of several learned Germans.—*Daniel Ernest* was born at Dantsic, in 1660; became a minister in Magdeburg; in 1686, rector of the gymnasium at Lissa; in 1690, pastor in Königsberg; and went afterwards to Berlin, where he died, in 1742, being then bishop or senior of the Bohemian Brethren in Prussia (Proper) and Great Poland. He endeavoured to unite the Lutherans and Calvinists. Through queen Anne of England he received the dignity of doctor of divinity, from the university of Oxford. He published a number of sermons and several learned works on theology; among which are his *Biblia Hebraica cum Notis Hebr.* (Berlin, 1699); *Jura et Libertates Dissidentium in Polonia; Oppressorum in Polonia Evangel. Desideria*.—His brother, *John Theodore*, was likewise an author.—*Paul Ernest*, son of John, born at Berlin, 1693, was appointed professor of theology, and preacher at Frankfurt on the Oder, where he died, 1757. He wrote many works: *Disquisitio de Lingua Lycaonica* (Berlin, 1714, second edition, 1724); *Exercitatio de Nestorianismo* (ib., 1724); *Remphax Ægyptiorum Deus ab Israelitis in Deserto cultus* (Frankfort, 1731); *Dissertationes VIII. de Terra Gosen* (ib., 1715, 1736, 4to.); *Pantheon Ægyptiorum sive de Diis eorum Commentarius* (3 vols. ib., 1750—52); *De Memnone Græcorum et Ægyptiorum* (ib., 1753, 4to., with engravings); *Opuscula ed. J. G. Waler* (4 vols. Leyden, 1804—1813).—*Charles Gustavus*; a naturalist, born 1756, and died at Berlin, 1787, while secretary to the queen of Prussia; particularly known by the work commenced by him—*Natural System of all known native and foreign Insects*, as a Continuation of Buffon's Natural History—of which, however, he executed only vol. 1, the Beetles (Berlin, 1783), and vols. 1 and 2, the Butter-

fies (lb., 1683 and 1784). It was continued and finished by T. F. W. Herbst.

**JACAMAR** (*galbula*, Brisson). These brilliant birds are nearly connected with the kingfishers, from which, however, they differ by the form of their beak and feet. Their plumage has a metallic lustre, which it is almost impossible to imitate by art. They live in damp woods, and feed on insects. Most if not all the true jacamars, are natives of tropical America. There are several species found in India, having a shorter and stouter beak, to which Le Vaillant has given the generic name of *jacamerops*.

**JACK.** Mr Tyrwhitt, in his note upon v. 14,816 of Chaucer, says, "I know not how it has happened that, in the principal modern languages, *John*, or its equivalent, is a name of contempt, or at least of slight. So the Italians use *Gianni*, from whence *zani*; the Spaniards *Juan*, as *bobo Juan*, or foolish *John*; the French *Jean*, with various additions; and in English, when we call a man a *John*, we do not mean it as a title of honour. Chaucer, in v. 3708, uses *Jack-fool* as the Spaniards do *bobo Juan*, and I suppose *Jackass* has the same etymology." To this we will add, that the Germans use *Hans*, their nickname for *John*, for the same purpose; as, *Hans narr*, Jack-fool; *dummer Hans*, stupid Jack, &c. Pennant also, in his *Zoology* (iii. 342), remarks, "It is very singular that most nations give the name of their favourite dish to the facetious attendant on mountebanks. Thus the Dutch call him *Pickle her-ring*; the Italians *Macaroni*; the French, *Jean pot-age*; the Germans, *Hans wurst*, i. e. *Jack-sausage*; and the English give him the title of *Jack-pudding*."

The name of *Jack Ketch* seems to have become permanently generic for the common hangman.

The names of the *boot jack* and *roasting jack* are derived by Watts, in his *Logic*, from the circumstance that boys (who of course often had the common name *Jack*) were formerly employed to pull off boots and to turn spits; and when instruments were invented for these purposes, the common name of the boys was given to them in sport.

The common *roasting jack* consists of a double set of wheels, a barrel, round which the rope fastened to the pulleys is wound, a perpetual screw, and a fly. Occasionally there is added a multiplying wheel, round which the rope is first wound, before it passes upon the barrel. As this wheel is considerably larger than the barrel, the jack is proportionably longer in running down.

The *smoke jack* is moved by a fan placed horizontally in the chimney, and, being carried about perpetually, by the draught of the fire, requires no machinery for winding it up. Spiral flyers, coiling about a vertical axle, are sometimes used, and occasionally a vertical wheel, with sails like the float-boards of a mill.

*Jack* is also used for a coat of mail, and likewise for the garment worn over it.

*Jack boots* are large boots to cover and protect the legs.

*Jack* is also used for a horse or wooden frame to saw timber upon; for a great leathern pitcher in which drink was formerly put; for the small bowl that serves as a mark at the exercise of bowling; and for a young pike.

*Jack*, in sea language, is a sort of flag displayed from a mast erected at the outer end of a ship's bowsprit.

**JACKAL** (*canis aureus*, Lin.) There is no essential difference between the dog and the jackal, as they will breed together, producing prolific offspring. This species of quadrupeds is very widely extended throughout the warmer regions of the old world. It is found in Africa, from Barbary to the Cape of

Good Hope; in Syria, in Persia, and throughout all southern Asia. It is about two feet and a half in length, and about fourteen inches in height; the length of the tail, about eight inches; the eyes are small; the tail bushy; the head, neck, sides of the belly, thighs, and outer part of the limbs and ears, of a dirty yellow; underneath and on the sides of the lower jaw, and the end of the upper lip, under the neck and belly, and the inner surface of the limbs, somewhat white; the back and sides of the body, to the tail, of a grey-yellow, which is abruptly divided from the surrounding lighter colours; the tail, a mixture of yellow and black hair, the black prevailing at the extremity; the muzzle and nails black. All travellers who have been in the countries where the jackals are found, mention the ravages they commit, and their dreadful nocturnal cries, which, answered as they are by all their companions, produce the most appalling effects. Their voice has often been described as more terrific than the howl of the hyæna or the roar of the tiger, and deprives of repose all hearers who have not been long accustomed to it. The jackal can be tamed with tolerable facility, but always preserves an extreme timidity, which he manifests by concealing himself on hearing the slightest unusual sound, or at the sight of a person whom he is unaccustomed to. This fear is different from that of most wild animals, and he closely resembles a dog in fear of chastisement, for he will offer no resistance when he is touched. The most celebrated commentators on the Bible consider that the 300 animals, to whose tails Samson tied firebrands, were jackals. This opinion is grounded on the great number of these animals found in Syria, and on their assembling in large packs; whereas the fox is comparatively scarce, and is always solitary. The jackal has been popularly termed the *lion's provider*, from an opinion that it rouses the prey for that quadruped. The fact appears to be, that every creature in the forest is set in motion by the fearful cries of the jackals; the lion and other beasts of prey, by a sort of instinct and the call of appetite, attend the chase, and seize such timid animals as betake themselves to flight at the noise of this nightly pack. Buffon gives the following character of the jackal: "It unites the impudence of the dog with the cowardice of the wolf, and participating in the nature of each, is an odious creature, composed of all the bad qualities of both."

**JACKDAW** (*corvus monedula*, Lin.) This bird is one of the crow kind, and has been celebrated for its copious vocabulary and garrulous habits. It is about thirteen inches in length, with black bill; white eyes; the hinder part of the head and neck of a hoary-grey colour; the rest of the plumage, of a rich glossy black above; beneath dusky; the legs are black. The jackdaw is very common in Britain, where it remains the whole year; in France, and various other parts of the continent of Europe, it is migratory. It is gregarious, frequenting old towers and ruins, where it builds its nests. The female lays five or six eggs of a greenish colour, and is exceedingly assiduous in her attention to her young after they are hatched. These birds principally live on worms and the larvae of insects, but they also appear to be capable of taking fish. Bingley states that he was witness to an instance where a jackdaw was very successful in this mode of obtaining food. It is easily tamed, and may be taught to pronounce many words with little difficulty. The jackdaws are notorious thieves, not only stealing food, but appearing to be particularly fond of shining substances, as money &c., and have frequently occasioned suspicions of theft in persons who were afterwards proved innocent. So far do they carry this propensity, that they

have been known to carry off spectacles from persons who were reading.

**JACKSON**; the name of numerous counties and towns in the United States of America. The Jacksons, Jacksonvilles, Jacksonowns, Jacksonboroughs, &c., are chiefly in the Western States, and have mostly received their names since general Jackson's successful defence of New Orleans.

**JACKSON, WILLIAM**, a musical composer, was born in 1730, at Exeter, and received the rudiments of a classical education, with a view of his following one of the liberal professions. His taste for music displayed itself, however, so decidedly while he was yet a youth, that his friends were induced to place him under Traversa, the organist of the cathedral belonging to his native city. Having passed two years in the metropolis, where he availed himself of the instructions of some of the best musicians of his day, he returned to Exeter in 1750, and, succeeding eventually to the situation of organist, there passed the remainder of his life. In 1782, he published two octavo volumes, containing *Thirty Letters on various Subjects*, which went through three editions. He also printed, in 1791, some *Observations on the present State of Music in London*. His musical compositions are still justly popular, and are distinguished by chasteness of conception, ingenuity, and truth of expression. He died in 1804.

**JACOB**; the son of Isaac, and the grandson of Abraham; the last of the patriarchs, and the true ancestor of the Jews. In his mother's womb, he quarrelled with his brother Esau, whom he held by the heel as he came into the world. Hence his name, *Jacob* (heel-holder). Being the object of maternal indulgence, he was gentle and weak, and was disposed to advance himself by cunning rather than by courage. While a youth, he purchased of his brother (who returned home weary and hungry from the chase) his birthright for a mess of pottage, and, at the instigation of his mother, disguised like Esau, he obtained from the blind and infirm Isaac, the blessing of the first-born, on which depended the inheritance of the promise made to Abraham. He was obliged to flee from the anger of his brother; and, on his way to Laban, his mother's brother, he received the first intimation that the inheritance of the divine promise had devolved on him. He saw in a dream a ladder reaching from heaven to earth, and angels ascending and descending upon it, and the guardian God of his family, whom he supposed to be in the tent of Isaac, conferred on him the blessing of Abraham. After this vision, he firmly believed that Jehovah had chosen him to be the father of a great people. This belief, and the love of Laban's daughter Rachel, were his consolation during the bitter years which he was obliged to devote to the flocks of his uncle, in order to obtain his mistress. After having served seven years, he found in his veiled bride Leah (whom he did not love), the elder sister of Rachel, and in order to obtain Rachel, he was obliged to serve seven years more. Besides these fourteen years, he served six years for a herd, and, after having repaid the deceit of his father-in-law, by an artifice which much increased his possessions (*Gen. xxx. 27—43*), he departed privately with his wives and children, and property. Laban pursued him, and scarcely had Jacob appeased him, when, after twenty years' absence from home, he met the followers of his brother Esau. In this dilemma, Jacob sought relief in prayer, and a man wrestled with him all night until the morning dawned. Jacob came off victorious, though with a lame thigh, and he was called by his guardian God, whose hand he saw in this event, *Israel*, i. e. the *hero of God*, in remembrance of the contest. This afterwards became the

title of his house, and the Hebrews (q. v.), from him, are called *Israelites*, i. e. *strong and stout*. Jacob now went forth with more confidence to the much dreaded meeting with his brother, and appeared his rough, but noble nature, by his submission. His return to his father's tent made a great change in the character of Jacob. His cunning and avarice appeared to him, as it has since to his descendants, the necessary means for making his way through the difficulties of his dependent situation. Now that he had become rich, and uncontrolled master of his possessions, he showed himself worthy of his father; and if he did not resemble Abraham in greatness and power, he did in piety and tender love for his children. Yet through them he was destined to suffer the greatest afflictions. As he had two lawful wives, and, according to the custom of the country, two concubines (Bilhah and Zilpah), with twelve sons and a daughter, he could not escape domestic troubles and dissensions. His beloved Rachel died soon after his return home. A prince of the Hivites violated his daughter Dinah, and his sons revenged the injury by plundering and murdering that people. He could neither prevent this nor the incest committed by Reuben with Bilhah. Humiliation and repentance for the sins of his youth seemed now his lot. But his greatest affliction was the loss of his favourite son Joseph, whose brothers, full of envy against him, had sold him to a caravan of Ishmaelite merchants, and brought his coat, stained with blood, to their father, as a proof that he had been devoured by wild beasts. This event decided the destiny of the house of Israel. Joseph (q. v.) subsequently became, in consequence of his wisdom, the highest officer at the court of Pharaoh, and, in this capacity, recognised his brothers when they came to Egypt to purchase corn, pardoned them, and called the whole house of his father out of Canaan to dwell in a fruitful region of Egypt. The aged Jacob again embraced his favourite son, whom he had, for many years, supposed dead, and enjoyed, under his protection, a happy old age. A short time before his death, Israel collected his sons around his bed, and pronounced over each of them a blessing full of prophetic anticipations of the characters and future fate of his descendants. He bestowed the privileges of the first-born on his fourth son, Judah, Reuben having forfeited them by the crime above-mentioned, and Simeon and Levi by the murder of the Hivites. To his grandsons, Manasseh and Ephraim, the sons of Joseph, he gave privileges equal to those of his sons. The descendants of Judah composed the most powerful tribe among the Hebrews, who were hence called *Jews*. In conformity with Jacob's last will, Joseph buried him in the tomb of Abraham, before Mamre in Canaan.

**JACOBI, JOHN GEORGE**, a German poet, was born at Dusseldorf, 1740, studied theology, in 1758, at Gottingen, and, later, in Helmstadt, then became professor of philosophy and eloquence in Halle, where he published the *Iris* (1774 to 1776, three volumes), a periodical for ladies. Joseph II. appointed him professor of belles-lettres in the university of Freyburg in the Brisgau (1784). From 1795 to 1800, he published the *Uebersüssiger Taschenbuch*, and from 1803 to 1807, the *Iris*. An edition of all his works was published at Zurich, in seven volumes. He died Jan. 4, 1814.

**JACOBI, FREDERIC HENRY**; a distinguished German philosopher, younger brother of the preceding, born at Dusseldorf, in 1743. His father intended him for a merchant. He early showed a religious turn, which, on his being sent to Frankfort as an apprentice, exposed him to ridicule. He therefore soon went to Geneva, where his mind was cultivated by intercourse with the most distinguished scholars, and

by the study of the best productions of French literature. In consequence of the taste he had acquired for letters, he returned home with reluctance, in order to take charge of his father's business. He soon after married a lady of Aix-la-Chapelle, adorned with the finest qualities of mind and person. After having conducted the business for some time, an appointment at court was conferred on him, which relieved him from any further mercantile engagements. His brother introduced him to an acquaintance with Wieland, and he soon appeared as an author. In 1779, he was called to Munich, but soon fell into disgrace on account of his exposure of the abuses of the Bavarian system of customs. More of his writings appeared at this time, and his summers were spent at Pempelfort, in a charming country seat, which he had built. But the death of his wife interrupted this tranquil and happy life. He now applied himself, with renewed zeal and industry, to his studies, encouraged by a journey to Weimar, where he saw Goethe again, and became acquainted with Herder. His letters on Spinoza appeared in 1786, from which time his mind was much occupied with metaphysical speculations on religious subjects. As the influence of the French Revolution extended itself, he went from Dussekendorf, in 1794, to Holstein, the native country of his father, and lived part of the time at Wandsbeck and Hamburg, and partly at Eutin. In 1801, he went to Paris, and returned to Eutin, where he intended to end his days; but, in 1804, having received an invitation to the new academy erected at Munich, he was induced to accept it on account of the loss of a considerable part of his fortune by the misfortunes of his brother-in-law. He was made president of the Bavarian academy, and retired from office at the age of seventy years, retaining, however, his salary. His last days were occupied with the collection of his works. He died March 10, 1819.—Jacobi's works are rich in whatever can attract elevated souls, yet the opinions respecting him are very different. He has been called the *German Plato*, on account of the religious glow in his metaphysical writings. But, whatever opinions may be entertained respecting his philosophy, all admit that he was a most exemplary man, truly revered by all who had the good fortune to be acquainted with him. His philosophy, among other traits, is characterised by an aversion to systems, all of which, he maintains, when consistently carried out, lead to fanaticism. His views were opposed to those of the dogmatic Mendelssohn, the critical Kant, the idealizing Fichte, and the pantheistic Schelling. Of his works, we mention Edward Allwill's *Collection of Letters* (Königsberg, 1792); *Woldemar*, a philosophical novel (Königsberg, 1794); *Letters on the Doctrine of Spinoza* (Breslau, second edition, 1786); his work on Mendelssohn's charges against these Letters (Leipzig, 1786); David Hume on Belief, or Idealism and Realism (second edition, Ulm, 1795); *Sendeschreiben an Fichte* (Hamburg, 1799). His works were published by Fleischer (Leipzig, in six volumes), to which is to be added his *Correspondence* (published by Fr. Roth, in two volumes, 1825 and 1827). Schlegel's review of Jacobi's *Woldemar* (in volume 1, page 1 to 46 of *Charakteristiken und Kritiken*) deserves the attention of the student of Jacobi. His dispute with Schelling was carried on with considerable animosity. It gave birth to Schelling's *Denkmal der Schrift von den Göttlichen Dingen* (Tübingen, 1812).

JACOBINE MONKS. See *Dominican*.

JACOBINS. The club of the Jacobins is one of the most surprising phenomena in history. That, in a civilized nation, so large a body of men could be found, uniting rare energy with execrable vice, political madness, and outrageous cruelty, committed

always in the name of virtue, is an historical phenomenon of the highest interest. It is of great importance for the historian to know this period, but it requires extensive study to understand thoroughly the proceedings of this club and their causes. In the article *France*, division *France before the Revolution*, the deplorable state of that country before that event is set forth. The great mass of the people was totally uneducated and grievously oppressed, and the whole political organization so rotten, that, once touched, it necessarily fell to pieces. The religious state of the country was not unlike the political. The church was too corrupt to withstand the bold attacks of reformers, enthusiastically devoted to their new systems. The court, and the higher classes in general, had for centuries set an example of gross immorality to the people, which had produced its natural effect in vitiating their character. The opponents of the church and aristocracy, who came into power upon the overthrow of the old order of things, were wholly unacquainted with the practical administration of government, and had nothing to guide them but general philosophical principles. Under these circumstances, the excesses which the French people committed, when left to govern themselves, are matter of sorrow rather than wonder. The Jacobin club had the following origin. Before the breaking out of the revolution, particularly after the American revolution, political societies were formed in Paris (where *bureaux d'esprit*, or associations for the discussion of literary subjects, had previously been common), modelled after the London debating societies, in which political subjects were debated, and the members of which were almost universally inclined to republicanism. The example of Great Britain and the United States of America was before the French. Some distinguished members of the first national assembly, principally from Bretagne, and commoners, on account of the opposition of the privileged classes and of the court party, saw the necessity of acting in concert, and of preparing for the measures of each day by previous deliberations; for which purpose they assembled in the evenings at the house of one of their body, or held a *cercue*, as we should term it. Among them was count Mirabeau, who, when the Jacobins subsequently passed the constitutional limits, seceded from them, and even denounced them. The same was the case with La Fayette. But, when both perceived that they could effect nothing in the national assembly without the consent of the Jacobins, they returned to the club, in order to influence the assembly by this means. Meanwhile Mirabeau died, April 2, 1791. The monarchical club, under Clemon-Tournerre, which opposed the arrogance of the Jacobins, was menaced by the mob, Jan. 27 and March 28, 1791, and finally dispersed by violence. The Jacobins now became sensible that the pike-men were their real auxiliaries. The flight of the king still more exasperated the most zealous of them, and, after the close of 1792, their principles were so exaggerated, that the original Jacobins were now expelled from the club as royalists or *modérés*; for instance, Fréron, Legendre, and others. Whatever was resolved upon at these and similar meetings, was supported by all the members of the club in the national assembly. The Bretons soon admitted a greater number, in order to carry through their opinion with more certainty. Thus the members became pledged to a certain law of conduct on each question, before it was brought forward in the general assembly of national representatives, and a party was formed which, in the assembly, always voted together. Besides the intolerance towards those of different opinions, which afterwards degenerated into political proscription and

persecution, personal motives had a powerful influence on the members. The private house in which they first assembled soon became no longer capable of containing the number of *friends of the revolution*, as they at first called themselves; they therefore chose for their place of meeting, at the end of 1789, the church of a suppressed Jacobin monastery, in the street St Honoré, in the centre of Paris. This was the origin of the name *Jacobins*, though they continued for a time to term themselves the *friends of the constitution*. Their external symbol was a red cap: afterwards, a dirty dress was the token of their *sansculottism*. The revolution proceeded rapidly, and, in all the large and small towns, and, in 1793, even in some villages, similar societies were formed, which the mother society at Paris rendered dependent on itself; and thus it became enabled to direct the public opinion of all France. In 1792, the leading club, in which sometimes more than 2500 members convened, kept up a correspondence with more than 400 affiliated societies, and the number of Jacobins in all France was estimated at about 400,000. It is unnecessary to designate the principal members of the mother society, as it is well known that all men of any note, who played, or wished to play, a part in the revolution, were Jacobins. The influence which Paris, more than any other European capital, exerts over the country, greatly increased the power of the Jacobins there. Whatever they agreed to propose in the national assembly, however daring it might be, they were sure of the assent of the other popular societies, from their connexion with the principal members of the other clubs. This naturally induced ambitious individuals, even of the higher classes, to join it, and to renounce the privileges of their order, with a view of obtaining greater consequence in the new state of things. The exaltation of the revolutionary spirit was so rapid, and so much dissension was excited among the revolutionists by the intrigues of the opposite party, aided by foreign influence, that the boldest characters formed a smaller club, which, from its place of meeting, in the church of the Franciscan friars, was called the *club of the Cordeliers* (q. v.), and which was joined by all the *exaltés*, as they were denominated. This was the proper field for the daring Danton, and here the monster Marat, from 1789 editor of the *Friend of the People*, found credence to his wild and criminal maxim, that the end justifies the means. Here *sansculottism* was fully developed in its violence, its hatred of religion, and contempt of morality and law. The circumstances of this agitated period required the boldest measures, and the most unscrupulous men were of course the most daring. The ex-Capuchin Chabot, Anacharsis Cloots, Collot d'Herbois and others carried their temerity to the highest pitch in their public speeches. As the Jacobins and the combined Orleanists and Brissotists, who laboured to overthrow the crown, the former for the duke of Orleans, and the latter to establish a republic, took the right side of the apartment of the national assembly; the members of the other popular societies placed themselves on the left. Few, however, attended the assembly for the purpose of deliberation, their purpose being only to vote for what had already been agreed upon. The Jacobins and other similar clubs therefore adopted the forms of the national assembly. Presidents and secretaries were chosen, the order of the day determined, resolutions passed by a majority of votes, and seats or tribunes assigned to the audience. To such popular societies the national assembly gave a legal existence in the constitution which it drew up. From this time the Jacobin club exercised a perfect tyranny over it. Whenever the Jacobins were not sure of the majority in the assembly, their followers filled the tribunes of

the hall of the deputies, and, by their disorderly conduct, and frequently by loud threats against individual members, discouraged all opinions or resolutions which did not coincide with those of their party. This was especially the case with respect to the king, against whom the Jacobins and Cordeliers, particularly since 1791, had circulated the grossest calumnies. The democratic Cordeliers therefore joined with the Orleans party, which laboured unwittingly for the objects of the republicans, by uttering the most slanderous charges against the king and queen, and by having the lowest of the rabble on their side, and partly even in their pay. This was the reason that a popular insurrection opposed with violence, April 18, 1791, the departure of the king to St Cloud, where he wished to spend the Easter holidays. Even the national guard, in disobedience to the order of the commander, La Fayette, refused to escort the king, who was already seated in the carriage, through the multitude. The party of the king's enemies was the more powerful, as the more moderate members had withdrawn from the Jacobin club, and the Cordeliers had again formed a junction with it, June 21. The latter, however, continued their meetings at the Capuchin monastery, in order by being prepared and united, to manage the deliberations of the Jacobin club. After the flight of the king, June, 21, 1791, they made use of the popular hatred against him, and loudly demanded the deposition of Louis and the erection of a republic. But the more moderate party, who for a long time were called *Fevillants*, from the place of their meeting, opposed their designs, and the insurrection of July 15—17, 1791, failed of its object. But, on the other hand, the retired deputies of the constituent assembly failed of dissolving the Jacobin club, before the close of its own session. When the legislative assembly, the new delegates to which had been chosen almost entirely under the influence of the Jacobins, had opened its session, Oct. 1, 1791, the friends of the king, among whom the Girondists (q. v.) were conspicuous for talents, maintained for some time the majority against his enemies (the Cordeliers), even in the Jacobin club, so that the leaders of this club—Danton, Marat, Robespierre—were obliged to disguise their projects. But their influence was argued by the circumstance that the mayor of Paris, Pethion, and with him the municipal authorities of Paris, composed of Jacobins, espoused their cause. Even the moderate Jacobins, and among them some of the royal ministers, inclined to the party of the enemies of the king. Thus, by the popular insurrection of May 29, 1792, they obtained a resolution of the national assembly, requiring the king to disband the body guard, decreed to him by the first assembly of the nation; but they were unable, by the insurrection of the suburbs of St Antoine and St Marcell of June 20, to compel the king, whom only four Swiss grenadiers protected, against the attacks of the furious multitude, to revoke the veto that he had affixed to two resolutions of the national assembly; but they gained a majority of the assembly to protect from condign punishment the authors of this tumult—Pethion, Manuel and others. Meanwhile, the Jacobins, offended by a note of the Austrian minister of state, prince Kaunitz, had effected, against the will of the Cordeliers, a declaration of war against Austria, April 20, 1792; and Jacobinism soon displayed its influence in the selection of generals, in the proclamations, and in the disposition of the armies, so that neither La Fayette, in 1792, nor Dumouriez, in 1793, could excite the army against the Jacobins. But all the occurrences subsequent to June 20—the arrival of the confederates from Brest, Marseilles, and other places, July 13; the attack of the Tuile-

ries on the night of Aug. 9; the carrying of the king and his family as prisoners to the Temple by the municipal officers of Paris, Aug. 13; the massacre of the prisoners, Sept. 2-7, who were murdered without trial; the choice of new members of the convention, in September of the same year; all the acts of the national convention, from Sept. 21, 1792, to May 20, 1795, even after the ninth Thermidor (July 28, 1794), especially the execution of the king; and, finally, the establishment of the revolutionary tribunal, March 9, 1793—may be regarded as more or less effected by the Jacobins. The Jacobins were divided into two parties; agreeing as to the end, they thought differently concerning the means. Tallien, who overthrew Robespierre, was as true a Jacobin as the latter was. The enthusiastic suspected the moderate. The victory was long doubtful. Finally, the moderate were vanquished. The genuine republicans—the Girondists, or the party of the Plain—were subdued May 31 and June 2, 1793, by the more violent Jacobins, or Mountain party.\* These again were governed by the Maratists or Cordeliers, who ruled in the Jacobin club with iron sway, under the duumvirate of Robespierre the Incorruptible, and Danton, the formidable creator of the revolutionary tribunal, with Marat for an assistant. On the other hand, the moderate party was victorious in the provinces, at Marseilles, Bourdeaux and Lyons. The south took up arms against the Jacobin convention. But the Mountain party succeeded in depriving the convention of power, and, on the proposal of Billaud de Varennes, the constitution gave way to the reign of terror (from August, 1793, to July, 1794). But the triumph of Jacobinism was the establishment of the committee of safety which completed the reign of terror under Robespierre, and, by means of the revolutionary armies, suppressed rebellion with fire and sword in Vendée, and in the south. Cities like Lyons, Marseilles, Toulon, were to be demolished, and all Vendée to be transformed into a great field of blood and ashes. Fourteen armies, the guillotine and an iron stubbornness, finally won the victory for the system of terror. France, it was said (and, for the moment, it was true), wanted only iron and bread. Not till the dictator Robespierre had perished under the guillotine, July 28, 1794, and with him 104 of his partisans, together with the municipal council of Paris, did the convention recover its authority. It denied to all popular assemblies any interference with the government. In vain did the Jacobin club attempt an insurrection, Nov. 11, 1794, in order to tear the monster Carrier from the sword of the law. This was its last struggle. The citizens of Paris surrounded the hall of the Jacobins till the military arrived and dispersed the meeting: Legendre closed the hall. The finishing stroke was given to this victory by the decree of the convention, that the Jacobins should not renew their meetings. But their principles survived their defeat. They took advantage of the general

famine to stir up a rebellion, April 1, and May 20-23, 1795. The last one brought the convention to the verge of dissolution. A member named Fernal was murdered; all the rest took to flight, except fourteen of the former Mountain party, who immediately passed a number of decrees conformably with the will of the Jacobins. Not without difficulty were the Paris committees able to quell this bloody tumult. By the disarming of the *faubourg St Antoine*, the Jacobin party lost its principal support, as it had already lost its boldest orators—Barre, Collot d'Herbois, and Billaud de Varennes, who was transported to Cayenne, April 2, 1795. Of the fourteen deputies who had desired to restore the system of terror, six killed themselves after their condemnation, July 17, among whom was the talented Romme. Even in Toulon, the Jacobins were at first victorious; but the troops of the convention occupied the city again, May 29. Thus the Jacobins prepared, May 20, their own downfall. Courts-martial condemned them every where to death as terrorists, and the fury of the prevailing moderate party, as it was called, outstripped the demands of justice. The constitution soon after drawn up, June 23, 1795, and the directorial government, which was actually commenced October 27 of the same year, suppressed the last struggles of the Jacobins and terrorists, till the execution of Babeuf and his associates, May 25, 1796. But, when the constitution of 1795 seemed annihilated by the victory of the directors, Berna, Rewbel, and Laréveillere, on the 18th Fructidor (September 4, 1797), Jacobinism arose anew. It sought to penetrate into the offices of the legislative councils, but found nowhere a point of union. Many of the party soon denounced republicanism. Most of them became the friends of Napoleon.

Much has been written respecting the Jacobins, and the supporters of old institutions in Europe have been in the habit of branding with the name of Jacobinism every attempt to promote the cause of liberal principles. See, for instance, Robins's *Proofs of a Conspiracy against all the Kingdoms and Governments of Europe*, &c. (fourth edition, London, 1798); and the prolix but empty accusation of the abbé Barruel, founded on Robins's work, and on similar emissions of party spirit, and directed against philosophy and secret societies in general—*Mémoires pour servir à l'Histoire du Jacobinisme* (five volumes, Hamburg, 1800); also the *Lettres d'un voyageur à l'abbé Barruel, ou nouveaux Documents pour les Mémoires* (London, 1800), written in a similar spirit. To learn the true character of the Jacobins, the debates of the national assembly should be studied.

In 1814, the violent ultras (q. v.) were called *white Jacobins*; whilst, in turn, the adherents of Napoleon were called *red Jacobins*. As the anarchy, before the revolution of 1792, called the people, in contempt, *la canaille* (q. v.), so, before the revolution of 1830, every liberal, however loyal he might be, was called a *Jacobin*. Immediately after the revolution of 1830, popular societies were formed, or at least appeared openly, two of which soon gave uneasiness to government, and their proceedings were subjected to a judicial investigation. The names of these societies were *L'ami du peuple* and *Aide-toi et Dieu t'aidera*. They were abolished.

JACOBITES; Monophysite Christians in the East, who, oppressed and dispersed amidst the religious contests of the sixth century, were united by a Syrian monk, James (Jacobus) Bardai, or James (578), during the reign of Justinian, into a distinct religious sect. Out of gratitude to their founder they called themselves by his name, and had in Syria, Egypt, and Mesopotamia, numerous communities, with bishops and patriarchs. On account

\* The common fate of parties in periods of great popular commotion, whose exasperated feelings lead them to put the worst construction on each other's doings, was never more clearly exhibited than in the case of the Girondists and Jacobins. Whilst the Girondists accused the Jacobins of being in the pay of foreigners, of having admitted the British into Toulon, &c. (the *Mémoires* of Brissot are full of these charges), the Jacobins accused the Girondists of being for the king, &c. It must be acknowledged that the Girondists—as virtuous a party as perhaps ever existed—were merely theoretical politicians, and never could have saved France, in the state in which it then was. They made the virtue of the nation the basis of their political edifice—a mistake which never could have been more serious than at that very time. Both parties, it was evident, could no longer exist together.

of their separation from the Catholic church, they were glad to obtain the protection of the Saracens, who possessed themselves of the East in the middle of the seventh century. The Egyptian Jacobites, having abused the indulgence granted them by the Saracens, suffered a persecution in 1352, after which, being much diminished in numbers, and restrained in the exercise of their religion, and being gradually separated from their Asiatic brethren, they formed a distinct sect, which exists at this day in Egypt, under the name of *Copts* (q. v.). Internal disputes and political causes occasioned a separation, about the same time, of the Abyssinian and Armenian Monophysites, from the great body of the Jacobites; and, after numerous attempts by the popes to bring them over to the Roman Catholic church, they still maintain themselves as an independent sect in Syria and Mesopotamia, and consist of about thirty or forty thousand families. These Jacobites are governed by two patriarchs, appointed by the Turkish governors, one of whom, with the title of the *patriarch of Antioch*, has his seat at Diarbekir or Aleppo; the other, the Syrian, resides in the monastery of Saphran, near Mardin, and governs the Mesopotamian societies. Circumcision before baptism, and the doctrine of the single nature of Christ (hence their name *Monophysites*), are common to them with the Copts and Abyssinians; but, in other respects, they deviate less than the other Monophysites from the discipline and liturgy of the orthodox Greek church.

*Jacobites.* In Great Britain, this name was applied to the adherents of James II. (who was deposed 1688) and his posterity, and in particular to the non-jurors, whose separation from the English church consisted merely in their refusal to take the oath of allegiance to the new king; and who had their own meetings, for the purpose of praying for the Stuart family. They were most numerous in Scotland, and were very much lessened by the defeat of the Pretender (1745); and when, at length, he died at Rome (1788), they began to pray for George III.

JACOBS, FREDERIC CHRISTIAN WILLIAM, was born at Gotha, in Saxony, 1764, studied theology in Jena, in 1781, and, in 1784, went to Göttingen, where he abandoned his theological studies, in order to devote himself to philology. In 1785, he became a teacher in the gymnasium of his native city, where he published several works, and, in conjunction with several learned friends, undertook the *Charactere der Dichter aller Nationen* (7 vols.), as a sequel to Sauer's *Theorie der Schönen Wissenschaften*, the continuation of which was prevented by the death and separation of the contributors. Among his other works are the following: *Bion and Moschus*, in 1795; in 1796 and 1797, *Exercitationes criticae in Scriptores veteres* (2 vols.). His *Emendationes in Anthol. Græc.* (1793) was followed by a reprint of the part of the *Analecta* of Brunck, which belongs to the Anthology, with indexes (Leipsic, 1794 to 1814, 8 vols.). His *Tempe* (Leipsic, 1803, 2 vols.) was prepared contemporaneously with his commentary on the Anthology, which he finished in 1803. Of his *Elementarbuch der Griechischen Sprache*, two volumes had appeared when he was appointed (1807) professor of ancient literature in the Lyceum in Munich, and member of the new Bavarian academy. In Munich, he completed the 3d and 4th vols. of his *Græc. Elementarbuch*, and, in three years, returned to Gotha, where he was appointed chief librarian and superintendent of the cabinet of coins. Here he made out a catalogue of the valuable library, and published the Greek Anthology, from the only MS. which has been preserved, under the title *Anthologia ad Fidem Codicis Vaticanæ edita* (Leipsic, 1813 to 1817). The number of his philological publications

is very great, besides several works of a different character, as *Allwin und Theodor, Rosaliens Nachlass, Die beiden Marien*, School for Women (7 vols., 1827), and *Tales* (5 vols., Leipsic, 1824—1827), &c.; and few writings are so well adapted, particularly for young females, as his. The first volume of his Greek Reader had passed through seven editions in 1819; and selections from the work have been introduced, as a text book, into Britain and America; in the latter, under the title of the Greek Reader, edited by E. Everett (2d edit., Boston, 1829). In connection with Döring, he also published a Latin Reader.

JACQUIN, NICHOLAS JOSEPH, baron of; a celebrated botanist, who was a native of Leyden. He was born in 1727, and studied medicine at Antwerp and Louvain. The emperor Francis I. sent him to the West Indies, to collect curious plants for the gardens of Schonbrunn. He commenced his voyage in 1754, and returned to Germany, after an absence of six years, with a rich store of plants from the Antilles, Jamaica, St Domingo and Curacao. He published, in 1760, an account of his researches, and the collections with which he had enriched the gardens of Schonbrunn, and of the university of Vienna, which were under his direction (*Historia Stirpium Americ.*). Two years after, appeared his catalogue of plants growing in the neighbourhood of Vienna, and, in 1773, a magnificent work, entitled *Flora Austriaca*, fol., with 500 coloured engravings. He engaged in the practice of medicine in the Austrian metropolis, and also occupied the professorships of chemistry and botany in the university of that city. He was created a baron in 1806. He died Oct. 24, 1817. A list of his numerous scientific publications may be found in the *Biog. Univ.* and *Biog. Nouv. des Contemp.*

JAFFA; the ancient Joppa, a town of Asiatic Turkey, in Syria, in the pashalic of Damascus, sixteen leagues N.N.E. from Ramé or Gaza; twelve leagues N.W. of Jerusalem, and twenty-two leagues S.S.W. of St Jean d'Acre, on a tongue of land advancing into the Mediterranean; lat. N. 32° 3' 25"; lon. E. 34° 46' 18". Jaffa is situated on a hill, and is surrounded with a strong wall of from 12 to 14 feet in height. The port is defended by two forts. There are several mosques, and three convents. Vessels cannot approach the city nearer than a quarter of a league, on account of the breakers. Several consuls of European powers reside here. Pilgrims who proceed to Jerusalem frequent this city much. It contains 3650 inhabitants. The environs of Jaffa produce fruits of the best quality, particularly fine and large oranges. The Greeks and Phenicians considered Jaffa as a very ancient place, and it certainly existed 1500 years before the Christian era. *Iapho* was the Phenician name. Joppa is mentioned several times in the Scriptures. During the crusades, Joppa became the capital of a small country of the same name. Saladin burnt it, but St Louis re-established it.

Jaffa is connected with two remarkable circumstances in the life of Napoleon: one, the bold exposure of his life by traversing the plague hospitals, and touching the poisonous sores, to give courage to his soldiers; the other, the "massacre at Jaffa." This place contained a garrison consisting of Turkish and other soldiers, in the employ of Djézar Pacha, when general Buonaparte attacked it. A breach was made in the walls, March 7, 1799, when, according to the rules of war, the Turkish commandant was called upon to surrender; instead of which, he cut off the head of the messenger. The fortress was taken and pillaged. Buonaparte, in his letter to the directory, 23d Ventose, year VII. (March 13, 1799),

says, "At five o'clock we were masters of the city, which, during twenty-four hours, was exposed to pillage and all the horrors of war, which never appeared to me so hideous." (See *Mémoires de Napoléon, écrits par le Général Baron Gourgaud*, vol. 2, p. 376.) Three thousand men, says the duke of Ro-vigo, in his *Mémoires*, were made prisoners, the greater part of whom were the same soldiers to whom life and liberty had been granted at El Arish, under the condition not to bear arms against the French within a year, and to proceed to Bagdad. At the same time, news was received that the Porte, after having put in irons all the French agents, had declared war against France, and assembled an army at Rhodes, which was to be sent to Egypt. To give liberty again to these prisoners, was to send recruits to the Turks; to conduct them to Egypt under an escort, would have weakened the small army under Buonaparte's command at Jaffa. A council of war was held, and it was determined that all should be put to the sword. Even Bourrienne, who had accompanied Buonaparte in the expedition to Egypt, states in his *Mémoires*, that the massacre of the remnant of the garrison of Jaffa was the result of the deliberations of two councils, at which M. de Bourrienne himself was present, and in which "horrible act of necessity," if he had been privileged to vote, he would have concurred, believing it to be justified by the scarcity of provisions, which were all required for the French army, and the smallness of its numerical force in the midst of a country where every individual was an enemy. The Egyptians were not, as has been often asserted, previously separated from the other prisoners. As to the poisoning those affected with the plague, M. Bourrienne, whose statements, however, cannot always be admitted unqualifiedly, says, that he knows that the order for poisoning was issued; but Napoleon, according to Las Cases, told him that no opium was administered. Las Cases also gives, as the result of his own inquiries in Paris, among the principal actors on this occasion, that the proposal was made by Buonaparte to the chief physician, who declined; that no order was given to administer opium; and that there was not a grain of it at this time in the army. *Mémorial de St. Helene*, Paris, 1823—4, page 268, et seq.

JAGONELLES. See *Poland*.

JAGEMANN, CHRISTIAN JOSEPH, librarian of the duchess Amelia of Weimar, was born 1735, in Dingelstadt, and destined by his Catholic parents for the cloister. Having escaped from the Augustine monastery, he was afterwards sent to Rome, as a penance. He lived there several years, and acquired that taste for Italian literature which made him a distinguished writer on the fine arts and literature of Italy. He is the author of a *Description of Tuscany*; a *History of Arts and Sciences in Italy* (3 vols. 8vo.); a *Magazine of Italian Literature* (8 vols. 8vo.); the *Life of Galilei*; an *Italian and German Dictionary* (2 vols. 8vo.); and an *Italian Grammar and Chrestomathy*. He died February 4, 1804.

JAGGERNAUT. See *Juggernaut*.

JAGO, Sr; the Spanish for *St James*. See *James, St*.

JAGO, Sr; one of the largest of the Cape Verd islands, and one of the best cultivated, and most fertile, is about sixty miles in circumference. The people in general are of a mixed colour, except the officers of government and most of the priests. Cotton is produced in abundance, and handsome goods are made of it, of which no small quantity is exported. The chief fruits of the island, besides a profusion of plantains, are grapes, citrons, lemons, oranges, musk and water-melons, limes, guavas,

pomegranates, quinces, custard-apples, papas, &c. The chief towns are St Jago and Praya. Lon. 22° 40' W.; lat. 15° 4' N.; population, 20,000.

JAGO DE CUBA, Sr; a town in the island of Cuba, near the south coast; lon. 76° 5' W.; lat. 20° 30' N. It is situated in the interior of a bay, on a river of the same name, about six miles from the sea, and was long considered as the capital of the island, but is much reduced from its former splendour. It is handsomely built, and contains a college, an hospital, a cathedral, two or three convents, and sixteen primary schools. It has a large trade, principally a sugar and tobacco. It has a good harbour, defended by a castle called *El Morro*. Population, as given in the *Cuadro Estadístico de Cuba* (Havana, 1825), is 26,738. Its situation is unhealthy.

JAGO DE COMPOSTELLA, Sr. See *Compostella*.

JAGO, Sr, or SANTIAGO; capital of Cuba. See *Santiago*.

JAGUAR (*felis onca*, Lin.) This name, having been applied to several different species, is apt to create some degree of confusion. The jaguar bears the same rank among the animals of the new continent as the tiger among those of the old. (In the whole upper part of its body, it is of a bright yellowish fawn colour, which passes, on the throat, body, and inside of the legs, into a pure white. On the ground, the head, limbs, and under surface are covered with full black spots, of various sizes, and the rest of the body with annular patches, either with a black point in the centre, or formed of small black spots arranged in a circular form. This animal is found in the swampy forests of South America, especially in the neighbourhood of large rivers, which he swims with great ease. Of his power of swimming, as well as of his extraordinary strength, the following circumstance, related by D'Azara, will give some idea:—A jaguar, after having attacked and destroyed a horse, carried the body of his victim to the bank of a broad and rapid river, about sixty paces distant, over which he swam with his prey, and then dragged it into the adjoining wood. Possessed of such tremendous powers, this animal is the dread of the inhabitants of the countries he infests. It is seldom, however, that he attacks the human race, though he will not shun man when he meets with him. His favourite prey appears to be the larger quadrupeds, such as oxen, horses, deer, and dogs, which he attacks indiscriminately, and in the same treacherous manner as the rest of his tribe, uniformly singling out the last of a herd as the object of attack. When he has made choice of a victim, he springs on its back, and, placing one of his paws upon the back of the head, whilst he seizes its muzzle with the other, twists its head round with a sudden jerk, thus dislocating its spine, and instantly depriving it of life. The jaguar is generally considered as untameable, and to maintain his savage ferocity even in the captive state; but this assertion is amply contradicted by facts. The inhabitants of South America hunt the jaguar in various ways, either with a pack of dogs or by means of the hunter; this latter mode, however, can only be employed upon plains or open grounds. The Indians are not hardy enough to attack this formidable creature single handed, armed with a lance of five feet a length, and their left arm enveloped in a sheep skin; by means of which, they frustrate the first onset of the furious animal, and gain sufficient time to plunge their weapon into his body, before he has time for a second attack. Notwithstanding the strength and ferocity of the jaguar, he is not a powerful opponent in the great ant-eater, although this latter animal has no teeth to defend himself; it

soon as the jaguar attacks the ant-eater, it lies down on its back, and suffocates or strangles him with its long claws.

**JAHN, FREDERIC LOUIS**; inventor of the modern system of gymnastics, born in 1778, in Pomerania, in the village of Lams, near Lenz. His father was a clergyman. He studied in Jena, Halle, and Griefswalde, and exerted himself much to suppress the *Landmanschaften* (combinations of the students, according to the sections of the country to which they belonged), which excited so much sectional feeling among them. (For an account of these *Landmanschaften*, see *Universities*.) In 1809, he went to Berlin, and became an instructor in a private institution. At that time, the French were masters of Germany, and the best means of preparing the Germans for a contest with their oppressors constantly employed the mind of Jahn and others of his countrymen. With the view of exciting patriotic feeling among the young men of Germany, he established, in 1811, his first gymnasium. No conversation was permitted in French, or in any language but their own; national songs were sung. Gymnastic exercises had long before been introduced into Schrepfenthal, by Gutsmuths; but Jahn first conceived the idea of making gymnasia national establishments for education. (See *Gymnastics*.) During the war which soon after broke out between Germany and France, the gymnasia were suspended; but when peace was concluded, in 1814, Jahn reopened his institutions, and exerted all his powers again to make them schools of patriotism. In the mean time, the liberal spirit which spread over the continent of Europe, found its way into the gymnasia. The German governments began to dread the effects of that love of freedom in the nation, which they had themselves used for the overthrow of the French. After the murder of Kotzebue, by the student Sand, the governments fearing, or professing to fear, the existence of secret combinations of a political character in the gymnasia, Jahn and many of his friends were arrested, and treated in a very arbitrary and illegal manner. In 1825, the tribunal at Frankfurt declared Jahn to be innocent. Several of his scholars were also imprisoned, and, after long confinement, liberated without trial.

**JAHN, JOHN**, born at Taswitz, in Moravia, in 1750, professor of theology in the university of Vienna, died in August, 1816. Jahn published, among other works, a Chaldaic and Syriac Grammar (Vienna, 1793); Arabian Grammar (1796); Biblical Archaeology (2 vols., ib., 1797 to 1800; 2d edit., ib., 1817 to 1818, part of which has been translated into English, under the title of the Hebrew Commonwealth, (Andover, 1828); *Elementarbuch der Hebräischen Sprache* (2 vols., 1799); *Arabische Chrestomathie* (1802); *Introductio in Libros Sacros Veteris Fœderis* (ib., 1804; 3d edit., ib., 1825); *Archæologia Biblica*, an abridgment, in Latin, of the larger work on Biblical Archaeology in German (Vienna, 1804; 2d edit., Vienna, 1814), translated into English (Andover, 1st edit., 1823; 2d edit., 1827); *Grammatica Hebraica* (ib., 1809); *Vaticinia Prophetarum, Commentarius criticus in Libros Prophetarum Vet. Testamenti*. (ib. 1815); Appendix to his theological works (1821).

**JAIL, or GAOL**; a prison or place of legal confinement. This word is formed from the French word *geole*, and that from the barbarous Latin word *gola, goala, gayola* (a cage); whence the Picards still call a bird-cage *gayolle*. For some remarks on the subject of prisons, see *Prison*.

**JALAP**, has received its name from being principally brought from the environs of Xalapa; though the plant which produces it is abundant in

other parts of Mexico, even in the immediate vicinity of Vera Cruz. It is much employed in medicine, as a very valuable purgative, and has been known in Europe since the year 1610. It is exported exclusively from Vera Cruz, to the amount of about 400,000 pounds annually. The plant is the *convolvulus jalapa* of authors, an herbaceous twining vine, having entire cordate or three to five lobed leaves, and large white flowers with purple veins. The root, which is the part employed, is very large, sometimes weighing fifty pounds.

**JAMAICA**; (from *Xaymaca*, the name given it by the aborigines), one of the West India islands, belonging to Great Britain, and the most considerable and valuable of her possessions in that quarter. It is of an oval form, about one hundred and fifty miles in length, and, on a medium, about forty miles in breadth; lying thirty leagues west of St Domingo. Long. 76° 45' W. lat. 18° 12' N. A lofty range of mountains, called the Blue mountains, runs through the whole island from east to west, dividing it into two parts, and rising in some of its most elevated peaks to 7431 feet above the level of the sea. On the north and south sides of these mountains, the aspect of the country is extremely different. On the north side of the island, the land rises from the shore into hills, which are more remarkable for beauty than boldness, being all of gentle acclivity, and commonly separated from each other by spacious vales and romantic inequalities. Every valley has its rivulet, and every hill its cascade. On the southern side of the island, the scenery is of a different nature, consisting of the stupendous ridges of the Blue mountains, of abrupt precipices and inaccessible cliffs, approaching the shore. The soil of Jamaica is in some places deep and fertile; but, on the whole, Edwards pronounces it to be an unfruitful and laborious country, compared with those which have been generally regarded as fertile. He calculates the island to contain 4,080,000 acres, of which not more than about 2,000,000 have been granted to individuals by patent from the crown. The island is well watered. There are about 100 rivers, which take their rise in the mountains, and run, commonly with great rapidity, to the sea on both sides of the island. None of them are navigable except for boats. Black river is the deepest, and has the greatest current. There are springs, both sulphureous and chalybeate, in different parts of the country. The climate of Jamaica on the plains is hot, the average heat from June to November inclusive, being 80° Fahr., and, in the colder season, from 70 to 80. On the higher grounds the heat is less. The year, as in all tropical countries, may be divided between the wet and dry seasons. Sugar, indigo, cotton, and coffee are the most important natural productions of Jamaica. Maize, or Indian, and Guinea corn, and rice, are also cultivated. The bread-fruit tree, with several other useful plants, has been introduced by the exertions of Sir Joseph Banks. The island also abounds with different kinds of grass, of excellent quality. The several kinds of kitchen garden produce, namely those edible roots and pulse which are in use throughout Europe, thrive well in the mountainous parts. There are also excellent vegetables of native growth. The other indigenous productions are plantains, bananas, yams of several varieties, calalue (a species of spinach), eddoes, cassavi, and sweet potatoes. Fruits are found in equal perfection and variety, and no country affords so magnificent a dessert. The mountains are also covered with extensive woods, containing excellent timbers, some of which are of prodigious growth and solidity; while others, as the well known mahogany, are well adapted for cabinet work. The indigenous quadrupeds of the island were the agouti, the pecare or

Mexican hog, the armadillo, the opossum, the raccoon, the musk-rat, the alco, and the monkey. The agouti perhaps remains, and the raccoon was numerous in the time of Sir Hans Sloane. The other animals are extirpated. Of the lizard, there are many varieties. The woods and marshes abound in great variety of wild fowl, some of excellent flavour. Parrots are still found in the groves; but the flamingo is nowhere to be seen. The limit of the miasmata and pestilential atmosphere, in this zone, is supposed to be at an elevation of about 1300 feet above the sea. At that height, the air is perfectly salubrious. The high district, called *Pedro plains*, on the south-west coast of Jamaica, is said, by Bryan Edwards, to vie with any spot on the surface of the globe, in the mildness of its temperature and the purity of its air. At the estate of Cold Spring, 4200 feet above the level of the sea, he thought the climate the most delightful he had ever experienced; the thermometer seldom falls below 56°, or exceeds 70°; and many English fruits, as the apple, peach, strawberry, &c., flourish there in perfection.

Jamaica is situated near the limits of the great volcanic region of South America, and it is, in consequence, liable to earthquakes. June 7, 1802, at mid-day, an earthquake destroyed the town of Port Royal. The convulsion lasted about three minutes, when the town sank several fathoms under water. The walls of the buildings may still be seen in calm weather. The heavy buildings throughout the island were thrown down, shattered mountains ruined many settlements, general sickness ensued, order and industry were at an end, and a mischievous confusion prevailed until the terror subsided; 3000 lives were lost by this visitation. Smart shocks are felt almost every year; in 1802, and again in 1816, they were more violent than usual. Hurricanes are more frequent, and, in many cases, more terrible and destructive than earthquakes. A succession of hurricanes desolated this and some of the neighbouring islands for seven years, beginning in 1780, with the exception only of 1782 and 1783. The first, in 1780, was much the most destructive. The amount of property destroyed exceeded 2,000,000 pounds sterling.

The grazing farms have lately increased much, and horned cattle are abundant. They feed on Guinea grass, which was introduced by means of seeds brought and dropped by birds, in the middle of the last century. The oxen are chiefly from the Spanish breed, small, but hardy. The sheep are said to have been originally African. The swine are smaller than those of Europe, and have short pointed ears. The pork is said to be much whiter and sweeter than that of Great Britain. The wild hog abounds in the remote woods. The chase of the wild boar is a favourite diversion of the Creole whites. The Creole horses are small, but active. The British and North American horses do not so well endure the climate. The mules do the heavy work of the plantations, and are capable of enduring twice as much fatigue as a horse. The latter is seldom used as a beast of burden. The carts and wagons are drawn by oxen. The rats are very numerous and destructive, particularly to the sugar cane; in some years, whole fields of this plant are as completely destroyed by them as if a blight had alighted on them. Eight or ten hog-heads of sugar are supposed to be annually lost in this way out of every hundred. 50,000 rats have been caught on some properties in a single year, but no sensible diminution of their number takes place. The negroes eat them dressed in molasses.

The legislature of Jamaica is composed of the governor, of a council nominated by the crown, consisting of twelve gentlemen, and a house of assembly containing forty-three members, who are elected by

the freeholders. The most important articles of export produced in the island are sugar, rum, molasses, coffee, cocoa, cotton, indigo, pimento, and ginger. Of these were exported in the year 1828, as follows:—Sugar, 86,386 hhds; Rum, 34,668 punches; Coffee, 16,530,751 lbs.; Pimento, 2,872,166 casks and bags; Ginger, 2,344 casks. The annual public revenue of Jamaica is about £300,000, and the local taxation nearly a similar sum. In 1830, the total shipping inwards was, number, 715; tons, 130,721; outwards, number, 680; tons, 130,747. Population of Jamaica at different periods:—

Years.	Whites.	Free People of Colour.	Slaves.
1658 . . . .	4,500 . . . .	— . . . .	1,400 . . . .
1787 . . . .	30,000 . . . .	10,000 . . . .	250,000 . . . .

The slaves amounted in 1812, to 319,912; in 1817, to 346,150; in 1826, 331,119. By returns made in 1833, the slaves were numbered at 302,632. Thus, by the emancipation bill, ceased from the 1st of August, 1834, to be slaves, and became apprenticed labourers. The whites in the same year were estimated at 85,000, and the maroons at 1200. The military establishment of the island generally consists of about 3000 regulars, and from 16 to 18,000 militia. The capital of Jamaica is St Jago de la Vega, or Spanish Town (7000 inhabitants). Kingston is the principal place in the island (35,000 inhabitants).

*Historical Sketch.*—Jamaica was discovered by Columbus, May 3, 1494, in his second expedition to the new world. In June, 1503, being on his return from Veragua to Hispaniola, he was driven by tempestuous weather upon this island, where he remained upwards of twelve months, having lost his vessels, and suffered every variety of hardship. After his death, his son Diego, as hereditary viceroy of the countries discovered by his father, sent out, in 1509, to Jamaica, Juan de Esquivel, who conciliated the natives by his kindness; and the island prospered under his administration. His successors, however, appear to have adopted the cruel policy of other governors of that period. So entire was the extermination of the Indians at Jamaica, that of a population of 60,000 persons living at the discovery of Columbus, not a single descendant was alive half more than a century and a half afterwards. In 1494, an English party took the capital, and delivered it up to pillage. Forty years afterwards, it was again invaded by a force from the Windward islands, and the town of St Jago de la Vega was plundered. Jamaica was finally conquered by the English during the administration of Oliver Cromwell. The whole number of whites at this time did not exceed 1200, and the number of negroes was about the same. The Spanish inhabitants, rendered desperate by oppression, made a manly resistance, and for a long time the British were harassed by their vindictive incursions. Cromwell encouraged emigration, both from Great Britain and the other colonies in the West Indies. Two or three thousand persons were engaged by Henry Cromwell in Ireland, and a considerable number embarked from Scotland for this purpose, and, in the hands of governor D'Oyley, the government, was administered with energy. In May, 1664, an attempt was made by the Spaniards to recover the island; but the force which landed for this purpose was repulsed. About this time, the settlement became the resort of the buccanniers, who spent their immense gains in characteristic extravagance, and enriched the inhabitants. After the restoration of Charles II., Jamaica became a place of refuge for many republicans who had distinguished themselves in the civil contest. One of the first measures of the monarch was to continue D'Oyley in office, and authorise the election of a council and assembly of

representatives by the people. This, which was the establishment of a regular civil government, the island having been previously governed by martial law, took place in 1661. Afterwards, controversies arose between the assembly and the crown, which unsettled the affairs of Jamaica for a space of fifty years. At length, in 1728, a compromise was effected. The assembly consented to settle on the crown a standing revenue of £8000 per annum, on certain conditions, of which the following are the principal:—1. That the quit rents arising within the island should form part of the revenue; 2. that the body of their laws should receive the royal assent; and, 3. that all such laws and statutes of England, as had been esteemed laws in the island, should continue such. The most important event in the recent history of Jamaica, is the final overthrow and exile of that formidable band of fugitive negroes, who, under the name of *Maroons*, had formed an independent and hostile community in the island, for the greater part of a century. On the conquest of the island from the Spaniards, a multitude of African slaves fled to the mountains, beyond the reach of the invaders, and maintained themselves in these fastnesses in spite of all their efforts. Their numbers were continually increased by the accession of deserting slaves, and a harassing conflict was kept up with the whites, in which the latter were the principal sufferers. In 1738, an accommodation was effected, and a species of independence guaranteed to these hardy outlaws; but at length, in 1795, hostilities broke out again. The activity and skill of the Maroons rendered them an overmatch for the great force brought against them. In this state of things, the British resorted to the use of blood-hounds, 100 of which were imported from Cuba, and, under the direction of experienced huntsmen, were let loose upon the mountaineers, to seize and tear the unhappy fugitives. Thus hunted down like wild beasts, and hemmed in by a force too powerful to be overcome, they had no alternative but submission. The expulsion of this brave and unhappy race was determined upon, and finally carried into effect. About six hundred were transported to the cold and bleak shores of Nova Scotia, where many of them perished miserably. See *Long's Hist. of Jamaica* (3 vols., 1774); *Edwards's Hist. of the W. Indies* (1809); *Roughley's Jamaica Planter's Guide* (1820).

JAMBLICHUS; an eminent philosopher, a native of Chalcis, in Cælosyria, who flourished in the beginning of the fourth century. He was the scholar of Anatolius and of Porphyry, and having become perfect in the mysteries of the Plotinian school, he taught with vast reputation. He professed to perform wonders by the aid of invisible beings. His writings discover extensive reading, but his style is inelegant, and he borrows freely, especially from Porphyry. The school of Jamblichus produced many eclectic philosophers, who were dispersed throughout the Roman empire. The philosophical works of Jamblichus, now extant, are, the *Life of Pythagoras*; an *Exhortation to the Study of Philosophy*; *Three Books on Mathematical Learning*; a *Commentary upon Nicomachus's Institutes of Arithmetic*; and a *Treatise on the Mysteries of the Egyptians, Chaldeans and Assyrians*. St Jerome states that he also wrote a copious commentary on the golden verses of Pythagoras. He died about 333. This Jamblichus must be distinguished from the person of the same name, to whom the emperor Julian dedicates his epistles, for Julian was scarcely born when the successor of Porphyry died. The best editions of Jamblichus are these: *De Myst. Egypt. Chald. et Assyrenon alii Tractatus philosophici*, Aldus (Venice, 1497); *De Myst. Egypt. necnon Porphyrii Epistola,*

*&c., Gr. et Lat.*, Gale (Oxon. 1678); and *De Vita Pythag., Gr. et Lat.*, Kuster (Amsterdam, 1704, 4to).

JAMES, St, called the *Greater*, the son of Zebedee and the brother of John the evangelist, was born at Bethsaida in Galilee. He was called to be an apostle, together with St John, as they were mending their nets with their father Zebedee, who was a fisherman. Christ gave them the name of *Boanerges, or sons of thunder*. They then followed Christ, were witnesses with St Peter of the transfiguration on mount Tabor, and accompanied our Lord in the garden of Olives. It is believed that St James first preached the gospel to the dispersed Jews, and afterwards returned to Judea, where he preached at Jerusalem, when the Jews stirred up Herod Agrippa against him, who put him to a cruel death, about the year 44. Thus St James was the first of the apostles who suffered martyrdom. St Clement of Alexandria relates that his accuser was so struck with his constancy, that he became converted, and suffered with him. There is a magnificent church at Jerusalem, which bears the name of St James, and belongs to the Armenians. The Spaniards pretend that they had St James for their apostle, and boast of possessing his body; but, Baronius, in his annals, refutes their pretensions.

*James, St*, called the *Less*, an apostle, the brother of Jude, and the son of Cleophas and Mary, the sister of the mother of our Lord, is called in Scripture the *Just*, and the *brother of Jesus*, who appeared to him in particular after his resurrection. He was the first bishop of Jerusalem when Ananias II., high priest of the Jews, caused him to be condemned and delivered into the hands of the people and the Pharisees, who threw him down from the steps of the temple, when a fuller dashed out his brains with a club, about the year 62. He was the author of the epistle which bears his name.

JAMES, St, OF THE SWORD (*San Jago del Espada*); a military order in Spain, instituted in 1170, by Ferdinand II., king of Leon, to stop the incursions of the Moors. The knights must prove their descent from families that have been noble on both sides for four generations, and that their ancestors have neither been Jews, Saracens, nor heretics, nor called in question by the inquisition. Their vows are those of poverty, obedience, conjugal fidelity, and the defence of the immaculate conception of the holy virgin.

JAMES I., king of Scotland, of the house of Stuart, born in 1394, was the son of Robert III., by Annabella Drummond. In 1405, his father sent him to France in order that he might escape the danger to which he was exposed by the ambition of his uncle, the duke of Albany; but being taken by an English squadron, he and his suite were carried prisoners to the Tower of London. Here he received an excellent education from Henry IV. of England; and, to relieve the tedium of captivity, applied himself to those poetical and literary pursuits, the existing evidence of which do him honour. Robert III. died the following year, and James was proclaimed king; but, during the remainder of the reign of Henry IV., and the whole of that of Henry V., he was ungenerously detained in England, with a view to prevent the alliance of Scotland with France. This did not, however, prevent the apprehended result. At length, under the regency of the duke of Bedford, he was restored to his kingdom, after a detention of eighteen years, at which time he was in his thirtieth year, and highly accomplished, both mentally and in the manly exercises. He married Joanna Beaufort, a lady of distinguished beauty, of the blood royal of England, who is thought to be the fair dame

alluded to in his pleasing poem of the King's Quhair, of whom he became enamoured, from beholding her in the royal gardens from the windows of his apartments, while a captive in Windsor castle. On his return to Scotland, finding that the duke of Albany and his son had alienated many of the most valuable possessions of the crown, he caused them to be convicted and executed as traitors, and their estates to be confiscated. These and some other strong measures in the resumption of improvident grants, under the regency of the dukes of Albany, were atoned for by the enactment of many good laws in his parliaments; and, as far as a lawless nobility would allow them to be put in practice, they much improved the state of society in Scotland. In 1436, he renewed the Scottish alliance with France, giving his daughter Margaret in marriage to the dauphin, and sending with her a splendid train, and a large body of troops. A fruitless endeavour of the English to prevent this marriage, by intercepting the Scottish fleet in its passage, so exasperated James, that he declared war against England. He was, however, on such bad terms with his nobility, in consequence of his endeavours to curb their ambition and improve his revenue, that he was obliged to disband his army, under the apprehension of a conspiracy. He then retired to the Carthusian monastery of Perth, which he had himself founded, where he lived in a state of privacy, which facilitated the success of a plot formed against his life. The chief actors in this tragedy were Robert Graham, and Walter, earl of Athol, the king's uncle, the former of whom was actuated by revenge for the resumption of some lands improperly granted to his family, and the latter by the hopes of succeeding to the crown. By means of bribery, the assassins gained admission to the king's apartment; and an alarm being raised, the queen's ladies attempted to secure the chamber door. One of them, Catharine Douglas, thrust her arm through the staple, in which state she remained until it was dreadfully broken by the assailants. The instant the assassins got into the apartments, they dragged the king from his concealment, and, in spite of the cries and remonstrances of the queen, who in vain threw herself between them and the object of their resentment, put him to death by multiplied wounds. He perished in the forty-fourth year of his age, and thirteenth of his reign, Feb. 20, 1437, leaving one son and five daughters; and his murder was punished by the deaths of the conspirators in exquisite tortures. The king, who may be said to have fallen a martyr to his attempts to abolish the anarchy and disorder which prevailed throughout his kingdom, holds no inconsiderable place in the catalogue of royal authors; by his poem of the King's Quhair. James is also said to have been a skilful musician, and some attribute to him the composition of several of the most admired of the Scottish melodies; but of this Doctor Burney is much inclined to doubt. An ascribed list of the works to James I. will be found in Park's edition of Walpole's Royal and Noble Authors. Among these are three admirably descriptive poems, respectively entitled, "Christ's Kirk on the Green," "Pebbles to the Play," and "The Gaberlunzie Man," the authorship of which is sometimes given to James I., and sometimes to James V., but in neither case with much probability. All that can be said with any degree of certainty is, that James V. from his well-known roving propensities, was in all likelihood the hero of the last mentioned piece.

JAMES V. of Scotland succeeded, in 1513, at the death of his father, James IV., though only eighteen months old. His mother, Margaret of England, governed during his childhood; but, at the age of seventeen, he assumed the reins of government, and,

in 1535, married Magdalen, daughter of Francis I., who died two years after. He afterwards married Mary of Lorraine, widow of Louis of Orleans, and died Dec. 13, 1542, leaving the throne to his only child, Mary Stuart, who was born only eight days before his death.

JAMES VI. of Scotland, and I. of England, was the son of Mary, queen of Scotland, by her cousin Henry lord Darnley. He was born at Edinburgh castle, in June, 1566, at the unfortunate period when his mother was at variance with her husband, and had begun to fix her affection on the earl of Bothwell. In the stormy and disgraceful times which followed, the infant prince was committed to the charge of the earl of Mar; and, in the following year, Mary being forced to resign the crown, he was solemnly crowned at Stirling, and from that time all public acts ran in his name. His childhood was passed in civil wars, under the regencies of Murray, Mar and Morton, during which time he resided in Stirling castle, under the tuition of the celebrated Buchanan. His progress in school-learning was rapid; but, as his character opened, an instability and weakness of temper became manifest, which indicated what, in the sequel, proved to be the case, that he would become an easy prey to flatterers, and his reign be marked by injudicious favouritism. From the first, too, he seems to have imbibed those exalted notions of the royal authority and divine right which proved so injurious to his posterity. Some injudicious measures, in the spirit of these opinions, early produced a conspiracy of his nobles against him, who, in 1582, took possession of his person at Ruthven castle. A new confederacy, however, effected his liberation, and he again put himself under the direction of his favourite, the earl of Arran. The policy of queen Elizabeth, whose apprehensions from the Catholic party in favour of Mary, led her to employ every art to keep up a dissatisfied party in Scotland, was greatly assisted by the violent and unprincipled measures of Arran against the connexions of the late composition, many of whom fled to England. When, however, it became apparent that the life of his mother was in danger from the sentence of an English judgment, James, who had hitherto treated her very inconsiderately, felt himself called upon to interfere. He accordingly wrote a menacing letter to Elizabeth on the subject, appealed to other courts for assistance, and assembled his nobles, who promised to assist him either to prevent or revenge that queen's injustice. When the news of the catastrophe arrived, he rejected with proper spirit the excuses of Elizabeth, and prepared for hostilities; but he was finally prevented from engaging in actual war by the inadequacy of his resources. One of the first acts of his majority was to reconcile the feuds of his nobility, whom, for that purpose, he invited to a grand festival at Holyroodhouse. On the threatened invasion of England by Philip II. he judiciously resolved to assist Elizabeth against the Spaniards, and was zealously supported by his people for the preservation of Protestantism, who entered into a national covenant to maintain it. In 1589, James married Anne, daughter of Frederick, king of Denmark. On his return home, after passing the winter in festivities at Copenhagen, he was in some danger from conspiracies against his life; and, for several succeeding years of his reign, the history of Scotland displays much turbulence and party contest. In 1600, while the country was in a state of unusual tranquillity, a very extraordinary event took place, the causes of which were never discovered. While the king was upon a hunting excursion, he was invited by the brother of Ruthven, earl of Gowrie, to ride with a small train to the earl's house at Perth. Here he was led to a remote chamber, on pretence of

secret to be communicated to him, where he found a man in complete armour; and a dagger was put to his breast by Ruthven, with threats of immediate death. His attendants, being alarmed, came to his aid. Gowrie and his brother were slain, and the king escaped unhurt. In 1603, James succeeded to the crown of England, on the death of Elizabeth, and proceeded, amidst the acclamations of his new subjects, to London. One of his first acts was to bestow a profusion of honours and titles on the inhabitants of both countries, in which, as in many other points, he displayed a contrast to the maxims of the late reign. A conference held at Hampton court, between the divines of the established church and the Puritans, afforded James an opportunity of exhibiting his skill in theological controversy, and the ill will he bore to popular schemes of church government. The meeting of parliament also enabled him to assert those principles of absolute power in the crown which he could never practically maintain, but the theoretical claim of which provided the increasing spirit of freedom in the house of commons with constant matter of alarm and contention. Although James had behaved with great lenity to the Catholics in Scotland, those in England were so disappointed in their expectations of favour, that the famous gunpowder plot was concerted in 1605, the object of which was to blow up the king and parliament. (See *Gunpowder Plot*.) His cares for reducing and improving Ireland do him honour. In 1612, he lost his eldest son, Henry, a prince of great promise, then of the age of nineteen; and, in the following year, the eventful marriage of his daughter Elizabeth with the elector palatine took place. About this time, the object of the weak passion of James for handsome favourites was Robert Carr, a youth from Scotland, who in a short time was raised from a court page to be earl of Somerset, and was loaded with honours and riches. The scandalous murder of Sir Thomas Overbury, by the machinations of this minion and his infamous countess, put an end to the king's partiality, although he disgracefully pardoned the principals in the murder, while he allowed their agents to be executed. The fate of Somerset paved the way for the rise of George Villiers, duke of Buckingham. (See *Buckingham*.) No circumstance in the reign of James was more unpopular than his treatment of the celebrated Sir Walter Raleigh. Soon after the king's accession, that statesman, who had been opposed to the Scottish succession, engaged in a plot to set aside James in favour of the lady Arabella Stuart, for which he was tried and capitally convicted, but, being reprieved, was kept thirteen years in prison. In 1615, he obtained his release by dint of money, and was allowed to set out upon an expedition to the South seas, in search of gold, with the sentence of death hanging over his head. He was unsuccessful in his objects, and James, instigated, as it is supposed, by his desire of an alliance between prince Charles and the Infanta of Spain, listened to the suggestions of the latter power, and, to the great scandal of the whole nation, Sir Walter was executed upon his former sentence. The match with the Infanta, notwithstanding, failed, and Charles married Henrietta Maria, daughter of Henry IV. of France, with the disgraceful stipulation, that the children should be brought up by their mother until thirteen years of age; to which arrangement the future religious opinions of Charles II. and James II. may, perhaps, be attributed. The close of the life of James was marked by violent contests with his parliament, which prepared dreadful consequences for his successor. He was also much disquieted by the misfortune of his son-in-law, the elector palatine, who, having been induced to accept the crown of Bohemia, and to head the Protestant

interest in Germany, was stripped of all his dominions by the emperor. Urged by national feelings for the Protestant cause, he was at length, in 1624, induced to declare war against Spain and the emperor; and troops were sent over to Holland to act in conjunction with prince Maurice. The defeat of this enterprise, through sickness and mismanagement, it is thought, produced the king so much uneasiness as to cause the intermittent fever by which he was soon after attacked, and of which he died in March, 1625, in the fifty-ninth year of his age.

James was not destitute of abilities, nor of good intentions, but the former were not those of a ruler, and the latter were defeated by pliability and unmanly attachments. His reign, although not unprosperous to his subjects, was inglorious in character and loss of influence, and he was neither beloved at home nor esteemed abroad. He received during his lifetime a great deal of adulation, on the score of his literary abilities; but he merits far more as an encourager of learning, than for the fruits of it displayed by himself, all of which were debased by pedantry and prejudice. Upon the whole, the good qualities of James were unstatesmanlike, and his bad ones unmanly and puerile.

JAMES VII., king of Scotland, and II. of England, second son of Charles I. and of Henrietta of France, was born in October, 1633, and immediately declared duke of York. After the capture of Oxford by the parliamentary army, he escaped, in 1648, at the age of fifteen, and was conducted to his sister, the princess of Orange. He soon after joined his mother at Paris, and, when he had reached his twentieth year, served in the French army under Turenne, and subsequently entered the Spanish army in Flanders, under don John of Austria and the prince of Condé. In these campaigns he obtained reputation and experience, although with the display of no very great or shining qualities. At the restoration, he took the command of the fleet, as lord high admiral. He had previously married Anne, daughter of chancellor Hyde, afterwards lord Clarendon (see *Clarendon*), and ungenerously attempted to free himself from the union; but the marriage being satisfactorily established, he could not succeed. In 1664, he took a leading part in promoting a Dutch war, for the alleged interests of trade, and, June 3, 1665, with a powerful fleet under his command, engaged that of the Dutch under Opdam, who, with his ship, was blown up in the action, and nineteen of his squadron were sunk or taken, with the loss of only one on the part of the English. In 1671, the duchess of York died, leaving her husband two daughters, who became successively queens of England. Before her death, she declared herself a convert to the Roman Catholic faith, which had been secretly that of the duke for many years, and was now openly avowed by him. This declaration produced a great impression on the people, and laid the foundation of the opposition which finally drove him from the throne. In the Dutch war of 1672, he was again placed at the head of the fleet, and, being attacked by De Ruyter, a furious engagement ensued. The Dutch fleet at length retired. A test act being soon after passed, to prevent Roman Catholics from holding public employments, the duke was obliged to resign his command—a result which induced him to join heartily in the plot of the king and certain of his counsellors, to restore the Roman Catholic religion. In 1671, he married Mary Beatrice of Este, daughter of the duke of Modena, and, in 1677, his eldest daughter, Mary, was united to William, prince of Orange. During the violent proceedings on account of the supposed popish plot in 1679, by the advice of the king, he retired to Brussels, and a bill passed the commons for his exclu-

sion from the throne, which was, however, rejected by the lords. When the royal party again prevailed, the duke, in 1681, was sent into Scotland, where he acted with great rigour, not to say cruelty, to the remnant of the Covenanters. It is even said that he sometimes personally assisted at the torture of criminals, and altogether exhibited himself as a man of a severe and unrelenting temper. During the whole of the remaining reign of Charles II., indeed, during which he possessed great influence in the government, he was forward in promoting all the severe measures that disgraced it.

On the death of Charles II., in February, 1685, the duke succeeded, under the title of James II., and, from the time of his ascending the throne, seems to have acted with a steady determination to render himself absolute, and to restore the Roman Catholic religion. After disgusting the great majority of his subjects, by attending mass with all the ensigns of his dignity, he proceeded to levy the customs and excise without the authority of parliament. He even sent an agent to Rome, to pave the way for a solemn re-admission of England into the bosom of that church, and received advice, on the score of moderation, from the pope himself. This conduct encouraged the rebellion of the duke of Monmouth. The unrelenting temper of James was again exhibited in the executions on this account. The legal proceedings under Jeffreys were brutal in the extreme; and it is estimated that no fewer than 251 persons suffered in the west of England by the cruel proceedings of that infamous judge, which it was the custom of the king to gibe upon, under the name of *Jeffreys' campaign*. The temporary awe, produced by this severity, even in parliament, was so great, that James was encouraged to throw off almost all disguise, both in regard to religion and government. By virtue of his assumed disposing power, he rendered tests of no avail, and filled his army and council with Roman Catholics. He put Ireland entirely into their hands, and governed Scotland by a few noblemen who had become converts to the same faith. He gradually proceeded to a direct attack on the established church, by the formation of an ecclesiastical commission, which cited before it all clergymen who had done any thing to displease the court. A declaration of indulgence in matters of religion, was ordered to be read by the clergy in all the churches of the kingdom. Seven bishops met, and drew up a loyal and humble petition against this ordinance, which step being considered as an act of disloyalty, they were sent to the tower. The innovations, in regard both to the religion and government, gradually united opposing interests, and a large body of nobility and gentry concurred in an application to the prince of Orange, who had been secretly preparing a fleet and an army for the invasion of the country. James, who was long kept in ignorance of these transactions, when informed of them by his minister at the Hague, was struck with terror equal to his former infatuation; and, immediately repealing all his obnoxious acts, he practised every method to gain popularity. All confidence was, however, destroyed between the king and the people. William arrived with his fleet in Torbay, November 4, 1688, and landed his forces; but the remembrance of Monmouth's rebellion, for some time, prevented the people in the west from joining him, until, at length, several men of rank went over, and the royal army began to desert by entire regiments. Incapable of any vigorous resolution, and finding his overtures of accommodation disregarded, he resolved to quit the country. He repaired to St Germain, where he was received with great kindness and hospitality by Louis XIV. In the mean time, the throne

of Great Britain was declared abdicated, and was filled, with the national and parliamentary consent, with his eldest daughter, Mary, and her husband, William, conjointly; Anne, who had equally with her sister, been educated a strict Protestant, being declared next in succession, to the exclusion of the infant prince. Assisted by Louis XIV., James was enabled, in March, 1689, to make an attempt for the recovery of Ireland. The battle of the Boyne, fought July, 1690, compelled him to return to France. All succeeding projects for his restoration proved equally abortive, and he spent the last years of his life in acts of ascetic devotion. He is said to have entered into the society of Jansen. He died at St Germain, September 16, 1701, at the age of sixty-eight.

JAMES III., the Pretender. See *Stuart, James Edward Francis*.

JAMES, ROBERT, an ingenious physician and medical writer, but best known as the inventor of a specific for the cure of fever, was born in 1708. He practised medicine in London, and engaged in the compilation of a medical dictionary, which appeared in 1743, in three volumes, folio. In this work James is said to have been assisted by his friend Dr Johnson, who has warmly eulogized his professional services in his *Lives of the Poets*. He published, in 1751, a *Dissertation upon Fevers*, the purpose of which was to recommend a peculiar medicine, since known by the name of *James's powder*. For this preparation he procured a patent, and sold it as a secret remedy by which he exposed himself to the hostility of his professional brethren, who looked upon his conduct as inconsistent with the dignity of the medical character. James's powder is now known to be unmedicated phosphate of lime; and a preparation very similar to it, if not exactly the same, has long held its place in the London Pharmacopœia. The general respectability of his character as a man of sense and literary acquirements, enabled him, in a great degree, to triumph over the prejudices excited by a mode of conduct which placed him so near the base of those pests of society, the majority of adventuring empirics and vendors of patent medicines. In 1768, he published a work, entitled the *Practice of Physic* (2 vols., 8vo.), and subsequently a treatise on *madness*, and a dispensatory. One of his last literary labours was, a *Vindication of the Fever Powder*, as published till after his death, which took place in 1776.

JAMES'S PALACE, Sr, in Pall-Mall, London, a royal palace, stands on the site of an hospital of the same name. It has been the acknowledged residence of the English kings since *Whitcomb* was consumed, in 1695; but, though pleasantly situated on the north side of St James's park, and possessing many elegant and convenient apartments, calculated for state purposes, yet it is an irregular brick building, without a single external beauty to recommend it as a palace. In the front, next to St James's street, little more than an old gate-house appears, which serves as an entrance to a small square court, with a piazza on the west of it, leading to the great staircase. The buildings are low, plain, and mean. Beyond this are two other courts, which have the appearance of a king's palace. The state apartments look towards the park; and this side, though certainly not imposing, cannot be pronounced mean. It is of one story, and has a regular appearance as to be found in other parts of the building. The south-east wing was destroyed by fire in 1806, and has never been rebuilt, though the whole of the palace was repaired in 1821-3. The rooms of the king are magnificent in a high degree. It is from this place that the cabinet of the king of Great

Britain is called the *cabinet of St James's*. Behind this palace is St James's park.

JAMES'S PARK, Sr, was a complete marsh till the time of Henry VIII., who, having built St James's palace, enclosed it, laid it out in walks, and, collecting the waters, gave the new enclosed ground and building the name of *St James*. It was afterwards much improved by Charles II. He formed the canal, which is 2800 feet long, and 100 broad. Succeeding kings allowed the people the privilege of walking here.

JAMES RIVER; a river, in Virginia, formed by the union of Jackson's and Cowpasture rivers. At the point where it begins to break through the Blue ridge, it is joined by North river. It passes by the flourishing towns of Lynchburg and Richmond, and communicates, through Hampton road and the mouth of the Chesapeake bay, with the Atlantic. Its general course is south of east. A forty-gun ship may go up to Jamestown, and, by lightening herself, to Harrison's bar, where there are fifteen feet of water. Vessels of 250 tons go up to Warwick, and those of 120 to Rockets, just below Richmond. The river is navigable for batteaux 220 miles above Richmond. It opens a navigation into a country abounding in tobacco, wheat, corn, hemp, coal, &c.

JAMESTOWN; a town in James City county, in Virginia, on an island in James river, thirty-two miles above its mouth, eight S. W. Williamsburg, sixty-five E. S. E. Richmond. This town was established in 1606, and was the first town settled by the English in the United States. The town is now in ruins, and almost desolate. Two or three old houses, the ruins of an old steeple, a churchyard, and faint marks of the rude fortifications, are the only memorials of its former importance.

JAMI, or DJAMY (properly *Abd Alrhaman ebn Achmed*), a celebrated Persian poet, born in 1414, had his surname from his native place *Jam*, in the province of Chorassan. He eclipsed the greatest geniuses of his time. The sultan Abu Said invited him to his court at Herat; but Jami, who was a follower of the doctrine of the Sophi, preferred the ecstasies of a mystic to the pleasures of the court. He often sat in the hall of the great mosque at Herat, where he conversed in a free and friendly manner with the common people, instructed them in the principles of virtue and religious faith, and won their hearts by his gentle and persuasive eloquence. When he died, in 1494, the whole city was in sorrow. The sultan gave him a magnificent funeral, at the public cost, and the earth, say the Persian poets, opened of itself, like a shell, to receive this invaluable pearl. He was one of the most fruitful of the Persian authors, leaving more than forty works, mostly of a mystical character. Seven of the most interesting he joined together, under the title of the Seven Stars of the Bear. To this belongs Jussuf and Zuleika, one of the most entertaining works in Persian, of which Law, in the Asiatic Miscellanies, has published some fragments; also the charming fiction Mejnoun and Leila, which has been translated into French by Chezy, (Paris, 1805), and into German by Hartmann (Leipsic, 1807, 2 vols.) His *Beharistan*, a treatise on morality, in verse and prose, is compared to Sadi's *Ghulistan*. Extracts from it have been printed by Jenisch (in the *Anthologia Persica*) and by Wilken (in the *Arsenotheca Persica*, Leipsic, 1805). According to Goethe, he combines all the excellencies of the earlier Persian poets.

JANEIRO, RIO DE. See *Rio de Janeiro*.

JANICULUM (*castellum*), or MONS JANICULUS; one of the seven hills of Rome, on the right bank of the river Tiber, also called *mons Aureus*, on account of the yellow sand (corrupted into *Montorio*).

According to tradition, it received the name of *Janiculum*, because Janus first cultivated it. It afforded the most beautiful view of the city. The *pons Sublicius* connected it with the other part of Rome, to which Ancus Martius added it. The hill is now called *Gianicolo*.

JANINA. See *Joannina*.

JANIZARIES. "In the year 1389," says Gibbon, "the Turkish cimeter was wielded by Amurath I., the son of Orchan and the brother of Soliman. He subdued the whole province of Romania or Thrace, from the Hellespont to mount Hæmus and the verge of the capital. He marched against the Sclavonian nations between the Danube and the Adriatic—the Bulgarians, Servians, Bosnians, and Albanians—and their warlike tribes, who had so often insulted the majesty of his empire, were repeatedly broken by his destructive inroads. The natives of the soil have been distinguished in every age by their hardness of mind and body, and they were converted, by a prudent institution, into the firmest and most faithful supporters of Ottoman greatness. The vizier of Amurath reminded his sovereign, that, according to the Mohammedan law, he was entitled to a fifth part of the spoil and the captives, and that the duty might easily be levied if vigilant officers were stationed at Gallipoli to watch the passage, and to select for his use the stoutest and most beautiful of the Christian youth. The advice was followed; the edict was proclaimed; many thousands of the European captives were educated in the Mohammedan religion and arms, and the new militia was consecrated and named by a celebrated dervish. Standing in the front of their ranks, he stretched the sleeve of his gown over the head of the foremost soldier, and his blessing was delivered in these words—'Let them be called Janizaries (*yingi cheri*, or new soldiers); may their countenances be ever bright; their hand victorious; their swords keen; may their spear always hang over the heads of their enemies; and, wheresoever they go, may they return with a white face.' *White and black face* are common and proverbial expressions of praise and reproach in the Turkish language. *Hic niger est, hunc tu, Romane, caveto*, was likewise a Latin sentence. Such was the origin of these haughty troops, the terror of the nations, and sometimes of the sultans themselves."

They were kept up by continual additions from the sultan's share of the captives, and by recruits, raised every five years, from the children of the Christian subjects. Small parties of soldiers, each under a leader, and each provided with a particular firman, went from place to place. Wherever they came, the *protogeros* assembled the inhabitants, with their sons. The leader of the soldiers had the right to take away all the youth who were distinguished by beauty or strength, activity or talent, above the age of seven. He carried them to the court of the grand seignior, a tithe, as it were, of the subjects. The captives taken in war by the pachas, and presented by them to the sultan, included Poles, Bohemians, Russians, Italians, and Germans. These recruits were divided into two classes. Those who composed the one, especially in the earlier periods, were sent to Natolia, where they were trained to agricultural labour, and instructed in the Mussulman faith; or they were retained about the seraglio, where they carried wood and water, and were employed in the gardens, in the boats, or upon the public buildings, always under the direction of an overseer, who with a stick compelled them to work. The others, in whom the traces of a higher character were discernible, were placed in one of the four seraglios of Adrianople or Galata, or the old or new one at Constantinople. Here they were lightly clad in linen or in cloth of Saloniki, with caps of

Prusa cloth. Teachers came every morning, who remained with them until evening, and taught them to read and write. At a particular time, they were all circumcised. Those who had performed hard labour were made janizaries. Those who were educated in the seraglios became either spahis, or higher officers of state. Both classes were kept under a strict discipline. The former, particularly, were accustomed to privation of food, drink, and comfortable clothing, and to hard labour. They were exercised in shooting with the bow and harquebuss by day, and spent the night in a long, lighted hall, with an overseer, who walked up and down, and permitted no one to stir. When they were received into the corps of the janizaries, they were placed in cloister-like barracks, in which the different *odas* or *ortas* lived so entirely in common, that the military dignities were called from their soups and kitchens. Here not only the younger continued to obey the elders in silence and submission, but all were governed with such strictness, that no one was permitted to spend the night abroad, and whoever was punished was compelled to kiss the hand of him who inflicted the punishment. The younger portion in the seraglios were kept not less strictly, every ten being committed to the care of an inexorable eunuch. They were employed in similar exercises, but likewise in study. The grand seignior permitted them to leave the seraglio every three years. Those who chose to remain, ascended, according to their age, in the immediate service of their master, from chamber to chamber, and to constantly greater pay, till they attained, perhaps, to one of the four great posts of the innermost chamber, from which the way to the dignity of a beglerbeg, of a capitan deiri (that is, an admiral), or even of a vizier, was open. Those, on the contrary, who took advantage of this permission, entered, each one according to his previous rank, into the four first corps of the paid spahis, who were in the immediate service of the sultan, and in whom he confided more than in his other body-guards. This institution fully satisfied expectation. An Austrian ambassador at the court of Soliman, Busbequius, whose accounts are to be perfectly relied on, speaks of the strict discipline of these janizaries, which made them appear at one time like monks, and at another like statues, of their simple dress, with only a few heron's feathers for an ornament to their heads, and of their temperate life. They would not suffer one among them, who had grown up in the indulgences of home. This corps has in many instances been the salvation of the empire. The battle of Varna, the foundation of the Ottoman greatness, would not have been gained without them. At Cassova, the Rumanian and Natolian troops had already fled before the *devil*, as they called John Hunniades, yet the janizaries obtained the victory. It was their boast that they had never fled in battle; and Lazarus Suendius, for a long time a German general against them, confessed the truth of this assertion. In all accounts they were called the nerve and the sinew of the Ottoman army. It is worthy of remark, that this invincible infantry of the East was formed about the same time (in 1367) as the not less invincible Swiss infantry. The former, however, was composed of slaves, and the latter of free mountaineers. The whole body was divided into four squadrons, each containing a certain number of *ortas* (troops). Each *orta*, in Constantinople, was supposed to have 100 men; elsewhere, 200 or 300. In time of war, the complement was 500 men. The regimental rolls produced on the pay days made the whole number of the corps 120,000; but those lists were never correct, and they comprehended all in actual service, the supernumeraries who lived by their tricks and callings, and

succeeded in case of vacancies, and the honorary members. Three years' service gave a right to pay in time of peace. As the government furnished only a small allowance of provisions, and clothing for 12,000 men, the privates were suffered to work at their trades. All the men of one regiment were bakers, all those of two others butchers; others, again, were all boatmen, masons, &c., and they were rewarded accordingly. The *kulak*, or cap of dirty white felt, with a long strip hanging down behind, was the distinctive part of a janizary's dress. The Turkish troops were required to find their own arms, but in time of war fire-arms were furnished to our soldiers as had none, from the arsenal at Constantinople. A firelock, pistols, mace, and axe were the arms carried by the infantry; and the janizaries provided themselves in having not only well tempered, but also richly ornamented arms. Besides the standards and horse-tails placed before the tent of the aga, or commander-in-chief, each *orta* had its own particular ensign. But a more important distinction, in the estimation of these troops, were the caldrons attached to each *orta*, two or three in number, placed under the care of the subaltern officers. The loss of these was considered as the greatest misfortune which could befall the regiment; and, if they were taken in war, all the officers were immediately cashiered, and in many cases the regiment was publicly disgraced. In these caldrons the broth was carried daily from the barracks to the different guard-houses. The police of the capital and the large towns was intrusted principally to the janizaries. Lampoons and seditious papers affixed to the gates of the mosques, and conflagrations in various parts of the city, were the means by which this formidable body made its displeasure known to the sultan; but this discontent was seldom excited by any thing except the power of some unpopular minister, or the severity of a more rigid discipline. In various instances, sultans were deposed, insulted, and murdered by insurgent janizaries. This corps offers the earliest example in Turkish history of a public *sanctimonium* bann. After the dethronement of Osman II., a janizary of the sixty-fifth company dared to raise his hand against his fallen monarch, and strike him in the streets of the city. Amurath III. punished the crime by cutting off the whole company. The memory of the crime and the punishment was renewed twice every month. On Wednesday, when the lights were distributed to the different barracks, the sixty-fifth company was called to receive their portion, but, at the second call, an officer replied, "Let their voice be silent; let them be wholly extinguished." The reforms which were attempted in this corps met with the greatest opposition on the part of the members, and produced several revolutions. It was finally entirely broken up in 1826. In May, 1826, the janizaries had declared themselves willing to have a new militia formed, but on the 14th June of that year, they rebelled on this account; but the *emir* and aga Hussein Pacha, at the head of the grand seignior's troops, repulsed the rebels; their barracks were burnt, and many were executed. The proclamation of June 17th abolished the corps for ever, and laid a curse upon the name. The new troops are disciplined in the manner of the Christian nations.

JANSENIUS, CORNELIUS; professor of theology at Louvain, and from 1636 bishop of Ypres in the Netherlands, owes his fame, which eclipses the name of the elder Cornelius Jansenius (bishop of Ghent, died 1571; known as a biblical critic), to the controversy, during his age, concerning the nature and efficacy of divine grace; was born in 1585. devoted principally to the different representations of the doctrine by Augustine, who found it necessary to

express himself differently in his dispute with the Manicheans and in that with the Pelagians, this controversy was revived at the time of the reformation. The vague and contradictory expositions of the papal court on the subject, served only to increase the contention in the Catholic church, where the pride and jealousy of the Dominicans and Augustines on one side, and the artifices of the Franciscans and Jesuits on the other, kept up this angry controversy with increasing warmth, the former contending for the strict anti-Pelagian principles of Augustine, the latter adopting a milder interpretation of them. The latter obtained a triumph over their adversaries, in 1567, by the papal bull condemning seventy-six propositions taken from the writings of the chancellor and inquisitor at Louvain, Michael Baius (died 1589), a learned defender of the Augustine doctrine. But the Spanish Jesuit, Lewis Molina (died 1600), went too far on the other side, in his more than semi-Pelagian commentary on the dogmatics of Thomas Aquinas. The violence of the Molinistic controversies compelled the pope, in 1598, to establish the congregation *de auxiliis* at Rome, for the examination of opinions concerning grace; and, this proving ineffectual to restore harmony, he wisely required (in 1611) of the contending parties, silence on this doctrine.

Jansenius, who was an advocate of the strict Augustine system, which had always prevailed at the university of Louvain, died 1638, at Ypres, with an unblemished reputation for piety and purity of morals. But his *Augustinus*, a book in which he maintained the Augustine doctrine of free grace, and recommended it as the true orthodox belief, in opposition to the semi-Pelagianism of the Molinists, rekindled the controversy on its publication in 1640. The book was condemned by a bull of pope Urban VIII., in 1643; but the partisans of Jansen declared the bull to be spurious; the university of Louvain protested against it; and, even in France, it was ineffectual to suppress the applause with which many distinguished theologians received the *Augustinus*. Jansen's old friend, the abbot of St Cyran, known as the director of the nuns of Port Royal, and a zealous opposer of the Jesuits, as well as for his mysticism and ascetic piety, John du Verger de Hauranne (died 1643), had already prepared the minds of the French theologians for Jansenism. The scholars of the Port Royal, Nicole, Perrault, Pascal (whose Provincial Letters had exposed the old sins of the Jesuits), and, above all, Ant. Arnaud (born 1612; in 1643 made doctor of the Sorbonne), men distinguished no less for religious principles and unblemished virtue than for rare learning and talents, undertook the defence of Jansenism; and the bull, in which the pope (1653) particularly condemned five propositions from the *Augustinus*, met with a strong opposition. The five propositions were these: 1. That there are certain commandments of God which good men are absolutely unable to obey, though they desire to do so, God not having given them a sufficient measure of grace. 2. That no person, in the fallen state of nature, can resist the influence of divine grace. 3. To render themselves meritorious in the sight of God, it is not requisite that men should be exempt from internal necessity, but only from outward constraint. 4. That the semi-Pelagians are heretical in maintaining that the human will is able to resist or obey the influences of divine grace. 5. That to say that Christ died for all men, is semi-Pelagianism.

These propositions are really contained in the book of Jansenius, but his partisans contended that his propositions were not to be understood precisely in this sense, and that the pope was not to be regarded as infallible in determining the meaning

of the writer. Hence arose the important question whether the pope, whose right to decide a point of doctrine had never been disputed, had authority to determine a historical fact. Alexander VII. assumed this in 1656, in a special bull, declaring that Jansenius had understood the propositions in the sense condemned. The Jansenists were thus compelled either to recant or to secede from the Roman church. Although their protest against this unheard-of arrogance of the Romish court, in pretending to know and to determine what a deceased author meant by expressions which admit of a double interpretation, could surprise no impartial person it was yet regarded as an attack upon the infallibility of the pope, and drew down the displeasure of Louis XIV. himself. This prince began, in 1661, to interfere in the controversy, and to persecute the Jansenists, who were already out of favour at court for preaching repentance and boldly censuring the vices of the age. But their interest with the French clergy and the influential men of the kingdom was such, that it was found impossible to force them to an unconditional subscription of the bull of Alexander VII.; and, in 1668, the agreement with Clement IX., by which a conditional subscription was permitted them, and the misunderstanding between the courts of Rome and Versailles, about the affairs of Spain, obtained for them a temporary repose. They lost, in 1679, their principal patron, Anna, duchess of Longueville, celebrated in connexion with the Fronde, and sister of the great Condé; and Arnaud, to escape persecution, retired in the same year into the Netherlands, where he continued till his death, in 1694, the most zealous and esteemed defender of Jansenism; but, notwithstanding these losses, the party stood its ground under the protection of Innocent IX. (died 1689), a friend of virtue and justice, who favoured them as much as Louis XIV. and the Jesuits opposed them. The Jansenists made themselves worthy of this protection, and of the favour of the better part of the educated men in France. By endeavouring to free theology from the chains of the hierarchy, and to promote a knowledge of the Scriptures among the people; by inculcating, in the place of formal piety and lifeless ceremonies, an ardent participation of the heart and soul in the exercises of devotion, and a strict purity of life, they rendered undeniable service to the cause of true religion; and, these being considered, their excessive austerity appears at least more excusable than the looser principles of the Jesuits. But this only rendered them more odious in the eyes of the Jesuits.

Jansenism, however, notwithstanding all the opposition to it on the part of the court, still continued to prevail. Father Quesnel's *Moral Observations* on the New Testament—the most universally read book of this period—gave it new support. The Sorbonne, in 1702, decided the celebrated case of conscience, whether a priest, suspected of Jansenism, could grant absolution, in the affirmative, and the universally esteemed archbishop of Paris, cardinal de Noailles, used his power against the Jansenists no further than was necessary for the peace of the church. Clement XI. at first pursued the same course, but La Chaise, confessor of Louis XIV., and his successor the Jesuit Le Tellier, urged more violent measures, in which the king, to whose diseased fancy Jansenism and rebellion were synonymous, supported them. Quesnel, now at the head of the Jansenists, was struck from the list of the fathers of the oratory, and driven into exile. He died in 1709, at Amsterdam. In 1708, his *New Testament* was prohibited; the monastery of Port Royal des Champs, which was considered as the strong hold of Jansenism, was suppressed, by the royal police, in 1709, the nuns dispersed, the buildings demolished,

and the work of persecution finally crowned by the bull *Unigenitus* (in 1713), which was forced from the pope by Le Tellier. This bull, dictated no less by gross ignorance than by furious thirst of vengeance, condemned 101 propositions from Quesnel's Testament, which, according to this decree, were to be understood only in a Jansenist sense, although they were, in fact, mostly scriptural sentences, forms from the liturgy, and articles of faith taken from the orthodox church fathers. The bull, therefore, only excited indignation and contempt, and increased the numbers of the Jansenists. Louis XIV. died in 1715, during the efforts that were made to carry it into effect in France; and, taking advantage of the indifference of the regent, Noailles, with the majority of the French clergy, appealed from this decree of the pope to a general council.

Although the Jansenists were the original authors of this appeal, yet all the appellants were not Jansenists (see *Unigenitus*); but they all met with the same treatment, the ministers Dubois and Fleury, out of complaisance to the pope, insisting on the unconditional reception of the bull, and rigorously persecuting all recusants. Great numbers of Jansenists emigrated to the Netherlands; the power of their party rapidly declined, and the miracles (cures and sudden conversions) at the tomb of the abbé de Paris (who died 1727, an early victim to voluntary penances) found credit only with enthusiasts and the Parisian populace. The fanatical excesses of their party, from 1731, helped to ruin their cause. The frenzies of the Convulsionaries, or those who were seized with spasms and ecstasies at the tomb of this wonder-working saint—of the Secourists, who availed themselves of external means to produce convulsions, and had themselves tormented with kicks, blows, and stabs—of the Naturalists and Figurists, who sometimes strove to represent the helplessness of human nature unaided by grace, and sometimes the purity of the Christian church, by indecent exposures of the body—of the Discernants and Melangists, who divided on the question whether the raptures were produced by God or the devil—these, and other fanatical sects of Jansenists and Appellants, must have necessarily made a thing, of which the world was already tired, utterly ridiculous; and the energetic measures of the police, the continual burning of Jansenist books, the frequent imprisonments, but, most of all, the very natural subsiding of enthusiasm, at last put an end to the party. From this time, Jansenism ceased to exist in France, as a public and professed doctrine. Its pure morality and strict theology always gained for it friends, however, even in that country; and a part of the clergy, by their willingness to take the constitutional oath, during the revolution, showed that they would more readily renounce the authority of the pope than their own opinion. But though the old division of the Jansenists and Molinists continued up to the latest times, in the opposition between those who took and those who refused the oath (*prêtres insermentés*), yet we find but one separate society of the Jansenists, publicly acknowledged as such, and that in the Netherlands, which, in accordance with the resolution of the Jansenist provincial synod at Utrecht (1763), does not separate from the Catholic church, and even respects the pope as its spiritual head, but denies his infallibility, rejects the bull *Unigenitus*, and appeals from it to a general council. It maintains, also, the doctrines of Augustine, upholds moral strictness, and regards the inward service of God as the greatest proof of piety. These Jansenists, who call themselves, by preference, the *disciples of St Augustine*, have had, since 1723, an archbishop of their own at Utrecht, and bishops at Haarlem and Deventer,

forming a clergy which, being subject to the civil authority, without riches or power, performs its duties so much the more faithfully, and exercises a well ordered church government, which they owe to the protection of Protestants, while they are still condemned by the pope as apostates and schismatics.

JANUARIUS, Sr, bishop of Benevento, was beheaded at Pozzuoli, in the beginning of the fourth century, a martyr to the Christian faith, and is honoured as the patron saint of the kingdom of Naples. In honour of him, the order of St Januarius was established there, in 1738. His body lies buried in the cathedral at Naples; but his head, with two phials of his blood, which a pious matron caught, as the tradition is, at his execution, is preserved in a separate chapel. Of this blood, the Neapolitans assert, that as soon as it is brought near the head of the saint, it begins to flow, however hard congealed it was before. A trial is made every year, on the first Sunday of May; it is believed, that the patron saint is particularly propitious if the blood moves briskly in the phials, and appears of a clear red, while the opposite is regarded as presaging some ill to the country. The religious phrensy which prevailed at certain festivals of the ancients, has a counterpart in the clamour for the liquefaction of the blood of St Januarius, in the chapel of this saint, if it is delayed long after the commencement of the celebration. The writer, who was present on one of these occasions, could hardly determine whether the prevailing tone was that of prayer or imprecation. The reproaches against the saint are not a few. Sometimes, two or three days elapse before the blood becomes liquid; it is in a bottle, which stands upon the altar, and is lifted, now and then, by a priest, to show to the people whether it has become liquid or not; if it has liquefied, all throng to the altar, and, kneeling down, kiss the offered bottle, and then the priest presses it against the head of the faithful. It is said, that when the French occupied Naples for the first time, the blood would not become liquid. The French general, apprehensive of a commotion, took to the archbishop, intimating, that if the saint's blood did not soon run, the archbishop's might. The archbishop had compassion on the servant, and the miracle took place in due season.

JANUS; one of the primitive deities of the Romans, entirely unknown to the Greeks, and supposed to be of Pelasgic origin. The Pelasgi believed in two supreme deities, under which they represented nature and her productions. Sometimes they were described as two different beings, male and female, and sometimes as united in a single person. This deity passed from the Pelasgi to the Latins or aborigines, and received from them the name of *Janus*. In him they worshipped the god of gods (as he is called in the Salian hymns), the ruler of the year, and of all human fortunes, the sovereign disposer of war and peace. He was represented with a sceptre in the right hand, and a key in the left, seated on a glittering throne; he was also represented with two faces (an old and a youthful one), of which one looked forward and the other behind. Some conceive this to be a symbol of wisdom which sees into the past and the future; others a symbol of the changes of the year, the vicissitudes of the seasons, or of the several quarters of the world, as he was sometimes painted with four faces, and of his double office of opening and shutting the gate of heaven. Plutarch explained it by supposing that Janus had introduced agriculture from Thessaly into Latium, and hence one head looked towards Latium, the other towards Greece. Some believe that Janus was blended in one person with the other supreme deity of the original inhabitants of Italy, viz. Saturn. In reference to this co-

circumstance, they relate the following story: Janus, one of the ancient kings of the Latins, taught his people agriculture, and introduced useful laws and religious institutions. Saturn, driven from his country by his children, fled to Latium, where he was well received by Janus, and made joint ruler of the kingdom. Under their reign was the golden age of Latium. Ovid, in his *Fasts* (i. 90, sqq.), says of Janus, that he was the supreme janitor in heaven and on earth, that he opened the gates of heaven to let out the day, and closed them again with the return of evening. All sorts of passages were under his care. After him, a door was called *janua*, and every open arched passage, by which people go out of one street or place into another, a *Janus*. For the same reason, he was the god of the day and the year, and from him the first month in the year still has its name. The first day of the year and the first hour of the day were sacred to him; in all solemn sacrifices he was the first addressed, and had the title of *father*. Romulus erected to him the celebrated temple, which was opened at the beginning of every war, according to the ordinance of Numa, and remained open as long as the war lasted, and until peace was established in all the countries subject to Rome. The temple, however, was shut only three times in the long space of 700 years; once in the reign of Numa, again after the first Punic war, and the third time, under the reign of Augustus, A. U. C. 744.

JAPAN. At the eastern extremity of Asia, between 31° and 49° N. lat., is situated the empire of Japan, consisting of a large cluster of islands, almost inaccessible by reason of mountains, precipitous rocks and a dangerous sea. It consists of three large islands: 1. Nippon (700 miles long, but so narrow, that its breadth in the centre is only forty-eight miles), divided into forty-nine provinces, of which the principal cities are Meaco, the residence of the daim, or spiritual chief, where all the coins are struck, and all the books printed; Jeddo (with 1,680,000 inhabitants), the residence of the secular emperor (cubo, whose palace is five leagues in circumference, and forms, of itself, a considerable city), on the river Tonkay, over which is a bridge, from which the distances of all parts of the empire are calculated; and Osacco, a rich commercial city: 2. Ximo, or Kiusiu (186 miles long, and sixty-six broad), consisting of nine provinces: and 3. Xicoco, or Sicof (eighty-four miles long, forty-six broad), containing four provinces. Around these great islands lie a vast number of small fertile islands and bare island-rocks, which have probably been separated from the main land by an earthquake. The superficial contents of the whole island, is estimated at 266,500 square miles, the population at forty-five millions.

The Japanese islands are mountainous, like the opposite coasts of the continent. The principal summit is called *Fusi*; it is covered with snow throughout the year. There are also many volcanoes. The great industry of the natives has alone made the sterile soil productive; even the steepest mountains are cultivated. Agriculture is prescribed as the principal employment, by the laws of the state. Goats and sheep are banished from Japan, the former being regarded as prejudicial to agriculture. Cotton and silk supply the place of wool. Swine are to be found only in the vicinity of Nangasacki. In general, there are but few quadrupeds in Japan, with the exception of dogs, which are abundant. The whim of a sovereign, of whom these animals were favourites, has prescribed the breeding of them by a law of the state; they are supported at the public expense.

It is uncertain whether the ancients knew any

thing of Japan. At the end of the thirteenth century, Marco Polo brought to Europe the first accounts of Japan, which he called *Zipangu*. In 1542, three Portuguese ships under Mendez Pinto, on a voyage to China, were driven on the Japanese coasts by a storm, though without this accident this island empire would hardly have remained unknown to the enterprise of this commercial nation, whose navigators had collected information respecting it in China. A colony was immediately founded on the newly discovered coast, and the Jesuit Francis Xavier proceeded to Japan to propagate Christianity. The Portuguese were allowed free access and commerce throughout the empire, especially on the island Ximo. One of their principal colonies was on the island of Firando, now Desima, or at the port of Nangasacki. Christianity prevailed extensively, though opposed by the native priests. But the secular rulers, especially the small princes who possessed portions of the country under the supremacy of the emperor, supported the new doctrine and its preachers. About the year 1616, nearly half were Christians, with many of the petty princes. The Portuguese and Jesuits had been allowed uninterrupted access to all parts of the empire as merchants and spiritual teachers for about fifty years, when several circumstances put an end to their influence. In 1586, a revolution deprived the emperor of Japan of all temporal power, which was usurped by the cubo, the chief officer of the government, who degraded the emperor to the rank of a mere high priest. Jejas, the successor of the first usurper, made, in 1617, the sovereignty hereditary in his family. Both the new rulers were enemies of the Portuguese and missionaries, as they saw presages of danger in the close union of the new religious party, and in the influence of the Jesuits, who interfered in political affairs, and opposed the new order of things. The conduct of the Portuguese colonists was in the highest degree imprudent and licentious. The ambassadors of Portugal manifested an insupportable pride, which formed a strong contrast with the submission of the Dutch, who had obtained free intercourse with all the ports of the empire, by their assurance that they were of a different creed from the Jesuits. After many persecutions, the Portuguese, with their missionaries, were finally banished for ever from the empire, in the year 1637; Christians were exposed to bloody punishments, and the ports of the empire were closed to all foreigners, except the Dutch. This persecution of the Catholic religion continued forty years, in which time several millions of men were sacrificed. In 1665, inquisitorial tribunals were erected in all the cities of the empire, which were to renew their investigations, every year, at indefinite periods. The Dutch, who contributed not a little to this catastrophe, now took the place of the Portuguese. They and the Chinese were from this time the only nations whose ships were allowed access to Japan; but both had to submit to the severest conditions, and were very much limited in their exports, and the former were so restricted after 1634, when they had given cause for suspicion, that they were only permitted to land on the island Desima, connected by a bridge with the city Nangasacki. On this island, where their storehouses were situated, lived about fifteen Dutchmen, who carried on the trade, under the closest inspection, never being permitted to enter the city without attendants, overseers and interpreters. Notwithstanding these restrictions, and the extortions to which the Dutch had to submit, in the shape of deductions from the prices agreed upon, and arbitrary changes in the value of coins, their trade with Japan seems to have been very profitable, since they have continued, to the latest times, to send

thither yearly two vessels from Batavia, large three deckers, mostly belonging to Zealand. In the middle of the eighteenth century, the profits of the Japanese trade were estimated at 4—500,000 guilders annually. In the seventeenth century, the British founded a colony at Firando, and obtained important commercial privileges; but this commerce was soon lost, probably because the Japanese learned from the crafty Dutch, that the wife of the king of Britain was a Portuguese princess. All proposals for opening a trade with Japan have of late been rejected in Britain, because the return cargoes must consist principally of copper and camphor, and the trade in Japanese copper would prevent the exportation of the British to India. The Russian government has lately tried, but without success, to form commercial connexions with Japan.

The Japanese are a mixture of the Malay and Mongolian races, like the Chinese, from whom they have probably derived their civilisation. The Japanese art, calculation of time, medicine, and astrology are purely Chinese. The present inhabitants originated either from China or Corea, or from both; but, separated by tempestuous billows from the rest of the world, left to themselves, and free from the subsequent invasions of neighbouring nations, they became an independent people. Their language is a dialect of the Mongolian; the Chinese is the learned language. The Japanese language has forty-seven radical syllables, with a small number of regular changes. The Japanese are the most civilised and refined nation of Asia, a noble, proud people, intelligent, docile, and desirous of instruction. Art and science they value, even in nations whom they otherwise despise for their unworthy conduct, and the shameful treatment to which they are willing to submit for the sake of gain. Since the arrival of the Europeans, by whom they were taught, they have made considerable progress in several sciences. History, astronomy, and medicine (in which cautery or burning with moxa, and acupuncture are practised), are pursued with zeal. Their progress, however, in medicine and geography, is comparatively small. Poetry, music and painting are held in estimation; and, in the latter, the Japanese are superior to the Chinese. Like the Chinese they claim the invention of gunpowder and of printing. Children are sent to school at an early period, and educated with great strictness. The exportation of books is prohibited, at least, of such as contain any account of the government and country, as well as of maps and coins. The importation of religious books is as strictly forbidden.

The Japanese are active, cleanly and laborious, kind, cheerful and contented, but sensual and revengeful. The following represents the female costume:—



Their superstition is encouraged by a priestly government, opposed to all intelligence, and a numerous clergy. The government is despotic and severe, and the laws very strict. The will of the emperor is the supreme law; after it, the will of the petty princes dependent on him, who rule their provinces as strictly as he does the whole empire, and notwithstanding their dependence, possess the right of waging war against each other. The greater part of the inhabitants are oppressed by poverty, since the peasant is obliged to surrender half, and in many places even two-thirds of his earnings to the landlord, who regards himself as the sole proprietor of the soil. In order to prevent conspiracies, each one is made, by the law of the land, the spy, and surety of the others; so that every one is accountable to the state for those with whom he is in any way connected, and, in case of any offence, must suffer with them. Thus the father is accountable for his children, the master for his servants, the neighbour for his neighbour, every society for its members. A crime is never punished by fine, but always by imprisonment and banishment, or loss of limb or life; and every punishment is inflicted with inexorable rigour on high and low. All military and civil officers, for example, are bound to slit their belly, when ordered to do so, in consequence of any crime. Such a death involves no disgrace, and hence the contempt of death among all classes of Japanese, who, in general, prefer death to ignominy.

The original rulers of Japan were called *mutado*, from their progenitor. The high priest of Japan is still called *dairi*, which was the title of the Japanese emperors as long as they possessed spiritual and temporal powers united. Since the revolution, which deprived them of the secular power, in 1185, when Yori-Tomo was appointed supreme ruler of the nation, the high priest has lived at Meaco. Under the present reigning dynasty of the Djogouns, his authority has declined still more. He is in the custody of a governor, answerable to the secular emperor. In order to make himself more sure of the descendants of the ancient rulers of Japan, the crafty policy of the secular emperor has transmuted the *dairi* into a holy personage, who is visible to no human eye, at least to no man who is not in attendance on him. Whenever the *dairi*, as is very rarely the case, wishes to enjoy the fresh air in his garden, or in the inner circle of his extensive and well fortified palace, a signal is given for all to withdraw, before the bearers raise the holy prisoner on their shoulders. In this palace, where he was born, he lives and dies, without ever going out of its precincts; and not till long after his death is his name disclosed beyond them. He enjoys a rich income, consisting of merchandise and natural products, which the secular emperor increases by considerable additions, and by the proceeds of the sale of titles of honour, which belong to the *dairi*, as a prerogative. Orders are also issued in the name of the *dairi*. The secular emperor bears the title of *cubo*, and resides at Jeddo. Under him, the real, absolute sovereign of the empire, are the princes, who are responsible to him. He concedes, however, the first rank to the *dairi*, accepts from him titles of honour, and rewards the distinction thus bestowed on him by considerable presents. Formerly, the *cubo* made an annual journey to Meaco, in token of respect to the *dairi*; by degrees, these visits became less frequent, and now, as a substitute, presents are sent him by ambassadors. The *cubo* administers the government, with the assistance of a council of state, of six aged men. He derives his revenues, which consist merely of natural productions, from five *imperial provinces*, as they are called, and some cities, which are under his immediate jurisdiction; in ad-

dation to which, he receives presents from the territorial princes, who govern the provinces. Each of these princes possess an hereditary sovereignty in his own province; he receives the revenue without giving an account to the emperor, and defrays the expenses of his court and his army, repairs the highways, and, in short, provides for all public expenditures; but, in token of his dependence, he is obliged to spend six months every year at the court at Jeddo, where his wives and children live in a kind of captivity, as hostages and pledges of his fidelity.

The religion of the Japanese is of Hindoo origin. This is true of the older sect of the Siutos, as well as of the more modern one of Budso or Fo, which came from China. Besides these sects, there are others, more or less resembling them. The people worship a great number of inferior divinities, whose statues are placed in the temples of the great deities. The numerous clergy, and the monks and nuns, who live in a multitude of monasteries, are under the dairi. The Hindoo religion has nowhere been more disfigured by superstition and subsequent additions than in Japan. The Siuto or Confucius sect, a philosophical sect, resembles the sect of the learned in China, and despises the folly of the popular belief.

The army of the Japanese consists, in time of peace, of 100,000 men, besides 20,000 horsemen, clad in armour; the infantry are protected only by helmets; their arms, bows, muskets, sabres and daggers, are excellent; they have very heavy cannon, but are even less skilful in the use of them than the Chinese. The single princes maintain, besides, 368,000 infantry and 33,000 cavalry. The navy is insignificant. The dairi formerly had large fleets, and large vessels of cedar; but now the Japanese vessels are small, at most ninety feet long, like the Chinese. In war, the Japanese display much courage, which is inflamed by martial songs and stories.

The Japanese are well situated for commerce. Formerly their ships covered the neighbouring seas; and before the arrival of the Europeans, they carried on a considerable trade, and an extensive navigation; they had, for example, visited the north-west coast of America, beyond Beering's straits, farther than the European navigators; they visited China and the East Indies as far as Bengal. After it had begun to be feared that foreigners would overthrow the state, and pervert the morals of the natives, all foreign commerce and navigation were prohibited. Their silk and cotton cloths, their porcelain wares, and their lackered tin ware, with raised flowers or figures (japanned ware), are well known, and in much demand as articles of commerce; their steel-work is excellent, especially their swords and other arms, the exportation of which is strictly forbidden.

Respecting the history of Japan, see Thunberg's *Travels* (from the Swedish, London, 1795), and Kamplér's *History of Japan* (translated from the manuscripts into English, London, 1728). Compare, also, Golownin's *Narrative of his Imprisonment in Japan*, 1811—13 (London, 1817), Abel Rémusat's *Mémoires sur la Dynastie régnante des Djoouins, Souverains du Japon* (Paris, 1820), which Titsingh, who was fourteen years Dutch resident at Nangasacki, compiled from Japanese originals. The *Elements de la Grammaire Japonaise* (from the Portuguese manuscript of father Rodriguez, Nangasacki, 1604), *traduits du Portug. par Landresse, expliqués par Ab. Rémusat* Paris, 1825), is preferable to the Japanese grammars of Alvarez and Collado.\*

JAPANESE CYCLE AND ÆRA. See *Epoch*.

JAPANNING is the art of varnishing in colours. All substances that are dry and rigid, or not too flexible, as woods, metals, leather, and paper prepared, admit of being japanned. Wood and metals require no other preparation than to have their surfaces perfectly even and clean; but leather should be securely stretched, either on frames or on boards, as its bending would crack and force off the varnish. Paper should be treated in the same manner, and have a previous strong coat of size; but it is rarely japanned, till converted into *papier maché*, or wrought into such a form that its flexibility is lost. The article to be japanned is first brushed over with two or three coats of seed lac varnish, to form the *priming*. It is then covered with varnish, previously mixed with a pigment of the tint desired. This is called the *ground colour*; and, if the subject is to exhibit a design, the objects are painted upon it in colours mixed with varnish, and used in the same manner as for oil painting. The whole is then covered with additional coats of transparent varnish, and all that remains to be done is to dry and polish it. Japanning requires to be executed in warm apartments, and the articles are warmed before the varnish is applied to them. One coat of varnish also must be dry before another is laid on. Ovens are employed to hasten the drying of the work. The same pigments which are employed in oil or water answer also in varnish. For painting figures, shell lac varnish is considered best, and easiest to work; it is therefore employed, in most cases, where its colour permits. For the lightest colours, mastich varnish is employed, unless the fineness of the work admits, or its durability requires the use of copal dissolved in alcohol.

JAPHETH, a Hebrew word, signifying *beautifully producing*, is the name of the third son of Noah. His descendants, according to Genesis, x. 5. peopled the isles of the Gentiles. This is supposed to mean Southern Europe, and thus Japheth is considered the ancestor of the European race, and is believed to have been the same who is called by the Greeks *Japetos*. According to Herbelot's *Bibliot. Orient.*, the Arabians give to Japheth eleven sons, who became founders of as many Asiatic tribes.

JARED; a son of Mehalaleel's, the father of Enoch. He reached the age of 962 years, according to Genesis, v. 20.

JARL, in the early history of the northern European kingdoms; the lieutenants or governors, appointed by the kings over each province. At a later period, only one jarl was appointed in each kingdom, and the title of *duke* given him, as was the case in Sweden, for instance, in 1163. In Norway, after 1308, during the reign of Hacon VII. this dignity was conferred only on the earls of Orkney

Netherlands in Japan, has transmitted a work to the Asiatic Society of Paris, on the origin of the Japanese, &c., containing, in an abridged form, the result of his researches during the last four years. The doctor wishes it to be published at the expense of the society, with notes and a critical preface. He writes, also, that he has collected the largest library of books which he believes was ever formed in Japan; it consists of more than 1500 volumes. His zoological museum contains more than 3000 specimens, and his botanical collection about 2000 species, in upwards of 6000 specimens. Assisted by his colleague, doctor Burger, he has also formed a complete mineralogical collection. He has visited the most remarkable cities, determined their latitude and longitude, and measured the height of several mountains. He has also established a botanical garden at Dextima, at the expense of the government of the Netherlands, in which there are now more than 1200 plants cultivated. The doctor has also presented to the king of France a collection of plants in domestic use in Japan, which he considers to be well adapted for the climate of the south of France."

\* The following notice appeared in the newspapers in 1820: "Doctor Siebold, the resident of the king of the

and the princes of the blood. See the articles *Earl*, and *Alderman*.

**JASMINE**; a beautiful genus of plants belonging to the *diandria monogynia* of Linneus. The corolla is funnel-shaped, and the fruit a two-seeded berry. Thirty species are known, which are shrubs, often with long, twining branches, bearing simple or compound leaves, and beautiful and delightfully fragrant flowers. Two species are natives of the south of Europe.

**JASON**; son of *Æson*, king of *Iolchos*, in *Thessaly*, and of *Polymede* (according to some writers, of *Polymete*, *Alcimedee*, *Polypheme*, &c.); a hero of ancient Greece, celebrated for his share in the Argonautic expedition, before which he had distinguished himself in the Caledonian hunt. His instructor was the Centaur *Chiron*, who educated most of the heroes of that time. His father abdicated the government of *Iolchos* before Jason was of full age; on which account his uncle *Pelias* administered the government as his guardian. The causes of Jason's expedition to *Colchis* are commonly related thus: *Pelias*, Jason's uncle, sent an invitation to all his relations, and, among the rest, to Jason, to attend a solemn sacrifice to *Neptune*. When Jason, on his way to *Iolchos*, came to the river *Evenus* (*Enipeus*, *Anaurus*), he found *Juno* there, in the form of an old woman, who requested him to carry her over. He complied with her request, but lost one of his shoes in the mud. *Pelias*, who had been warned by an oracle, that he should be deprived of his kingdom and life by the man who should come to the sacrifice without shoes, was alarmed at the sight of Jason in this condition, and asked him what he would do to the man designated by the oracle as his murderer. Jason, at the instigation of *Juno*, replied, that he should send him to *Colchis*, after the golden fleece; and he was accordingly sent. Another account relates that *Pelias* had deprived his brother of his throne, and that Jason, when twenty years old, having asked the oracle how he could get possession of his lawful inheritance, was directed to go to the court of *Pelias*, at *Iolchos*, in the dress of a *Magnesian*, with a leopard's skin on his shoulders, and armed with two lances. On the way, Jason lost his shoe in the manner above related. All were surprised at his appearance, and *Pelias*, who did not recognise him, demanded who he was. Jason answered boldly that he was the son of *Æson*, caused himself to be shown the dwelling of his father, and spent five days there with his relations, *Pheres*, *Neleus*, *Admetus*, *Amythron*, *Acastus*, and *Melampus*, in celebrating his return. They then went together to *Pelias*, and demanded of him his abdication. *Pelias* dared not refuse, but answered that he would resign, after Jason had performed a glorious achievement by bringing back the golden fleece to *Thessaly*, as the oracle and the shade of *Phryxus* had commanded, since his age would not permit him to go himself. On the voyage (see *Argonauts*), Jason had two children by *Hypsipyle* of *Lemnos*—*Euneus* and *Nebrophonus* (*Deipylus*). By the assistance of *Medea* he successfully accomplished the object of his voyage, and returned, carrying home *Medea* as his wife, after long wanderings. Here he avenged the murder of his parents and his brother, by putting *Pelias* to death. But he was unable to retain possession of the throne, and was obliged to resign it to *Acæstus*, son of *Pelias*, and flee, with his wife, to *Corinth*. Here they passed ten happy years, till Jason, wearied of *Medea*, fell in love with *Claude* (*Creusa*, according to some accounts), daughter of *Creon*, king of *Corinth*, married her, and put away *Medea* and her children. *Medea*, having revenged herself on her hated rival, fled from the wrath of Jason, in her car drawn by dragons, to

*Ægeus*, king of *Athens*, after she had put to death *Mærmærus* and *Phereus*, her sons by Jason. According to some, Jason killed himself in despair; but others relate that, after passing a miserable wandering life, he came to his death by the following accident: As he was sleeping one day, overcome by weariness, on the sea-shore, in the shade of the vessel which had borne him to *Colchis*, a beam fell upon him and crushed him. Others say that he was afterwards reconciled to *Medea*, and returned with her to *Colchis*, where, after the death of his father-in-law, he ruled many years in peace.

**JASPER**. See *Quartz*.

**JASSY** (*Jash*), capital of *Moldavia*, about 15 miles distant from the *Pruth*, 200 miles east of *Oczakow*, 370 north of *Constantinople*, has a citadel, and is the residence of the hospodar, and seat of the Greek metropolitan of *Moldavia*, with 25,000 inhabitants. The Roman Catholics are allowed the free exercise of their religion, and there are some Jews here. The city is an open place, and was almost destroyed by the janissaries, August 10, 1822: it now contains hardly 2000 houses. The streets are paved with logs. The excellent canvass made here, and the wine of *Catanapou*, in the neighbourhood, are exported from *Jassy* to *Constantinople*. This city was taken by the Russians, in 1739 and 1769, but each time restored to the Turks on the conclusion of peace. In 1788, it fell into the power of the Austrians; and, January 9, 1792, the peace between Russia and Turkey was signed here. (See *Russia*.) In 1821, the unfortunate Alexander *Ypsilanti* here raised the standard of the Greek *Heteria* against the Turks. See *Heteria*, and *Greece*, *Revolution of*.

**JAUCOURT**, *LOUIS*, chevalier de, one of the contributors to the French *Encyclopédie*, born 1704, at *Paris*, received the rudiments of his education at *Geneva*, passed three years at *Cambridge*, and studied medicine in *Holland*, under *Boerhaave* and *Tranchin*, but determined to practise it only for the benefit of the poor. On his return home, he devoted himself entirely to letters, and, at the instance of *D'Alembert*, he prepared the articles relating to medicine and natural philosophy for the *Encyclopédie*. He also contributed other articles, which are among the best in the work. Feeling his strength decline, he retired to *Compiègne*, where he died, 1779. Besides his treatises in the *Encyclopédie*, he published various works, some original and some translated, on medical subjects. The manuscript of a universal medical dictionary, which he had prepared, in six volumes, folio, was lost on its way to the publisher in *Amsterdam*, in a vessel that was shipwrecked on the coast of *North Holland*.

**JAUNDICE** is a disease of which the distinguishing peculiarity is, that the whole skin becomes yellow. It proceeds from some disease about the liver, or its communication with the bowels. The internal symptoms are those of all disorders of the digestive organs, except that the water is dark and loaded with bile, while the bowels appear to be deprived of it. The yellow colour is first perceptible in the whiter parts of the body, as the white of the eye, &c., and soon overspreads the whole body. There is often an extreme itching and pricking over the whole skin. After the disease has continued long, the colour of the skin becomes gradually deeper and darker, till the disease becomes, at last, what is vulgarly called the *black jaundice*. This appearance arises from the bile being retained, from various causes, in the liver and gall-bladder, and thus being absorbed and circulated with the blood. It may be produced by obstacles to the passage of the bile of various kinds, and is often suddenly induced by a violent fit of passion, or more slowly by long con-

timance of melancholy and painful emotions. It is a very common figure of speech, to say, that "a person views a thing or a person with jaundiced eyes;" but this is founded in a mistake; for it is not true, that jaundice communicates such a colour to the transparent part of the eye, as to affect the colour of objects. The above phrase is therefore inappropriate.

JAVA; a large island in the Eastern seas, situated between 6° and 9° of S. lat., and between 105° and 115° of E. lon. from Greenwich. It extends from east to west, and is 642 miles in length, its greatest breadth 128 miles, and its average breadth ninety-five. To the south and west, its shores are washed by the Southern Indian ocean; to the north-west lies the island of Sumatra, from which Java is separated by a strait, twenty miles wide in the narrowest part, known by the name of the *Straits of Sunda*; to the north is Borneo; to the north-east, Celebes; and, on the east, the islands of Bali and Madura, from the former of which it is separated by a narrow passage, called the *Straits of Bali*. The island is divided nearly in its whole length by a range of mountains, running almost east and west, and rising to their greatest elevation towards the centre; but the range is much broken. In several hills of the great range of mountains are the craters of volcanoes, which formerly raged with fury, and poured forth torrents of lava; but, at present, none are known to be in activity, though many emit smoke after heavy rain. The most considerable rivers are the Joana, and the Sedani, or Tangerang. On the bank or bar before Batavia, the flood rises about six feet, and higher at spring tides. High and low water likewise occur only once in twenty-four hours. The island is traversed from east to west by a great military road, 700 miles in extent, constructed by general Daendels, a governor of the island, before it was taken by the British. The year, as is usual in tropical climates, is divided into the dry and the rainy seasons; or into the east, which is called the *good monsoon*, and the west, or the *bad monsoon*. Thunder storms are very frequent, especially towards the conclusion of the monsoons, when they occur almost every evening. The heat of the climate is various. Along the sea-coast, it is hot and sultry. At Batavia, from July to November, the thermometer generally stands, in the hottest part of the day, between 84° and 90°, which it rarely exceeds; and, in the greatest degree of coolness in the morning, it is seldom lower than 76°. In some parts, particularly among the hills, and in many of the inland towns, it is often so cold as to make a fire desirable. Java possesses a soil of extraordinary luxuriance and fertility. In the forests, especially in those on the north-east coast, is found an abundance of lofty trees, fit to be converted into masts, while forests of teak supply the place of oak for building ships, adapted to all purposes. Palms and cocoa-trees are found in great variety, and are distinguished by their luxuriant growth, sometimes reaching to the astonishing height of 150 feet. Fruits of all kinds are also abundant, many of them of exquisite delicacy and flavour. In the high ground in the interior, they are found to dwindle and degenerate, in that equinoctial climate. The various kinds of plants, and great abundance of herbs found in Java, could afford ample scope for the researches of the botanist, as flowers exhale their perfumes at all seasons of the year. Garden-plants are produced in great variety, such as endives, cauliflowers, beans, abbages, pumpions, melons, patacas or water-cucumbers, yams, potatoes, &c. Maize, or Indian corn, is a favourite article of food with the natives, who eat it roasted. The natural fertility of the soil of

Java supersedes the necessity of laborious tillage. The staple produce of the island is rice. Sugar, to the amount of 10,000,000 of pounds annually, is also made. Pepper is produced in great abundance and perfection; also indigo of a very superior quality. Cotton is cultivated in almost every part of the island; and the coffee plantations are extremely luxuriant. The soil is also very favourable to the growth of tobacco. There are many other herbs and plants, both medicinal and balsamic, that are but imperfectly known to Europeans. Wheat and barley are only grown in small quantities, on the hilly tracts, chiefly in the middle parts of the island. Oats and Bengal grain thrive likewise in those parts of the island, and would be produced in great abundance, were due attention given to their culture. The domestic animals in Java are buffaloes, and cattle of every description, and sheep, goats, and pigs. Game, however, does not abound here so much as in other countries, though hares and rabbits are pretty common; and deer and antelopes are also plentiful. The horses, which are very numerous throughout the island, are small, but active. Wild hogs and monkeys are found in all the jungles. The forests abound with tigers, as powerful and as large as in Bengal. A species of black tiger, which is often found, is very ferocious. The rhinoceros is sometimes met with. Snakes are found here, as in all other hot countries, in great numbers, and of various kinds. Some of these are from twenty-five to thirty feet in length. Lizards of all kinds, from the variable chameleon to the guana tribe, frequent the bushes, trees, and roofs of the houses. Scorpions and mosquitoes abound in the marshes. There are, besides, various other sorts of dangerous and disgusting vermin. Of the numerous feathered tribes found in Java, we may remark the cassowary, a very large and powerful bird. White eagles have been seen here; and every kind of bird of prey is continually on the wing. The aquatic tribe is equally diversified, and the extensive fisheries along this great line of coast are highly productive. At the mouths of the rivers, numbers of alligators, or caymans, are continually lurking for their prey. In the several bays, numerous sharks swim about the ships; and many animals, undescribed in natural history, abound in these seas. There are manufactures of cotton, leather, and saddlery; also of iron, brass, and tin. The principal articles of exportation are rice, sugar, coffee, pepper, indigo, teak timber and planks, spices (which are brought from the Moluccas), tin (from Banca), cotton, yarn, salt, edible birds' nests. The imports are European articles, of every description—chintzes and muslins, silks, hats (which are a favourite dress with the Chinese and native chieftains), boots and shoes, cabinet ware, fire-arms, gunpowder, shot, haberdashery, hosiery, mathematical and musical instruments, &c. The population of Java is composed almost entirely of natives, of a variety distinct from the Malays and other inhabitants of the neighbouring islands. In 1815, it amounted to 5,000,000, of whom one-fortieth part were Chinese, Europeans, Arabs, Malays, and Hindoos. The Javanese are small, with a yellow complexion, flattened nose, high cheek bones, and thin beard. Their language is entirely different from the Malay; their religion Mohammedanism. Numerous monuments of antiquity, buildings, statues, &c., prove that they were once in a more flourishing condition than at present. Three quarters of Java are in the power of the Dutch, whose immediate authority extends over three-fifths of the inhabitants. The other quarter is divided between two native sovereigns in the south-east part of the island. Java was discovered by the Portuguese in 1510. They made some settlements there, which

were taken possession of by the Dutch, towards the end of the sixteenth century. The latter, having conquered the native princes, made the island the centre of their Indian possessions in 1619. In 1811, the British made themselves masters of it, but restored it at the peace of Paris, in 1814. The exactions and oppressions have since occasioned several insurrections of the natives.—See Raffles's *History of Java* (second edition, London, 1830); Crawford's [British resident at Java] *Indian Archipelago*; Marchal's *Descript. Géog., Hist., et Commerciale de Java* (Brussels, 1826.) Blume, a Dutch naturalist, who resided nine years in the island, has published a view of the vegetable kingdom of Java.

**JAY** (*garrulus*). These birds are distinguished from the crows by having their bill rather short and straight; upper mandible somewhat inflected at tip; lower, navicular; head feathers, erectile; wings, not reaching to the tip of the tail; colours, brilliant. The European jay (*G. glandarius*) and the blue jay of the United States (*G. cristatus*) are the most prominent and best known of this genus, and possess much the same characteristics, both in their wild and their domesticated state. They are lively, petulant, and rapid in their movements; exceedingly noisy, having a faculty of imitating harsh sounds. When an owl or other bird of prey appears in the woods, they utter piercing cries, and assemble in great numbers to attack the common enemy. The same thing takes place when they see a sportsman, whose purpose they often frustrate by their vociferous noise. They indulge no familiarity with man, and discover all that shyness and timidity so natural to thieves. In a domestic state, they are restless, and much addicted to transports of anger. When confined in a cage, therefore, they soon lose their beauty, by the perpetual rubbing and breaking of their feathers. Like their kindred, the magpie and jackdaw (q. v.), they can be taught a variety of words and sounds, particularly those of a harsh and grating character, as that of a saw, &c.

**JAY, JOHN**, an eminent American jurist and statesman, was born in the city of New York, Dec. 1, 1745, old style. After receiving the elements of education at a boarding-school, and under private tuition, he was placed, when fourteen years of age, at King's (now Columbia) college, in his native place. Here he devoted himself principally to those branches which he deemed most important in reference to the profession of the law, upon the study of which he entered after receiving his bachelor's degree. In 1768, he was admitted to the bar, and in 1774 was chosen a delegate to the first American congress, which met at Philadelphia, and was placed on a committee with Mr Lee and Mr Livingston, to draft an address to the people of Great Britain. It was prepared by Mr Jay, and is one of the most eloquent productions of the time. In the two following years, he was re-elected, and served on various important committees. In 1776, he was chosen president of congress. In 1777, he was a member of the convention which framed the constitution of New York; and the first draft of that instrument proceeded from his pen. The following year, when the government of New York was organized, he was appointed chief-justice of that state. In 1779, we find him again a member of congress, and in the chair of that body. From this, however, he was removed in the same year by his appointment as minister plenipotentiary to Spain. The objects of Mr Jay's mission were to obtain from Spain an acknowledgment of the independence of the United States, to form a treaty of alliance, and to procure pecuniary aid; with regard to the last only of which points, a satisfactory conclusion was obtained. In 1782, Mr Jay was appointed one of

the commissioners to negotiate a peace with Britain, at the same time that he was authorized to continue the negotiation with Spain. In conjunction with Mr Adams and doctor Franklin, he resolved to disobey the instructions of congress to follow in all things the advice of the French minister, count de Vergennes, who was embarrassing the negotiation with Britain, in order to benefit France at the expense of the United States, and accordingly they signed a treaty with the British minister, without his knowledge. The definitive treaty having been signed in September, 1783, he soon afterwards resigned his commission as minister to Spain, and, in May, 1784, embarked for the United States. He was then placed at the head of the department for foreign affairs, in which office he continued until the adoption of the present constitution, when he was appointed chief-justice of the United States. In 1787, he received a serious wound in the forehead from a stone, when acting as one of a volunteer corps to preserve the peace of the city at the time of the doctors' mob. He was, in consequence, confined to his bed for some time, a circumstance which obliged him to discontinue writing for the *Federalist*, to which he had already contributed the second, third, fourth, and fifth numbers. The only other number in the volume from his pen is the sixty-fourth, on the treaty-making power. In 1784, he was sent as envoy extraordinary to Great Britain, and concluded the treaty which has been called after his name. Before his return in 1795, he had been elected governor of his native state—a post which he occupied until 1801. In that year, he declined a re-election, as well as a re-appointment to the office of chief-justice of the United States, and retired to private life. The remainder of his days was passed in devotion to study, particularly theological, and to practical benevolence. He died, May 17, 1829, universally honoured and beloved. He was a man of inflexible firmness of mind in the performance of duty, of great discernment, extensive information, and fine talents as a writer. Although rather cautious with strangers, with friends he was affable and frank; economical in his expenses, he was at the same time generous towards every object worthy of his bounty. The letters between him and general Washington, various extracts of which are contained in the fifth volume of Marshall's history, exhibit the elevated place he held in the confidence and esteem of that illustrious man.

**JEDDO, JEDO, or YEDDO**; a city of Japan, capital of the empire, at the head of a large bay, at the mouth of a river, in the S. E. of Nippon; 160 f. by N. of Meaco. Lon. 140° E.; lat. 36° 30' N. The population has heretofore been estimated at 1,000,000. In 1812-13, the Japanese told to Golownin, that the population exceeded 10,000,000; that in the principal streets were 280,000 houses, each containing from thirty to forty persons; and that in the city there were 36,000 blind men. Meaco was formerly the capital, and is still the residence of the spiritual emperor; but the civil and military emperor has his residence at Jeddo. This city is seven miles long, five broad, and twenty in circuit. It has no walls, except those which surround the palace. It is used not to be surpassed in magnificence by any city in Asia, since, besides the usual accompaniments of a capital, all the princes and great men are obliged to make it their residence for half of the year. It contains, therefore, many splendid palaces, which stand by themselves, surrounded by large court-yards and stately gates, and, though built only of wood, and one story high, are distinguished by varnished stair-cases and large and finely ornamented apartments. The palace of the emperor may be properly called a great fortified city. It is situated in the heart of

the general city, said to be five leagues in circuit, surrounded with walls and ditches, and containing several fortified buildings, which have the appearance of castles. The outer part is composed of streets, containing many palaces, in which reside the princes of the blood, ministers, and other public functionaries. In the centre is the emperor's palace, the body of it being of only one high story, but adorned with a square tower raised many stories high. Unlike all other Japanese structures, it is well built of freestone, and is surrounded by a wall of the same material. The city is intersected by branches of the river, and by canals. It is the seat of an extensive commerce, and has many flourishing manufactures. It is greatly exposed to the ravages of fire. In 1658, 100,000 houses were reduced to ashes in forty-eight hours.

JEFFERSON, THOMAS, the third president of the United States of America, was born April 2, old style, 1743, at Shadwell, in Albemarle county, Virginia, and was the eldest of eight children. His father, though his education had been entirely neglected in early life, being a man of strong mind, acquired, by subsequent study, considerable information. He died when the subject of our sketch was about twelve years old, having previously given him every means of knowledge that could be procured, and left him a considerable estate. After going through a course of school instruction, young Jefferson entered the college of William and Mary, where he remained for two years. He then commenced the study of law under the guidance of the celebrated George Wythe, by whom, in 1767, he was introduced to its practice, at the bar of the general court of the colony, at which he continued until the revolution. In 1769, he was elected a member of the provincial legislature from the county where he resided, and made a fruitless effort, in that body, for the emancipation of the slaves. By this time, a spirit of opposition had been excited in the colonies to the arbitrary measures of the British government; and when the governor of Virginia dissolved the general assembly, in 1769, in consequence of the sympathy which was displayed by the majority of its members with the feelings which had been manifested in Massachusetts, they met, the next day, in the public room of the Raleigh Tavern, formed themselves into a convention, drew articles of association against the use of any merchandise imported from Great Britain, and signed and recommended them to the people. They then paired to their respective counties, and were all elected, except those few who had declined assenting to their proceedings. In 1773, Mr Jefferson associated himself with several of the boldest and most active of his companions in the house ("not making," as he says himself, "the old and leading members up to the point of forwardness and zeal which the times required"), and with them formed a system of committees of correspondence, in a private room of the same Raleigh Tavern. This system was adopted as the best instrument for communication between the different colonies, by which they might be brought to a mutual understanding, and a unity of action produced. This end was completely accomplished, as well as another object—of exciting throughout the colonies a desire for a general congress. It was accordingly resolved that a congress should be held, and in Virginia a convention was assembled for the purpose of choosing delegates. In this convention Mr Jefferson was elected a member; but, being suddenly taken ill on the road, as he was repairing to Williamsburg, its place of meeting, he sent on to its chairman, Peyton Randolph, a set of instructions which he had prepared as they were to be given to the delegates who should be sent to congress. It was laid on the table for perusal;

but, though approved by many, the sentiments contained in it were too bold to be adopted by the majority: "tamer sentiments," in his own words, "were preferred, and, I believe, wisely preferred; the leap I proposed being too long, as yet, for the mass of our citizens." The position that he maintained was, that the relation between Great Britain and the colonies was exactly the same as that between England and Scotland, after the accession of James, and until the union, and the same as her relations with Hanover, having the same executive chief, but no other necessary political connexion. In this doctrine, however, the only person who entirely concurred with him was George Wythe, the other patriots "stopping at the half-way house of John Dickinson, who admitted that Britain had a right to regulate their commerce, and to lay duties on it for the purposes of regulation, but not of raising revenue." Though the paper was not adopted, the convention, nevertheless, caused it to be printed in a pamphlet form, under the title of a Summary View of the Rights of British America. Having found its way to Britain, it was taken up by the opposition, and, with a few interpolations of Mr Burke, passed through several editions. It procured for its author considerable reputation, and likewise the dangerous honour of having his name placed on a list of proscriptions, in a bill of attainder, which was commenced in one of the houses of parliament, but was speedily suppressed. June 21, 1775, Mr Jefferson took his seat for the first time in congress, having been chosen to fill the place of Peyton Randolph, who had resigned. In this new capacity, he persevered in the decided tone which he had assumed, always maintaining that no accommodation should be made between the two countries, unless on the broadest and most liberal basis. After serving on several committees, he was at length appointed a member of that, whose report has linked the name of its author with the history of American independence. June 7, 1776, the delegates from Virginia, in compliance with the instructions of the convention, moved that congress should declare the United Colonies free and independent states. This gave rise to a warm and protracted debate; for as yet there were many who continued to cling to the hope of a peaceful adjustment. In the course of the discussion, it appearing that several colonies were not yet fully ripe for separation, it was deemed prudent to defer the final decision of the question for a short time; and, in the mean while, a committee was appointed to prepare a declaration of independence, consisting of John Adams, doctor Franklin, Roger Sherman, Robert R. Livingston, and Mr Jefferson. The last named gentleman was requested to draw up the paper, which he did; and it was reported to the house, after receiving a few alterations from doctor Franklin and Mr Adams. On the first of July, the day selected for deciding upon the original motion of the Virginia delegates, it was carried in the affirmative by a large majority, and two or three days afterwards by an unanimous vote. The declaration of independence was then brought before the house, by which, though generally approved, it was, in some respects modified. Those passages, especially, which conveyed censure upon the people of Britain, were either greatly softened, or entirely omitted, as the idea was still entertained that the colonies possessed friends among them, whose good will it would be proper to cherish; and a clause reprobating the slave-trade was cancelled, in complaisance to some of the southern States, who were largely engaged in the traffic. The debates respecting the declaration occupied three days, on the last of which, the 4th of July, it was signed by every member present, except

John Dickinson, who deemed a rupture with the mother country, at that moment, rash and premature. September 2, 1776, Mr Jefferson retired from his seat in congress, and, on the 7th of October, took his place in the legislature of Virginia, of which he had been elected a member from his county. In this situation, he was indefatigable in his labours to improve the imperfect constitution of the state, which had been recently and hastily adopted, before a draught of one which he had formed on the purest principles of republicanism, had reached the convention, which was deliberating at Richmond. The chief service which he performed was as a member of a commission for revising the laws, consisting, besides himself, of Edmund Pendleton, George Wythe, George Mason, and Thomas Ludwell Lee, by whom no less than 126 bills were prepared, from which are derived all the most liberal features of the existing laws of the commonwealth. The share of Mr Jefferson in this great task was prominent and laborious. June 1, 1779, he was chosen the successor of Mr Henry, in the office of governor of the state, and continued in it for two years, at the end of which period he resigned, "from a belief," as he says, "that, under the pressure of the invasion under which we were then labouring, the public would have more confidence in a military chief, and that the military commander being invested with the civil power also, both might be wielded with more energy, promptitude and effect, for the defence of the state." General Nelson was appointed in his stead. Two days after his retirement from the government, he narrowly escaped capture by the enemy, a troop of horse having been despatched to Monticello, where he was residing, for the purpose of making him prisoner. He was breakfasting, when a neighbour rode up at full speed with the intelligence that the troop was descending a neighbouring hill. He first sent off his family in a carriage, and after a short delay for some indispensable arrangements, mounted his horse, and taking a course through the woods, joined them at the house of a friend—a flight in which it would be difficult to discern any thing dishonourable, although it has been made the subject of sarcasm and reproach without end, by the spirit of party.

June 15, 1781, Mr Jefferson was appointed minister plenipotentiary, in conjunction with others, to negotiate a peace then expected to be effected, through the mediation of the empress of Russia; but he declined, for the same reason that had induced him, in 1776, to decline also the appointment of a commissioner, with doctor Franklin, to go to France in order to negotiate treaties of alliance and commerce with that government. On both occasions, the state of his family was such that he could not leave it, and he "could not expose it to the dangers of the sea, and of capture by the British ships, then covering the ocean." He saw, too, that "the labouring oar was really at home," especially at the time of his first appointment. But, in November, 1782, congress, having received assurance that a general peace would be concluded in the winter and spring, renewed the offer which they had made the previous year; and this time it was accepted; but the preliminary articles being agreed upon before he left the country, he returned to Monticello, and was chosen (June 6, 1783) a member of congress. It was during the session at Annapolis, that, in consequence of Mr Jefferson's proposal, an executive committee was formed, called the *committee of the states*, consisting of a member from each state. Previously, executive and legislative functions were both imposed upon congress; and it was to obviate the bad effects of this junction, that Mr Jefferson's proposition was adopted. Success, however, did not attend the plan; the mem-

bers composing the committee quarrelled, and, finding it impossible, on account of their altercations, to fulfil their duties, they abandoned their post, after a short period, and thus left the government without any visible head, during the adjournment of congress. May 7, 1784, congress having resolved to appoint another minister, in addition to Mr Adams and doctor Franklin, for negotiating treaties of commerce with foreign nations, selected Mr Jefferson, who accordingly sailed from Boston July 5, and arrived in Paris August 5. Doctor Franklin was already there, and Mr Adams having, soon after, joined them, they entered upon the duties of their mission. They were not very successful, however, in forming the desired commercial treaties, and, after some reflection and experience, it was thought better not to urge them too strongly; but to leave such regulations to flow voluntarily from the amicable dispositions and the evident interests of the several nations. In June, 1785, Mr Adams repaired to London, on being appointed master plenipotentiary at the court of St James, and in July, doctor Franklin returned to America, and Mr Jefferson was named his successor at Paris. In the February of 1786, he received a pressing letter from Mr Adams, requesting him to proceed to London immediately, as symptoms of a better disposition towards America were beginning to appear in the British cabinet, than had been manifested since the treaty of peace. On this account, he left Paris in the following March, and, on his arrival in London, agreed with Mr Adams on a very summary form of treaty, proposing "an exchange of citizenship for our citizens, our ships, and our productions generally, except as to office." At the usual presentation, however, to the king and queen, both Mr Adams and himself were received in the most ungracious manner, and after a few vague and ineffectual conferences, he returned to Paris. Here he remained, with the exception of a visit to Holland, to Piedmont, and the south of France, until the autumn of 1789, assiduously pursuing whatever was beneficial to his country. September 26 of that year, he left Paris for Havre, and, coming over to Cowes, embarked for the United States. November 23, he landed at Norfolk, Va., and, when on his way home, received a letter from president Washington, covering the appointment of secretary of state, under the new constitution which was just commencing its operation. He soon afterwards received a second letter from the same quarter, giving him the option of returning to France, in his ministerial capacity, or of accepting the secretaryship, his conveying a strong intimation of desire that he would choose the latter office. This communication was produced by a letter from Mr Jefferson to the president, in reply to the one first written, in which he had expressed a decided inclination to go back to the French metropolis. He then, however, consented to forego his preference, and, March 21, arrived at New York, where congress was in session, and immediately entered upon the duties of his post. It would be altogether inconsistent with our limits to give a minute account of the rest of Mr Jefferson's political life. This could not be done without writing the history of the United States for a certain period. We must, therefore content ourselves with stating that he continued to fill the secretaryship of state, until the 31st of December, 1793, when he resigned. From that period until February, 1797, he lived in retirement. In this year he was elected vice-president of the United States, and, in 1800, was chosen president, by a majority of one vote over his competitor, Mr Adams. At the expiration of eight years, he again retired to private life, from which he never afterwards emerged. The rest of his life was passed at Monticello, which was a continued scene

of the blandest, and most liberal hospitality. Such, indeed, was the extent to which calls upon it were made, by foreigners as well as Americans, that the closing year of his life was imbittered by distressing pecuniary embarrassments. He was forced to ask permission of the Virginia legislature to sell his estate by lottery, which was granted. Shortly after Mr Jefferson's return to Monticello, it having been proposed to form a college in his neighbourhood, he addressed a letter to the trustees, in which he sketched a plan for the establishment of a general system of education in Virginia. This appears to have led the way to an act of the legislature, in the year 1818, by which commissioners were appointed with authority to select a site, and form a plan for a university, on a large scale. Of these commissioners, Mr Jefferson was unanimously chosen the chairman, and, August 4, 1818, he framed a report, embracing the principles on which it was proposed the institution should be formed. The situation selected for it was at Charlottesville, a town at the foot of the mountain on which Mr Jefferson resided. He lived to see the university—the child of his old age—in prosperous operation, and giving promise of extensive usefulness. He fulfilled the duties of its rector until a short period before his death, which occurred on the 4th of July, 1826, the fiftieth anniversary of the declaration of independence, and within the hour in which he had signed it.

In person, Mr Jefferson was tall and well formed; his countenance was bland and expressive; his conversation fluent, imaginative, various, and eloquent. Few men equalled him in the faculty of pleasing in personal intercourse, and acquiring ascendancy in political connexion. He was the acknowledged head of the republican party, from the period of its organization down to that of his retirement from public life. The unbounded praise and blame which he received as a politician, must be left for the judgment of the historian and posterity. In the four volumes of his posthumous works, edited by his grandson, Thomas Jefferson Randolph, there are abundant materials to guide the literary or historical critic in forming an estimate of his powers, acquirements, feelings, and opinions. His name is one of the brightest in the revolutionary galaxy. Mr Jefferson was a zealous cultivator of literature and science. As early as 1781, he was favourably known as an author, by his notes on Virginia. He published, also, various essays on political and philosophical subjects, and a Manual of Parliamentary practice, for the use of the Senate of the United States. In the year 1800, the French national institute chose him one of their foreign members. The volumes of posthumous works, in addition to an autobiography of the author to the year 1790, consist principally of letters from the year 1775 to the time of his death, and embrace a great variety of subjects.

JEFFREY OF MONMOUTH. See *Geoffrey*.

JEFFREYS, GEORGE, lord baron Wem, commonly known by the name of *Judge Jeffreys*, was born towards the beginning of the seventeenth century. He was entered at the Middle Temple, and, by attending an assize during the plague, when few barristers could be met with, he was allowed to plead, although not formally admitted, and continued to practise unrestrained until he attained the highest employments in the law. Soon after commencing his professional career, he was chosen recorder of London; and to this advancement, and the influence it procured him, may be attributed his introduction to court, and appointment of solicitor to the duke of York. A willing instrument of all sorts of measures, for farther promotion, at such a period, was rapid, and he was appointed, successively, a Welsh judge

and chief-justice of Chester, and created a baronet. When parliament began to prosecute the *abhorrents* (or church and court party, so called from their address to the king, Charles II., expressing their *abhorrence* of those who endeavoured to encroach on the royal prerogative), he resigned the recordership, and was appointed chief-justice of the king's bench. On the accession of James II., he was one of the advisers and promoters of all the oppressive and arbitrary measures of his reign; and, for his sanguinary and inhuman proceedings against the adherents of Monmouth, was rewarded with the post of lord high chancellor (1685). He usually, however, showed himself an able and impartial judge, where political purposes were not to be answered. His deportment on the bench was, in the highest degree, discreditable at all times, and he indulged in scurrility and abuse of the most degrading description. On the arrival of the prince of Orange, the chancellor, who had disguised himself as a seaman, in order to get on board a ship unknown, was detected in a low public house in Wapping, by an attorney whom he had insulted in open court. The latter making his discovery known, Jeffreys was immediately seized by the populace, and carried before the lord mayor, who sent him to the lords in council, by whom he was committed to the Tower, where he died April 18, 1689.

JEFFRIES, JOHN, M. D., was born at Boston, in America, Feb. 5, 1744, and, after graduating at the university of Cambridge, commenced the study of medicine. After completing his preparatory studies, and being admitted to practise, he went to London, and sedulously attended the instructions of the most distinguished lecturers. June 1, 1769, the university of Aberdeen conferred on him the degree of doctor of physic, he being, as it is believed, the first native of the American provinces who obtained that honour. In the same year, he returned to Boston, where he recommenced his labours, and continued to practise, with great success, until the evacuation of that city by the British garrison. He then accompanied general Howe to Halifax. That commander made him surgeon-general to the forces in Nova Scotia, in 1776. In March, 1779, he went again to England, where he was made surgeon-major to the forces in America. In the spring of 1779, he entered upon the duties of this office in Savannah, then in the possession of the British. He did not, however, retain it very long, for, in December, 1780, he was again in London, having resigned, and proceeded thither in consequence of a severe domestic affliction. In London, he practised with considerable success, and occupied himself much with scientific research, having declined the offer of the lucrative post of surgeon general to the forces in India. To ascertain the correctness of certain preconceived hypotheses relative to atmospheric temperature, and the practicability of some aerostatic improvements which had suggested themselves to his mind, he undertook two aerial voyages. The second one was made Jan. 7, 1785, from the cliffs of Dover, across the British channel, into the forest of Guinnes, in the province of Artois, in France, and was the only successful attempt to cross the sea in a balloon. The reputation accruing from these expeditions gained him the notice and civilities of some of the most distinguished personages of the day, procured for him an introduction to all the learned and scientific societies of Paris, and facilitated his access to the medical and anatomical schools of that metropolis. He drew up a paper, detailing the result of his various experiments, which was read before the royal society of London with much approbation. In the summer of 1789, he repaired to Boston where he soon acquired eminence. It is said that

he delivered the first public lecture in Boston on anatomy, a branch of which he was very fond. He delivered, however, but one; for, on the second evening, a mob, having collected, entered his anatomical room, and carried off, in triumph, his subject, which was the body of a convict, given him by the governor after execution. After an uninterrupted and successful practice of fifty-three years, he was seized with an inflammation of the bowels, originating in a hernia occasioned by great exertion in his first aerial voyage, which carried him off on the 16th of September, 1819, aged seventy-six years.

JEHOVAH; the awful and ineffable name of the God of Israel, which was revealed to Moses. The pronunciation of this celebrated *εργασματον*, which means, *He who is, was, and will be*, or the *Eternal, Unchangeable, the Faithful* (Exod. iii. 14; vi. 3), is not known, nor is its entire signification, though it seems to contain all the tenses of the Hebrew word to be, and to imply, as above explained, *eternal and necessary being*. It reminds us of the inscription on the temple of Isis, in Egypt—"I am whatever is, was, and will be, and no mortal has ever raised my veil;" and this resemblance may perhaps be explained by the passage in Acts vii. 22, "Moses was learned in all the wisdom of the Egyptians." (See *Egyptian Mythology*, end of article *Hieroglyphics*.) How far it may be connected with the exclamation *Io*, of the Egyptians and Greeks (Diod. Sic. i. 94; Macrobi., *Saturn.* i. 18), we cannot decide. We know that the Hebrews cherished the most profound awe for this incommunicable and mysterious name, and that this sentiment led them to avoid pronouncing it, and to substitute for it, in the sacred text, the word *Adonai*, which signifies *the lord*. This custom still prevails among the Jews, who attribute to the pronunciation of the name of the Almighty the power of working miracles, and thus explain those of Christ. This religious respect for the name of God is analogous to the veneration of the Egyptians for the proper names of their deities. They may be written either in the figurative, symbolic, or phonetic characters (see *Hieroglyphics*); and, in hieroglyphic or hieratic inscriptions, which are of a sacred character, they are phonetic; but in demotic texts which are of a profane nature, the names of the gods are always expressed symbolically, and never phonetically; and Champollion has even found that some hieroglyphic names of divinities were written one way and pronounced another. The Greeks, too, were superstitiously fearful of uttering the name of *Gorgon* or *Demogorgon*, and not less afraid of calling the Furies by their names. (Euripides, *Orestes*, verses 37 and 430.) The conception of the Jehovah of the Israelites differs from all other theological conceptions of that age. No image of him was allowed. He was the invisible protector and king of Israel, worshipped by obedience to his commandments, and an observance of the ceremonies instituted through Moses; yet the Jews were not sufficiently advanced to adore their Jehovah entirely in a spiritual manner, and the popular belief attributed to him more or less of human qualities. Thus he was conceived, from the time of David, to have his residence particularly on mount Zion. Jehovah was, and still is considered, by the Jews, as the particular God of their race, the national God of Israel; and it was Christ who first represented him as the protector of all mankind, as a father, and not an object of fear, to whom the Israelites even attributed bad passions.

JELLY includes every translucent juice so far thickened as to coagulate, when cold, into a trembling mass; as the juices of acid or mucilaginous fruit, currants, &c., which, by the addition of one part sugar to two parts of juice, and, by boiling,

have obtained a proper consistence; also a coarctated decoction of Iceland moss, made agreeable to the taste by the addition of sugar or liquorice; also strong decoctions of the horns, bones, or extremities of animals, boiled to such a degree as to be stiff and firm when cold, without the addition of any sugar. The jellies of fruits are cooling, saponaceous, and acescent, and therefore are good as medicines in the disorders of the *primæ viæ*, arising from alkaline juices, especially when not given alone, but diluted with water. On the contrary, the jellies made from animal substances are all alkaline, and are therefore good in all cases in which an acidity of the humours prevails. The alkaline quality of these is, however, in a great measure, taken off, by adding lemon juice and sugar lemon to them. There was formerly a sort of jellies much in use, called *compound jellies*; these had the restorative medicinal drugs added to them, but they are now scarcely ever heard of. Animal jelly is soluble in water, glutinous, becomes fluid by heat, coagulates in the cold combines with oils and resins, is decomposed by corrosive alkali, and gives out ammonium; when it is treated with nitric acid, it yields oxalic acid, and under dry distillation, yields the products obtainable from all animal substances, and can be changed into a perfectly dry substance by evaporation.

JEMAPPES; a village of the Netherlands, in Hainault, near Mons, on the Scheldt, celebrated as the place of the first great battle in the French revolutionary war, fought November 6, 1792, in commemoration of which, while under the French domination, the whole department was called *Jemappes*. The loss of this battle by the Austrians had a great influence on the public sentiment of Europe, and gave the highest impulse to the enthusiasm of the French. The consequence of this defeat—the loss of the Netherlands and of Liege by the allies—would have been still greater, if the French had not stopped their pursuit of the flying Austrian army at the Roer, instead of driving them across the Rhine. The Prussians had already retired to the Rhine after their unsuccessful campaign in 1792, when Dumouriez suddenly fell upon the Netherlands, planning the movements of his army with so much skill, and executing them with so much rapidity and decision, that the allies soon perceived that there was no want of the generals among the French. The French army was more numerous than the Austrian, which was commanded by Albert, duke of Saxe-Teschen, but the latter had the advantage of a position considered almost impregnable. The enthusiasm and heroic spirit of the French, which here displayed themselves in all their brilliancy, bore down all obstacles, and redoubt after redoubt was stormed and taken, to the chant of the Marseilles hymn. Dumouriez, who had appointed the young duke of Chartres, now king of the French, his lieutenant, commanded the centre; Dampierre and Beurnotville the right, and Perron the left wing. The loss of the Austrians was estimated at 5000 men. Eight days after, Dumouriez entered Brussels.

JEMSHID, or GIAMSHID; a Persian sovereign, celebrated in Oriental history, the period of whose existence is somewhat uncertain. He is said to have ascended the throne of Persia about 800 B.C. and to have founded the famous city of Ismahee, called by the Greeks, Persepolis. To this prince is ascribed the first establishment of public baths, the invention of tents and pavilions, and the use of lime for mortar in buildings. He instructed his subjects in astronomy, and also probably in the mysteries of Sabeism, or the worship of the heavenly bodies; but though he is represented as a wise and powerful monarch, he was unfortunate in war, and, having

been dethroned by Zohak, an Arabian king, he spent the latter part of his life in indigence and obscurity. His son Pleridoun was preserved, by the care of the queen, from the pursuit of the usurper, and ultimately recovered his father's throne. See Malcolm's *History of Persia*, two volumes, London, 1829.

JENA; a town of Saxe-Weimar, in Thuringia, at the confluence of the Leuthra and the Saale, in a romantic valley, with 60,000 inhabitants; lat. 50° 56' 28" N.; lon. 11° 37' 23" E. The environs are diversified and delightful, and contain several fine ruins. There are some manufactories at Jena, and it has a much frequented fair, but the chief support of the place is the ancient university. In 1547, the elector, John Frederic, after the unfortunate battle of Muhlberg, being conducted a prisoner through Jena, and being occupied with the design of supplying his dominions with a substitute for the lost university of Wittenberg, founded by his uncle, Frederic the Wise, was pleased with the charming valley of Jena, and advised his sons to found a university here. Three convents, with their possessions, were appropriated to this institution, which Charles V. actually chartered as a university (February 2, 1558), though not very willingly, because it was a Protestant institution. Jena has had many of the first German literati among her professors, and the late duke of Saxe-Weimar was so liberal towards it, that it became one of the most favourite universities of the Germans; but the celebration of the jubilee of the reformation, on the Wartburg, not far from Jena, where Luther translated part of the Bible, and the circumstance that Saad, the murderer of Kotzebue, studied there, induced the other German governments to prohibit, in 1819, any of their subjects from studying there. Prussia revoked her prohibition in 1825; but it has not resumed its former standing. In 1829, it contained 600 students. The university has a library of 100,000 volumes, museums, a botanical garden, an anatomical theatre, &c. It is one of the cheapest in Germany. It is also one of the few where the small sword is used in duels. Schiller, the German poet, was professor of history at Jena, which is the joint university of the Saxon duchies.

*Jena and Auerstädt, Battle of* (October 14, 1806). Placed in the most unhappy situation, since the treaty of Vienna of December 15, 1805 (see *Austerlitz*), involved in war with England and Sweden on account of Hanover, Prussia took up arms to defend the independence of Northern Germany against France; but the commander-in-chief, the duke of Brunswick, seventy-two years old, instead of penetrating immediately beyond the Rhine, and compelling the elector of Hesse, who wished to remain neutral, to unite his forces with those of Prussia, concentrated the Saxon-Prussian army in Thuringia, by which he lost not only the right moment of attack, but also all the advantages of his line of defence and communication with the Elbe, while he obstinately persisted in the opinion that Napoleon would not act on the aggressive. He discovered too late, that the left flank of the Prussian army was wholly exposed to the enemy. Napoleon, who left Paris September 25, and arrived at Kronach October 8, had achieved the victory, and the great results of the campaign before the battle was fought, by his generalship in making himself master, within five days, of the region between the Saale, Elster, and Elbe. By his preparatory movements, the left wing of the Prussian army was surrounded, and destroyed, as well as the military roads to Dresden and Berlin, now lay open to him; whereupon he pressed forward, without opposition, in the rear of the Prussian army, as far as Mauburg, which Davoust

occupied October 13, while the Prussian army stretched itself from Jena to Eisenbach, and the duke took up his headquarters at Weimar, from October 10 to 12. Two important points, on the left bank of the Saale, were also occupied by the French; Jena by Lannes, and Kahla by Augereau. Napoleon himself arrived at Jena from Gera, October 13. He had previously made a proffer of peace to the king of Prussia; but the bearer of his missive of October 12, from his camp at Gera, did not reach the king till the day of battle. The double battle at Auerstadt and Jena, October 14, therefore, completed the defeat of the Prussian army, already vanquished by combinations. Napoleon was master of the points of passage on the left bank of the Saale. The Prussian army, under prince Hohenlohe, was separated from that of the duke of Brunswick; and the prince, while he guarded the *chaussée*, which led to the plain, where he expected to be attacked, permitted the enemy to occupy the steep eminences, which commanded the valley of the Muhl, at Jena; and the duke himself was equally negligent in regard to the heights and pass of Kosen. These oversights were disastrous, for Napoleon caused the most troublesome obstructions in the narrow ravines to be levelled, on the night of October 13, in order to convey his artillery to the plateau of the selected place. In the morning, a thick cloud concealed his operations. By degrees, he brought 80,000 men on the field. The left wing was led by Augereau, the guards by Lefebvre, the centre by Lannes, and the right wing by Soult. Ney subsequently advanced from the rear to the first line. Three bloody battles decided Hohenlohe's defeat. At first, the Prussian vanguard, under Tauenzien, was overthrown at Klosewitz, then the main body, under prince Hohenlohe, at Viersehnheiligen, and lastly the former right wing of the army, under general Ruchel, at Capellendorf. Thus an army of 50,000 men was completely broken up. On the same day, the duke put in motion, on the high road leading from Auerstadt to Kosen, his army of 50,000 men, in three divisions; the first, under Schmettau, accompanied by the king, three princes of the blood, and the field-marshal Mollendorf; but Davoust, whose army contained about 36,000 men, had already a few hours before occupied the important pass of Kosen. The repeated attacks of the division of Schmettau, which met the enemy at Hassenhausen, and of general Blücher's cavalry, were repelled, the second division of the Prussian army not coming to their assistance, being retarded by the bad roads. The duke himself being wounded in the eye by a musket shot, and general Schmettau being mortally wounded, all unity of operations was lost. The king now committed the chief command to the field-marshal Mollendorf, who gave the orders for the retreat; but the first division, on their retreat, becoming entangled with the second, which was advancing, Davoust so improved the consequent confusion as to achieve a complete victory, which won him the title of *duke of Auerstädt*. General Kalkreuth protected, nevertheless, for some time, the retreat of the army along the road from Auerstadt to Weimar and Buttstadt. It was intended to renew the battle on the 15th, but on this day the king received information in Sommerda of Hohenlohe's defeat. As the communication of the army with Halle, where the reserves were stationed, was entirely cut off, and it was pursued every where by Napoleon's battalions, and reduced to confusion, it was obliged to separate into small corps, some of which, under Hohenlohe's command, reached Magdeburg, and the Elbe, October 26, by a circuitous route over the Harz mountains. The loss sustained by the Prussians, up to October 14, was above

50,000 men, killed, wounded, or prisoners. The Saxons lost, in the whole, twenty-three officers killed, 115 wounded, and more than 6000 men prisoners. The loss of the French, in killed and wounded, did not amount, according to their own accounts, to more than 4100. The loss of the Prussians, after the battle, was still greater; for, October 16, 14,000 Prussians, under Mollendorf, shut up in Erfurt, surrendered to Murat. The captive Saxons, however, were released on promise never to serve again against France; whereupon Napoleon caused the neutrality of the electorate to be proclaimed by the grand duke of Berg on the 17th, though peace was not concluded with Saxony till December 11, at Posen. By this measure, Napoleon secured his right flank, in case he should advance to Berlin, and opened to his own use all the resources of the electorate, which he occupied. The most important events now followed each other in rapid succession. October 18, Bernadotte attacked the Prussian reserves of 10,000 men, under Eugene, duke of Wurtemberg, at Halle, and made 5000 prisoners. Davoust marched by way of Leipsic and Wittenberg, Launes by way of Dessau, to Berlin (October 25), which Napoleon entered on the 27th. Spandau surrendered to Lannes, October 25. Meanwhile general Kalkreuth succeeded in conducting a part of the residue of the army, 12,000 in number, beyond the Oder. Blucher, on the contrary, did not join Hohenlohe with the wreck of the reserves, but, after the prince had capitulated at Prenzlau with 17,000 men, October 28, proceeded to Strelitz, where he formed a junction with the corps of the duke of Weimar, under the command of the duke of Brunswick Celis. His forces now amounted to 21,000 men; but, pursued by Murat, Bernadotte and Soult, he was obliged to press forward towards Lubeck on the 5th, and capitulate at Ratkau on the 7th. (See *Lubeck*.) Meanwhile a corps of cavalry of 6000 men, under general Schimmelpfennig, had surrendered, on the 29th, to general Milhaud, at Pasewalk; and on the 31st, another corps of 4000, under general Bila, at Anklam, surrendered to general Becker. Stunned by this annihilation of the Prussian army in the space of fourteen days, the commanders of fortresses surrendered their places to the enemy, without the honour of resistance. The last bulwark of the monarchy, Magdeburg, which was abundantly supplied with every necessary, general Kleist shamefully opened to the French under Ney, on the 8th of November. Napoleon, elated by his success, suddenly broke off the pacific negotiations, which were near a conclusion, carried his arms across the Oder, invited the Poles to his standard, and came up with the Russians on the Vistula. To all the military reasons for the victory of Napoleon, the great moral difference of the two armies must be added—the French, enthusiastic for glory and for their commander, led by excellent officers, mostly young; the Prussian army, consisting, in a great measure, of foreigners and rabble, ready to run away at the first good opportunity, their generals old, their king weak. Immense resources were opened to Napoleon by the possession of all North Germany, with the exception of Colberg; for he had taken possession of the electorate of Hesse, November 1; of Brunswick and Fulda, Oct. 26; of Hanover, November 9; of the Hanseatic cities, November 19; of Mecklenburg, November 28; and of Oldenburg, December 6. November 21, the celebrated decree of Berlin was issued, interdicting all commerce between Great Britain and the continent, and declaring the British islands in a state of blockade.

JENKINSON, CHARLES. See *Liverpool, Earl of*.  
JENKINSON, ROBERT BANKS. See *Liverpool, Earl of*.

JENNE, one of the most celebrated and important cities in Central Africa, was first visited by Caillé, the French traveller, in 1828. It is described by him as situated at the eastern extremity of a branch of the Niger, separating, below Sego, from the main current, with which, after passing the former city, it again unites. The country around, as far as the eye can reach, forms only a marshy plain, interspersed with a few clumps of trees and bushes. The city is two miles and a half in circuit, surrounded by a wall of earth; the houses tolerably well built of bricks dried in the sun; the streets so wide that seven or eight persons may walk abreast. Population is estimated by Caillé at 8,000 or 10,000. The inhabitants consist of various African tribes, attracted by the extensive commerce of which Jenne is the centre. The four principal tribes are the Foulas, Mandingoes, Bambaras and Moors, of whom the first are the most numerous, and are strict adherents to Mohammedanism, compelling the pagan Bambaras to conform to the rules of the Koran, whilst they are at Jenne. The trade is chiefly in the hands of thirty or forty Moorish merchants, who maintain a communication with Timbuctoo, in barks of considerable size, ranged along the river. The markets are filled with the productions of the surrounding country, either for consumption or exportation; in exchange for which, articles are brought from Timbuctoo, including a variety of European goods. Caillé found the merchants of Jenne more polished than any natives of Africa with whom he had had dealings. The mode of living is extremely simple. See Caillé's *Journey to Timbuctoo*.

JENNER, EDWARD; an English physician, celebrated for having introduced the practice of vaccination, as a preventive of the small-pox. He was the youngest son of a clergyman in Gloucestershire, and was born May 17, 1749. Being destined for the medical profession, he was, after a common school education, placed as an apprentice with a surgeon, at Sodbury, in his native county. He subsequently visited London, to finish his studies, by attending the lectures of the celebrated anatomist John Hunter. Returning to the country, he settled at Berkeley, to practise the various branches of his profession. He had already obtained the reputation of an ingenious practitioner, and a man of talent and science, when he made known to the world the important discovery which has raised him to an enviable situation among the benefactors of the human race. His investigations concerning the cow-pox were commenced about the year 1776, when his attention was excited by the circumstance of finding that some individuals, to whom he attempted to communicate the small-pox by inoculation, were not susceptible of the disease; and, on inquiry, he found that all such persons, though they had never had the small-pox, had undergone the casual cow-pox, a disease common among the farmers and dairy-servants in Gloucestershire, who had some idea of its preventive effect. Other medical men were aware of the prevalence of this opinion; but they treated it as a popular prejudice, and Jenner seems to have been the first who ascertained its correctness, and endeavoured to derive from it some practical advantage. He discovered that the *variole vaccinae*, as the complaint has been since termed, having, in the first instance, been produced by accidental or designed inoculation of the matter afforded by a peculiar disease affecting the udder of a cow, could be propagated from one human subject to another by inoculation, rendering all who passed through it secure from the small-pox. He made known his discovery to some medical friends, and in the month of July, 1796, Mr Cline, surgeon to St Thomas's hospital, introduced vaccination into the metropolitan

The practice of vaccine inoculation was adopted in the army and navy, and honours and rewards were conferred on the author of the discovery. The diploma constituting him doctor of medicine, was presented to Jenner as a tribute to his talents, by the university of Oxford. He was chosen a fellow of the Royal Society, and of other learned associations; and a parliamentary grant was made to him of the sum of £20,000. The extension of the benefits of vaccination to foreign countries, spread the fame of the discoverer, who received several congratulatory addresses from continental potentates. He died suddenly, in consequence of apoplexy, January 26, 1823, and was interred in the parish church of Berkeley. Doctor Jenner was the author of an Inquiry into the Causes and Effects of the Cow-pox, (1798, 4to); and Farther Observations on the Variolæ Vaccinæ, or Cow-pox, besides various letters and papers on the same subject, published in periodical works. See *Vaccination*.

JENNY, COTTON. See *Spinning*.

JENYNS, SOAME, a witty and elegant writer, was the only son of Sir Roger Jenyns, knight. He was born in London, in 1704, and received a domestic education until the age of seventeen, when he was entered a fellow commoner of St John's college, Cambridge. He remained three years at the university, and then married early a lady with a large fortune, to whom his father was guardian; but the marriage proved unhappy, and, in consequence of an elopement, a separation took place. In his youth, Mr Jenyns, with a small and delicate person, sustained the character of a beau, and his first performance was a poem on the Art of Dancing, published in 1728. In 1741, he was left, by the death of his father, master of a large fortune, on which he entered into public life as representative of the county of Cambridge. He began his career by supporting Sir Robert Walpole, and ever after remained a faithful adherent to the minister for the time being. In 1757, he published his *Free Inquiry into the Nature and Origin of Evil*, the fundamental principle of which is, that the production of good without evil is impossible; that evils spring from necessity, and could not be done away without the sacrifice of some superior good, or the admission of greater disorder. In respect to moral evil, his theory is, that it is permitted, in order to provide objects for the just infliction of physical evils. In 1776, appeared his *View of the Internal Evidences of the Christian Religion*. The foundation of his reasoning is, that the Christian religion is a system of ethics so superior to, and unlike anything which had previously entered into the mind of man, that it must necessarily be divine. In 1782, appeared his *Disquisitions on Various Subjects* (8vo.), which are marked with his usual characteristics of sprightly wit and shrewd observation, but are vague and declamatory. He died in 1787. His works have been collected into four volumes (12mo), with a life prefixed by C. N. Cole.

JEPHTHAH; a natural son of Gilead, who, being driven from home by his brothers, lived in the land of Tob, but, when the Ammonites waged war against Israel, was sent for to defend his countrymen. Jephthah tried conciliatory measures, but being unsuccessful in this, he put himself at the head of the Israelites, and defeated the enemy. Having rashly made a vow that, if he was victorious, he would sacrifice to God, as a burnt-offering, whatever should first come to meet him from his house, he was met, on his return, by his daughter, his only child, whom he sacrificed, in consequence, to the Lord. (*Judges*, xi. 29, 40.) The mode in which the sacrifice was performed, has given rise to much controversy, some authors maintaining that Jephthah put her to death near the altar; others that he devoted her to perpetual virginity in

the temple; others, and most commentators, think that he actually sacrificed her as a burnt-offering, and, though Moses prohibits, explicitly, such a sacrifice, that it may have been permitted in the wild and barbarous times of Jephthah. Jephthah ruled six years as a judge and general. (*Judges* xi. and xii.)

JERBOA (*dipus*, Gmel.) These singular little animals are found in many parts of the old continent, but seldom in great plenty. The most common species is the *D. sagitta*. It is of a pale yellowish fawn-colour on the upper parts, and white beneath; the length of the body is about eight inches, and of the tail ten. The jerboas inhabit dry, hard, and clayey ground, in which they make their burrows. These are of considerable length, and run oblique and winding; at about half a yard below the surface of the ground, they terminate in large excavations or nests; they are usually provided with but one opening, though the animals are provident enough to make another passage, to within a short distance from the surface, through which they rapidly penetrate in case of necessity. It is almost impossible to kill them, except by coming on them unawares. The Arabs, however, take them alive, by stopping up all the outlets of the different galleries belonging to the colony, with the exception of one, through which they force them out. They keep within their holes during the day, sleeping rolled up, with their head between their thighs. At sunset they come out, and remain abroad till morning. They go on their hind legs only, the fore legs being very short; their motion is, nevertheless, very rapid, being effected by leaps of six or seven feet, which they repeat so swiftly, that it is nearly impossible to overtake them. They do not proceed in a straight line, but spring first to one side, and then to the other. In leaping, they carry their tails stretched out, whilst, in standing or walking, they carry them in the form of an S, the lower curve touching the ground. In their wild state, these animals are very fond of bulbous roots; but, when confined, they will feed on raw meat. They are tamed without much difficulty, but they require to be kept warm. The jerboa is supposed to be the *cony* of the Bible. It was forbidden food to the Israelites; it is, however, eaten by the Arabs.

JEREMIAH, the second of the great prophets of the Old Testament, of a noble Jewish family of the priestly order, flourished during the darkest period of the kingdom of Judah, under the last four kings, till the Babylonish captivity, and exercised the prophetic office for forty years, with unwearied patience and fidelity. But in vain did he exhaust admonitions, entreaties, and warnings to move the people to a sense of piety and resignation; he was rewarded by abuse, imprisonment, and menaces of death. After the destruction of Jerusalem, when all the people were carried into captivity, he was honoured by Nebuchadnezzar as the noblest of his nation, and permitted to choose his own place of residence. The old prophet staid by the ruins of the holy city, and continued to direct the remaining Jews by his counsels till their flight into Egypt, where he died at an advanced age. He began, under the reign of Jehoia-kim, to dictate his instructions and prophecies to his amanuensis Baruch. They evince the most ardent patriotism and unshaken trust in the God of his fathers, but, at the same time, show how much the spirit of the prophet was crushed by his own misfortunes and the disasters of his country. It is only in his predictions against foreign states, that his expression rises to some degree of strength, but elsewhere his tone is as mild as his character, and mournful as the times in which he lived. He clearly foresaw the downfall of Judah, and lamented it on the ruins of Jerusalem. His Lamentations, the fruit of this grief

for the fate of his country, are elegies full of touching melancholy and pious resignation, which, by their beautiful, harmonious structure, remind us of a better era of Hebrew poetry.

JERICHO; a considerable town of ancient Judea, on a plain north-east of Jerusalem, on the west of Jordan, noted, especially in Solomon's time, for its balsam-gardens, and its thickets of palm-trees and roses, and carrying on a flourishing trade in balsam and spices. It was the key of Palestine, and was therefore invested by the Israelites, who had passed the Jordan under Joshua to conquer this country. On the seventh day it was taken in a miraculous manner, and destroyed, but was rebuilt some time after. Its site is now occupied by the village of Raha. The gardens and thickets have disappeared; the balsam-tree alone is cultivated. There is a creeping plant, with a singularly shaped and fragrant flower, which we call the *rose of Jericho* (*anastatica*). It was probably brought over to Europe in the times of the crusades.

JERMACK. See *Siberia*.

JERMOLOFF (not *Yermoloff*), ALEXEI PETROWITCH; Russian general of infantry, governor of the provinces of Georgia and Caucasus, and general in chief of the army of the Caucasus. In April, 1815, Jermoloff commanded the second corps of the Russian army, which, under Barclay de Tolly, marched from Poland into France. In 1817, he was sent, with 50,000 select troops, to occupy the frontiers on the side of Persia. Having personally inspected all the military posts, he was sent as ambassador to the Persian court at Teheran, where the Russian cabinet wished to counteract the influence of the British. For this reason, the suite of Jermoloff was very splendid. He had with him the flower of the Russian nobility, and, besides, some French officers, whom Napoleon had sent with Gardanne on a similar mission to Persia in 1807. Jermoloff also received the reports made by Gardanne, and the maps drawn by the French officers. A very advantageous treaty of commerce and amity was soon concluded between Russia and Persia, by which the peace of Tiflis, September 13, 1814, was confirmed. Russia was intrusted by the same compact, in some degree, with the guarantee of the Persian succession, and Persia was placed almost in the same relation to Russia, as Poland had been in the time of Catharine II. Jermoloff then returned to his former station, and exerted himself much for the improvement of commerce in those parts. In 1819, he sent captain Muravjoff to the coast of the Caspian sea, to invite the Turkmenians living there to form amicable connexions with Russia. Under him, the army of the Caucasus was increased to 100,000 men. In 1827, he subdued the Tshetchenises mountaineers, addicted to robbery. In 1826, he repulsed the Persians, who, under Abbas Mirza, had broken the peace of Ghulistan. In April, 1827, general Paskewitch succeeded him in the chief command against the Persians.

JEROME, Sr, one of the most learned and prolific authors of the early Latin church, was born about 331, in Dalmatia, of wealthy parents, educated with care in literary studies, and made familiar with the Roman and Greek classics, under the grammarian Donatus at Rome. But he did not escape uncontaminated by the licentiousness of the capital; and he himself confesses the excesses of his youth. He soon, however, became inclined to the Christian faith. The catacombs and tombs of the martyrs first excited his devotion. His travels on the Rhine and in Gaul, made him acquainted with several Christian preachers, and before his fortieth year he was baptised in Rome. After a long residence at Aquileia, he went, in 373, to Antioch, in Syria, where his in-

clination to an ascetic life became more decided. In 374, he retired to the deserts of Chalcis, and there passed four years as a hermit, in the severest mortifications and laborious studies. He left his solitude again to be ordained presbyter at Antioch. He did not, however, confine himself to the discharge of the duties of this office, but soon after went to Constantinople, to enjoy the instruction of Gregory of Nazianzen. In Rome, whither he accompanied his friend the bishop Damasus, he made his appearance as a teacher. His exposition of the Holy Scriptures found favour with the Roman ladies; and, although no one reprehended more than he the manners of the fashionable world, several matrons of distinction, with their daughters, complied with his exhortations and became nuns. St Marcella and St Paula are celebrated for the learned and ingenious theological epistles he wrote them, and for their rare monastic piety. Paula accompanied him to Palestine, in 386, where he founded a convent at Bethlehem, with her funds, and in her society; in this he remained till his death, in 420. His writings show his active participation in the controversies concerning the doctrines of Origen, Meletus and Pelagius; he always defended, with seal and ability, the orthodox doctrines of the church, though his own writings are not free from the vestiges of the views and opinions of these different parties. His profound knowledge of the Bible, which he read in the original language, frequently led him to results on which he subsequently had controversies with the church; and his method of interpreting the Scriptures borders closely on the allegorical interpretations of Origen, whom he respected, studied, and attacked. His biblical labours are highly valuable; his Latin version of the Old Testament, from the original language, is the foundation of the Vulgate, and his commentary gave a new impulse to the study of the Holy Scriptures. In the controversy with Jovinian and Vigilantius, the opponents of the ascetic bigotry, his immoderate zeal for the monastic life, which contributed much towards the promotion of this new institution, led him to expressions which manifest more strength and fire of feeling than maturity of judgment. On the whole, with a glowing imagination, which made his style lively and attractive, and with an extensive knowledge of languages, he possessed a less philosophical genius than his more celebrated contemporary Augustine.

JEROME OF PRAGUE; of the family of Fastfisch, educated at the universities of Prague, Paris, Cologne, and Heidelberg; in faith and suffering, the companion of the famous John Huss, whom he excelled in learning and eloquence, and to whom, in the bold attempt at reformation of the fifteenth century, he was inferior only in moderation and prudence. His reputation for learning was so great, that he was employed by Ladislaus II. of Poland, to organise the university of Cracow; and Sigismund of Hungary caused Jerome to preach before him at Buda. The doctrines of Wickliff, which he introduced into his preaching, subjected him to a short imprisonment by the university of Vienna; but he was released by the people of Prague. He now took a zealous part, at Prague, in the contest of his friend Huss against the abuses of the hierarchy, and the dissoluteness of the clergy, and not unfrequently proceeded to violence. He attacked the worship of relics with ardour, trampled them under foot, and caused the monks, who opposed him, to be arrested, and even had one thrown into the Moldau. He publicly burned, in 1411, the bull of the crusade against Ladislaus of Naples, and the papal indulgences. When Huss was imprisoned in Constance, he could not remain inactive and hastened to his defence. He wrote a public letter, in which he requested a *safe-con-*

dict from the council of Überlingen, was not satisfactorily answered, and, on his attempting to return to Prague, the duke of Sulzbach caused him to be arrested in Hirschau, and carried in chains to Constance. He here received, in prison, information of the terrible fate of his friend, and, after several hearings, in which no one was able to oppose him, an imprisonment of half a year had so worn him down, that he finally yielded to violence, and, on the 11th Sept., 1415, consented to recant the heresies with which he and Huss were charged. But this apostasy did not deliver him, and, after languishing a year, without being able to see or read, in the darkness of the dungeon, he displayed his former courage, on an audience on the 26th May, 1416. He solemnly retracted his recantation, avowed that none of his sins tormented him more than his apostasy, and vindicated the principles of Huss and Wickliff, with a boldness, energy and eloquence, that extorted the admiration of his adversaries, but, nevertheless, precipitated his destruction. May 30, he was burned at the command of the council. He proceeded to the pile, consoled by singing the apostles' creed and spiritual hymns, and gave up his spirit in prayer. His ashes were thrown into the Rhine, in order to annihilate his memory; but posterity has done him justice, and reveres him as the martyr of truth, who, unwearied in life, and noble in death, has acquired an immortal renown for his share in the reformation. His views and doctrines coincided closely with those of Huss. See *Huss*.

JERSEY, *NEW*. See *New Jersey*.

JERSEY, *ISLE OF*; a thriving and very populous island in the English channel, the largest and most southerly of that group on the coast of France, which forms an appendage to the British crown. Its figure is nearly an oblong square, stretching, in an easterly direction, twelve miles, with a breadth no where greater than seven, and at a medium five miles. It contains about 40,000 acres, twelve parishes, two towns—St Helier, the capital, and St Aubin—and several villages and fortresses. Its coast is surrounded by a natural barrier of rocks, which nearly encircle the whole island. The climate is exceedingly mild, the soil fertile, and the situation well adapted to commerce. The inhabitants speak the French language, though it is now on the decline. They make their own laws; are exempt from naval and military service, and from the dominion of the English church; have the benefit of a free port, and trade with the enemies of Britain, even in time of war; above all, they are free from the taxes with which the mother country is loaded. They are almost wholly occupied in agriculture and commerce. The land is sufficiently adapted for all the common crops, and also for the pasture of cattle, which is practised to some extent; but the singular mildness of the climate has decided the inhabitants to apply chiefly to the produce of the orchard, and to trust, in a great measure, to their trade for a supply of grain, at least for one third of their consumption. The fruits, therefore, are of the highest flavour; and great quantities of cider, the common beverage, are made annually. Various fortresses have been erected, viz. Elizabeth castle, mount Orgueil, fort Henry, La Rocque, and several others. The coast is also defended by a chain of martello towers, and by numerous redoubts and batteries. The government consists of a court of judicature, and an ecclesiastical body acting separately, and, at the same time, uniting with twelve nobles and a military governor, to form the assembly of the states, the legislative body of the island, without whose approbation no law made in Britain is binding. The governor is appointed by the crown, convokes the assembly, and has a nega-

tive voice, which, however, is merely nominal, except where the interest of the crown is concerned. The court of judicature consists of a bailiff and a president, chosen by the crown, twelve jurats, chosen by the householders, and various officers; the clerical court, of a dean and eleven rectors. Remains of antiquities, principally druidical, are found in different parts of the island. The architecture of all the churches is the pointed or Gothic. Various attempts have been made by the French to possess themselves of the island, but without success; the most remarkable was in 1781. Population, 36,580; seventy-five miles from Weymouth, the nearest shore of England; and from Carteret and Boil, the nearest of the French ports, seventeen. Lon. of St Aubin, 2° 11' W.; lat. 49° 13' N.

JERUSALEM (Heb. *Salem*; hence the Greek *Hierosolyma*, the sacred *Solyma*, and the Turkish *Soliman*). This celebrated city of Palestine is subject to the pacha of Damascus. Its environs are barren and mountainous. The city lies on the western declivity of a hill of basalt, surrounded with rocks and deep valleys, with a much colder climate than one would expect from its geographical situation. It is now only about two miles in circuit. The town is built irregularly, has pretty high walls, and six gates, which still bear Hebrew names. The houses are of sandstone, three stories high, and without windows in the lower story. This lifeless uniformity is only diversified, here and there, by the spires of the mosques, the towers of the churches, and a few cypresses. Of 25,000 inhabitants, 13,000 are Mohammedans, and 4000 Jews. Christians and Jews wear a blue turban to distinguish them. The women, in their close veils and white dress, look like walking corpses. The streets are unpaved, and filled either with clouds of dust or with mire. Nothing is to be seen but veiled figures in white, insolent Turks, and stupid or melancholy Christians. That Jerusalem is no place for the cultivation of the arts or sciences one may easily conjecture, from the despotism of the Turks, and the gloomy superstition of the Christians. Weavers and slipper-makers are the only artisans. A multitude of relics, which are, probably, not all manufactured in the city, but are sent in also from the neighbourhood, are sold to the credulous pilgrims. Nevertheless, this city forms a central point of trade to the Arabians in Syria, Arabia and Egypt. The people export oil, and import rice by the way of Acre. The necessaries of life are in profusion, and quite cheap, the game excellent, and the wine very good. The pilgrims are always a chief source of support to the inhabitants; at Easter, they often amount to 5000. But few of them are Europeans. Jerusalem has a governor, a cadi or supreme judge, a commander of the citadel, and a mufti to preside over religious matters. There are still many places and buildings in the city designated by ancient sacred names. The citadel, which is pretended to have been David's castle, is a Gothic building throughout. It is also called the *Pisan tower*, probably because it was built by the Pisans during the crusades. All the pilgrims go to the Franciscan monastery of the Holy Saviour, where they are maintained a month gratuitously. Besides this, there are sixty-one Christian convents in Jerusalem, of which the Armenian is the largest. They are supported by benevolent contributions, principally from Europe. The church of the Holy Sepulchre has been for 1500 years the most sacred place in Jerusalem. It is composed of several churches united, and is said to be erected on Golgotha. Here is shown, in a large subterranean apartment richly ornamented, the pretended grave of the Saviour, with a sarcophagus of white marble. The empress Helena is reported to have founded this

church in the fourth century, after she had found the true cross. The Jews live in great wretchedness, and are confined to a small part of the city. The temple of the Mohammedans, which is regarded as one of their greatest sanctuaries, is magnificent. No Jew or Christian is permitted to enter the inner sanctuary. This temple consists of two large buildings, of which the one, El Aksa, is adorned with a splendid dome and beautiful gilding. The other edifice is octangular, and is called *El Sahara*. Here the Mohammedans show the footsteps of their prophet surrounded with a golden grate; and a Koran, which is four feet long, and two and a half broad. On the mount of Olives is to be seen a Christian church, in which is shown a foot-print of the Saviour, which he left on the place, when he ascended to heaven. Besides many old Jewish monuments, there are a great many Greek and Roman, several Christian, and, especially, Gothic monuments, which originated in the times of the crusades.

A contemporary of Abraham, Melchisedec, is called *king of Salem*, 2000 years before Christ: this Salem is supposed to be the Jerusalem of after times. This town then came into the possession of the Jebusites, and when the Israelites conquered the land of promise (B. C. 1500), it was assigned, in the division of the country, to the tribe of Benjamin. The Jebusites, however, appear afterwards to have recovered possession of the place; for David conquered the city, called it after his name, and built the castle of Zion. His son Solomon greatly embellished the city, and caused the temple to be built by the skilful artists of Tyre. Under his successors, Jerusalem was the capital of the kingdom of Judah. Five times it was taken and plundered; first under Rehoboam by the Egyptians, then under Joram by the Arabians, under Joash by the Syrians, under Amaziah by the Israelites, and under Josiah by the Egyptians again (B. C. 611). Herodotus also mentions the last conquest of it, calling the city *Kadytas*, which resembles *Kedushah*, the Holy, and the Mohammedans still call the city *El Kods*. At last, the Chaldean king, Nebuchadnezzar, during the reign of Zedekiah, conquered the kingdom, razed the city to the ground (B. C. 586), and carried the Jews to Babylon. Seventy years after, Cyrus gave them permission to return and rebuild the city and temple. This was done under the direction of their high priests, Ezra and Nehemiah, whose successors governed them a long time. The story of Alexander's making a pacific visit to Jerusalem, after his conquest of Tyre, is nothing but a Jewish invention, as Josephus is the only author who mentions it. Alexander's successor, Ptolemy, the son of Lagus, captured Jerusalem, and carried a great number of the better sort of Jews to Alexandria. It then remained, for a long time after it was taken by Antiochus the Great, under the jurisdiction of the Syrian kings. Under the Maccabees, the Jews were again free for a considerable time, and chose their own rulers. One of the last of these, Aristobulus, invited Pompey the Great into the country, and thus Jerusalem came under the Roman dominion (B. C. 64). But, as it continued to have its own kings, at least in name, and also high priests, together with the Roman governors, this occasioned constant troubles, which were finally ended by the destruction of the city, and extermination of the inhabitants, by Vespasian and Titus, after a bloody siege (A. D. 70). Some buildings, however, were left among the ruins. The Jews again collected together, built on the place, and again rebelled against the Romans. Provoked by this obstinacy, the emperor Adrian, at last, in the year 118, ordered all that Titus had spared to be destroyed. He commanded a new city to be built in its place, called *Ælia Capitolina*, in which no Jew was per-

mitted to dwell. Constantine the Great, and his mother Helena, from pious motives, ordered all the heathen monuments to be destroyed, and erected many new Christian edifices. Julian conceived the idea of rebuilding the old temple of the Jews, but was said to have been hindered from executing his plan by the eruption of subterranean fire. The city remained under the government of the Eastern emperors till Chosroes, king of Persia, conquered it in the year 614. It was recovered, however, by the emperor Heraclius, in the peace of 628. This prince prohibited the Jews from dwelling there, and so alienated the patriarch of Jerusalem, Sophronius, by sectarian differences, that the Saracen caliph Omar found little difficulty in making himself master of the city (A. D. 637). From the Saracens it passed into the hands of the Turks. In the first crusade, Godfrey of Bouillon took Jerusalem. It was erected into a Christian kingdom, to which the Turks put an end in 1187. Clarke, Chateaubriand &c., describe its present state.

JERUSALEM. JOHN FREDERIC WILLIAM, was born November 22, 1709, at Osnaburg, where his father was a clergyman, and early displayed great talent. As early as 1724, he entered the university of Leipsic, where he studied theology. He then studied at Leyden, went with two young noblemen to the university of Gottingen, visited London, and was, in 1742, appointed, by the duke of Brunswick, court preacher and tutor of the hereditary prince. The *Collegium Carolinum*, afterwards so famous, was established on a plan suggested by him. In 1752, he was made abbot of the convent of Niddagshausen, near Brunswick. The chancellorship of the university of Gottingen was offered to him, but he would not leave Brunswick, where his benevolent activity found full exercise. In his old age, his son destroyed himself in consequence of an unfortunate passion for a married lady. This gave rise to Goethe's *Sorrow of the young Werther*. The father died in 1793, esteemed by all Germany as a theologian, and for the purity and beneficence of his character. His sermons (Brunswick, 1788—1789, 2 vols.) are now read, as are also his *Contemplations on the most important Truths of Religion* (1785 and 1795, 2 vols.) He wrote many other works, and is considered one of the best men of his time in Germany.

JESO, or JEDSO, or YEDSO, or JESSO, or MATSMAI; a large island in the North Pacific ocean, governed by a prince tributary to the emperor of Japan. The inhabitants are more rude and savage than the Japanese. They live chiefly on fish and game. Lon. 140° 10' to 147° 10' E.; lat. 42° to 45° N. Square miles, 53,000. Chief town, Matsma.

JESSE; a man of Bethlehem, who lived by raising cattle; the father of eight sons, of whom David was one. When Saul persecuted the latter, Jesse fled into the land of the Moabites, where he seems to have died, as no mention is made of him after David's accession to the throne.

JESTER, or COURT FOOL. In the middle ages, every court, secular or ecclesiastical, had its fool, as a necessary appendage; and there are some instances of court jesters in the eighteenth century. Flaxar, in his *Illustrations of Shakspeare*, has a dissertation on the fools and clowns. He states that Mucke John was the last person who regularly held the office of court jester in England, his predecessor, Archy Armstrong, having been sentenced to have his coat pulled over his head, and to be dismissed the king's service, for a sarcasm on Laud (1637). Since the time of the commonwealth, the post of king's fool has been discontinued, though some private persons had fools late in the last century. Swift wrote an epitaph on Dicky Pearce, the earl of Suffolk's fool.

(1728). Mr Douce states that the costume of the domestic fool, in the time of Shakspeare, was of two sorts. The one was a motley or party-coloured coat, attached to the body by a girdle, and often having bells on the skirts and elbows. The breeches and hose were of one, and sometimes the legs were of different colours. A hood resembling a monk's cowl, covered the head completely, and the breast and shoulders partly. It sometimes bore ass's ears, sometimes the neck and head of a cock, and sometimes only the comb of that bird (whence *corcomb*, as a term of contempt). The bawble (*merotte*) was a short stick, terminated with a fool's head, or with that of a doll or puppet. To this was frequently appended a blown bladder, sometimes filled with sand or peas, and employed as a weapon of sportive offence; sometimes a skin or bladder only, and sometimes a club instead of a bawble, and, occasionally, both together. The other dress, which seems to have been most common in the time of Shakspeare, was a long petticoat, of various colours, fringed with yellow. There were, however, many variations from this dress; bells supplied the place of the cock's comb; the head was shaven like a monk's crown; fox tails or squirrel tails were fastened on the clothes, &c. See *Fools, Feast of*.

JESUITS, or SOCIETY OF JESUS; a religious order, which rose in influence and power far above all the other orders, though strictly prohibiting its members to accept any office in the church, and which, in the art of ruling, excelled the governments of the world no less than its ecclesiastical rivals. No other religious order affords a parallel to this; for, while those who give themselves only to devotion and religious contemplation, present few distinguishing traits, and, for the most part, differ from one another only in their names, in the fashion and colour of their dress, the greater or less strictness of their rules, the number of their penances and devotional exercises; and while those of the more active class, who operate abroad by their influence at courts and in families, and by engaging in offices of instruction, pastoral care, or charity, are almost universally but monks, the society of Jesus early raised itself to a degree of historical importance unparalleled in its kind. But a small part of this greatness is to be ascribed to their founder, Ignatius Loyola (q. v.), who owes his fame more to the shrewd policy and energy of his successors than to the merit of the original scheme of the order. At the university of Paris, Loyola entered into an agreement with some of his fellow students to undertake the conversion of unbelievers, and a pilgrimage to Jerusalem. Pierre le Fevre (a Savoyard), Francis Xavier (a native of Navarre), James Lainez and Nicholas Bobadilla (two Spaniards of ardent and powerful minds), and Rodriguez, a Portuguese nobleman, were the first companions of Loyola. A war with the Turks prevented their journey to Jerusalem. They therefore went to different universities in Upper Italy, to gain new associates; Loyola himself went with Le Fevre and Lainez to Rome, where he accomplished, in 1539, his plan of founding a new and peculiarly organized order. He called it the *society of Jesus*, in consequence of a vision, and bound the members, in addition to the usual vows of poverty, chastity, and implicit obedience to their superiors, to a fourth, viz. to go, unhesitatingly, and without recompense, whithersoever the pope should send them, as missionaries for the conversion of infidels and heretics, or for the service of the church in any other way, and to devote all their powers and means to the accomplishment of the work. The novices, besides spiritual exercises, were to be proved by performing the most menial offices for the sick, Xavier having given the example by sucking the loathsome sores of

the sick in the hospitals. A special bull of Paul III. in 1540, established this society, whose object appeared so favourable to the interests of the papal power; and in the following year, the members, assembled in Rome, chose their founder for their first general. He showed himself, however, unequal to the management of great affairs. As general, he was ever pursuing secondary objects, while his learned and more sagacious friends, especially Lainez, who was his constant companion, contrived to improve and carry out his rude plans for the advancement of the society. The popes Paul III. and Julius III., seeing what a support they would have in the Jesuits against the reformation, which was rapidly gaining ground, granted to them privileges such as no body of men, in church or state, had ever before obtained. They were permitted not only to enjoy all the rights of the mendicant and secular orders, and to be exempt from all episcopal and civil jurisdiction and taxes, so that they acknowledged no authority but that of the pope and the superiors of their order, and were permitted to exercise every priestly function, parochial rights notwithstanding, among all classes of men, even during an interdict,—but also (what is not even permitted to the archbishops unconditionally), they could absolve from all sins and ecclesiastical penalties, change the objects of the vows of the laity, acquire churches and estates without further papal sanction, erect houses for the order, and might, according to circumstances, dispense themselves from the observance of canonical hours of fasts and prohibition of meats, and even from the use of the breviary. Besides this, their general was invested with unlimited power over the members; could send them on missions of every kind, even amongst excommunicated heretics; could appoint them professors of theology at his discretion, wherever he chose, and confer academical dignities, which were to be reckoned equal to those given by universities. These privileges, which secured to the Jesuits a spiritual power almost equal to that of the pope himself, together with a greater immunity, in point of religious observance, than the laity possessed, were granted them to aid their missionary labours, so that they might accommodate themselves to any profession or mode of life, among heretics and infidels, and be able, wherever they found admission, to organize Catholic churches without a further authority. But the latitude in which they understood their rights and immunities gave occasion to fear an unlimited extension and exercise of them, dangerous to all existing authority, civil and ecclesiastical, as the constitution of the order, and its erection into an independent monarchy in the bosom of other governments, assumed a more fixed character. A general dispersion of the members throughout society, with the most entire union and subordination, formed the bases of their constitution. The society of Jesus was accordingly divided into several ranks or classes. The novices, who were chosen from the most talented and well educated youths and men, without regard to birth and external circumstances, and were tried, for two years, in separate novitiate-houses, in all imaginable exercises of self-denial and obedience, to determine whether they would be useful to the purposes of the order, were not ranked among the actual members, the lowest of whom are the *secular coadjutors*, who take no monastic vows, and may therefore be dismissed. They serve the order partly as subalterns, partly as confederates, and may be regarded as the people of the Jesuit state. Distinguished laymen, public officers, and other influential personages (e. g. Louis XIV. in his old age), were sometimes honoured with admission into this class, to promote the interests of

the order. Higher in rank stand the *scholars* and *spiritual coadjutors*, who are instructed in the higher branches of learning, take upon them solemn monastic vows, and are bound to devote themselves particularly to the education of youth. These are, as it were, the artists of the Jesuit community, are employed as professors in academies, as preachers in cities and at courts, as rectors and professors in colleges, as tutors and spiritual guides in families which they wish to gain or to watch, and as assistants in the missions. Finally, the nobility, or highest class, is made up of the *professed*, amongst whom are admitted only the most experienced members, whose address, energy, and fidelity to the order have been eminently tried and proved. They make profession, i. e. take the vows of their order, by binding themselves, in addition to the common monastic vows, by a fourth vow, to the undertaking of missions; and, when they are not living together in pious ease in their professed houses, they serve as missionaries among heathens and heretics, as governors of colonies in remote parts of the world, as father-confessors of princes, and as residents of the order in places where it has no college. They are entirely exempt, on the other hand, from the care of the education of youth. None but the professed have a voice in the election of a general, who must himself be of their number, and who has the right of choosing from them the assistants, provincials, superiors, and rectors. The general holds his office for life, and has his residence in Rome, where he is attended by a monitor and five assistants or counsellors, who also represent the five chief nations,—the Italians, Germans, French, Spanish, and Portuguese. He is the centre of the government of the whole order, and receives monthly reports from the provincials, and one every quarter from the superiors of the professed-houses, from the rectors of the colleges (which are the monasteries of the order, but with nothing very monastic about them), and from the masters of the novitiates. These reports detail all remarkable occurrences, political events, and the characters, capacities, and services of individual members, and thereupon the general directs what is to be done, and how to make use of tried and approved members. All are bound to obey him implicitly, and even contrary to their own convictions. There is no appeal from his orders. He may even alter particular rules of the society, expel members without trial, or exile them by sending them away to some distant place, and inflict or remit punishments at his pleasure. Ignatius Loyola, who died July 31, 1556, at Rome, left to the order the sketch of this constitution, and a mystical treatise called *Exercitia Spiritualia* (Spiritual Exercises), the use of which was formally introduced among the Jesuits, and occupies the first four weeks of every novice. This pious enthusiast, but by no means great man, obtained a lasting fame, and the honour of canonisation (1622), by the rapid increase of his order, which, as early as 1556, numbered 1000 members in twelve provinces. The first was Portugal, where Naver and Rodriguez, at the invitation of the king, had founded colleges. The increase of the Jesuits was no less rapid in the Italian states, where they were supported by the influence of the pope; in Spain, where they were, at first, opposed by the bishops, but soon prevailed through the example of the nobility, especially of one of the most powerful grandees, Francis Borgia, duke of Candia, who became an *inquisitor* (as the Jesuits were called in Spain, after their founder, Inigo); and in Catholic Germany, where Austria and Bavaria granted them privileges and foundations. At the universities of Vienna, Prague, and Ingolstadt, they obtained an

ascendency which they held for two centuries. In their strict hierarchical principles, in their restless, zealous activity, and in their success in making converts, the Catholic princes, as well as the pope himself, found the most effectual barrier against the growing power of Protestantism. Even to the common people they soon recommended themselves, as the offspring of the new spirit of the times, and were, therefore, readily favoured by persons who were ill-disposed to the monks. For institutions which would not adopt the tendency of the age towards practical improvement and a more cheerful tone of conduct, could no longer succeed, after the restoration of learning and sound reasoning; the excited world preferred business to contemplation, and the mendicant monks, who had every where pushed themselves into notice, had passed their most splendid epoch. Those who disliked the Franciscans as too coarse and vulgar, and the Dominicans as too rigid and gloomy, were the better pleased with the polished, cheerful, and social Jesuits. Nobody could accuse them of idle brooding in prayer and psalm-singing: even in the houses of the professed, the canonical hours were not observed; they nowhere remained long at their exercises of devotion, even as the spiritual guides of the laity; they carefully avoided all appearance of spiritual pride, and dressed like the secular clergy, and might even change this dress for the ordinary garb of the country, in places where they thought to gain easier entrance without any such mark of distinction. Besides this, they were directed to use a gentle demeanour while engaged in their religious or political operations; to win men by compliance with their peculiarities; never to contend openly, even against declared enemies; and never to betray any passion; but to keep their views and measures secret, and, under a show of calmness and reserve, to prosecute the more ardently and constantly, in secret, what might have excited opposition if made public. This spirit of worldly policy, and accommodation to circumstances, was principally derived from the artful principles of their second general, James Laines, who had the address to soften what was austere and monastic in the regulations of the founder, and to adapt them, according to the circumstances of the times, to the objects of the society. This was originally nothing else but the preservation and establishment of the papal power against all the attacks of Protestantism, of kings, and national bishops. To this end the Jesuits systematically laboured, under the pretext of promoting religion or the honour of God (*In nomine Dei gloriam*, as the inscription is on their arms), and, as nothing appeared more conducive to this purpose than the subjection of the mind and of public opinion, they gained dominion over the young by the establishment of schools, and over the adult by confession, preaching, and the common intercourse of society. When Laines died, in 1564, this system and the active, energetic spirit belonging to it, had already become decidedly fixed in the internal character of the order, so that the example of monastic devotion held up by his successor, Francis Borgia, who was afterwards canonized, and the efforts of popes Paul IV. and Pius V. to restore the observance of the canonical hours, proved ineffectual. The succeeding popes and generals allowed the order perfect freedom from all monastic constraint, and its wisdom of its system soon appeared evident in its important successes and services which it accomplished. Their foreign missions, begun by Francis Xavier, in the Portuguese East Indies, in 1541, were attended with vast and unprecedented success, their own accounts may be trusted. He conversed with the aid of his fellow missionaries who were con-

to assist him, some hundred thousands to Christianity in Goa, Travancore, Cochin, Malacca, Ceylon, and even in Japan, and died (1551) on his way to China, with the fame of a true martyr for religion, which gained for him the name of the *apostle of India*, and the honour of canonization. His triumphs over heathenism were confirmed by the cruelties of the inquisition at Goa, while other Jesuits went to South America, and laboured successfully in the civilisation and subjugation of the natives in Brazil, and in the neighbouring country of Paraguay. Africa alone resisted their efforts; on the western coasts they never gained a settlement, and from the east they were driven by the Copts; while the Abyssinians, whom they had governed for a long time with the aid of Portugal, rose against them, and put them to death. But in Europe, their influence rapidly increased. Their efforts were chiefly instrumental in removing the impressions, so dangerous to the Catholic church, which the reformation had left even in Catholic countries. They carried out upon a grand scale, and for the higher classes, the improvements in the system of instruction, which had been already begun by the Barnabites, the fathers of the Christian doctrine, those of Somasquato and of the oratory, and, finally, by the Piarists, for the humbler classes of the community. Claudius Aquaviva, of the family of the dukes of Atri, general of the Jesuits from 1581 to 1615, was the author of their system of education, and his work, *Ratio et Institutio Studiorum Societatis Jesu*, is the platform of the far-famed schools of the Jesuits. These were partly boarding-schools for boys of all classes, and partly seminaries for those youths who were intended for the order, in which they staid till their entrance upon their novitiate. The scholars (so called) and coadjutors, living together in the colleges, gave instruction by methods well suited to the wants of the young, and accompanied with surprising success, so as to be considered as worthy of imitation even in the eighteenth century. A free, affable and affectionate manner towards the pupils, united with unceasing vigilance and a wise solicitude for the preservation of their innocence and virtue, distinguished these above all other monastic schools. Love and confidence prevailed in them. To excite emulation, and to animate industry, they had public exercises in speaking, and distributed prizes and titles of distinction. To strengthen and develop the body, gymnastic exercises were introduced, and even the outward demeanour and address were polished by theatrical representations. It is true that these last, which were intended to allure the public, and the miserable Latin which the pupils were often obliged to speak in the plays, were not the bright side of the Jesuit schools. The want of deep critical learning, and the arbitrary mutilation of the old classics for the use of the young, exposed the Jesuit teachers to the censure of the philologists. Nevertheless, the schools had an uncommon success, as the best of that time. A single college frequently had several hundred scholars; the young nobility were almost exclusively sent to them, and even from Protestant countries, so that the Protestants found it necessary to establish lycæums and academies for the gentry, of a character suited to the higher demands of the age. The Jesuits derived the greatest advantage from these institutions, by being enabled to choose the brightest geniuses at an early age, and mould them to their purposes. This explains how the society of Jesus was able to render important services to the cause of literature and science. Such Jesuits as Serrarius, Petavius, Sirmond, Tursellinus, Bellarmine, Balde, Mariana, and Flechier advanced the sciences of history and geography, the study of language and rhetoric, even beyond the limits of their own order and church.

Scheiner and Boscovich were eminent in mathematics and astronomy. No men understood better than the Jesuits the art of showing off, to the best advantage, their really valuable services; the world could not but acknowledge them to be improvers and benefactors of their age. Accordingly, their houses and possessions visibly increased, their churches and confessionals were not empty; they contrived, too, with much address, to obtain legacies and presents, and to seize upon every advantage which pious credulity and the extent of their connexions presented them. They would not allow their internal constitution to be inquired into or imitated; and when, in 1623, a number of enterprising females in Italy, and on the Lower Rhine, formed a plan of uniting into an order, under the name of the *Jesuitines*, to be modelled after the society of Jesus, they repulsed all the advances of their would-be sisters, and, in 1631, procured a papal decree for the abolition of the new order. But in England, and the Protestant states of the North, they were not so successful, their repeated attempts to establish themselves there proving fruitless. In 1618, however, the number of members amounted to 13,112, in thirty-two provinces, without including those in France, the Rhenish provinces, and the Netherlands, Poland, and Lithuania, Spanish America, the Philippines, and China. Elated with this success, they celebrated, in 1640, under general Vitelleschi, the centennial anniversary of their order, with great pomp. There were some circumstances, however, to damp their exultation; for, notwithstanding the great favour which they enjoyed at court and among the people, the non-Jesuit clergy and the learned men of the age soon discovered the mischief which the society was beginning to do through Christendom. The universities, bishops, and clergymen found their interest opposed to that of the Jesuits, whose privileges, where they were carried into effect, would be necessarily injurious and oppressive to the body of teachers and the clergy. The ancient orders of monks, whose hatred they had excited by their encroachments on their province, as much as by their good fortune, found subject enough for complaint and bitter accusations in the duplicity and worldliness of their conduct. They made no scruple of invading what had been regarded as the appropriate province of other orders, and were on the best terms with the Carthusians, who, on account of their vow of silence, were the only ecclesiastics, out of their own body, to whom the Jesuits were permitted to make confession. Their busy, intriguing spirit made them the objects of suspicion and jealousy to statesmen and jurists, on account of their interference in political affairs, the mischievous effects of which were already manifest in Portugal, under the reigns of John III. and Sebastian, their pupils, and, after the death of the latter, were a principal cause of the surrender of this kingdom to the Spanish crown. For this reason, the parliament and higher clergy of France, for twenty years, resolutely resisted the attempts of the Jesuits to gain a footing in that country. The university of Paris also declared the whole order to be useless, and its existence incompatible with the rights of the Gallican church. It was owing chiefly to the favour of the court, that they at last, in 1562, were admitted into France under the name of *fathers of the college of Clermont*, with a humiliating renunciation of their most important privileges. Notwithstanding this depressed condition, they soon contrived to establish themselves in Paris and the southern and western provinces, and, during the civil commotions, under the protection of the Guises, to deprive the French Protestants of their rights, gradually to establish their privileges, and to maintain their footing, in spite of the suspicions enter-

tained of their having had a share in the murder of Henry III. They were banished, indeed, in 1594, on account of the attempt upon Henry's life by their pupil, John Châtel; yet they still remained undisturbed in Toulon, and Bourdeaux, and, at the intercession of the pope, were again received by Henry IV. in 1603. They soon, in their office of court-confessors, carried on the same intrigues as before. Their participation in the crime of Ravallac, though exceedingly probable, could not be proved against them; they themselves joined in condemning the book in which the Spanish Jesuit Mariana defends the king's assassination, and, by cunning and obsequiousness towards the court, preserved themselves undisturbed. They made themselves still more important to the German empire, when they became the confidential advisers of Ferdinand II. and III. They discovered remarkable political talent in the thirty years' war; the league of the Catholics could do nothing without them. Father Lamormain, a Jesuit, and confessor to the emperor, effected the downfall of Wallenstein, and, by means of his agents, kept the jealous Bavarians in their alliance with Austria. But, while they were thus successful as statesmen, in this part of Europe (though they failed in preventing the triumph of toleration at the peace of Westphalia), a new storm burst upon them, in France and the Netherlands, from the Jansenist controversy. The ancient hostility of the university of Paris, which had always been strongly averse to the admission of the Jesuits as teachers, rose up, in union with the rigid morality of the Jansenists, against the notorious semi-Pelagianism of Molina and his brother Jesuits. (See *Grace*, and *Jansenius*.) The character of the Jesuits received a fatal wound from the pen of Pascal, whose famous Provincial Letters exposed the mischievous doctrines and practices of the Jesuits with admirable wit and argument, to which they opposed little but abuse and violence. These letters, which have been published in numerous editions since 1656, were read through all Europe, and their testimony quoted in the sentence of condemnation pronounced by Innocent IX., in 1679, against sixty-five offensive propositions, mostly of Jesuit casuists. But it availed them little that royal decrees and papal bulls, procured by the Jesuit confessors of Louis XIV. (La Chaise and Le Tellier), were levelled against Jansenism, and its ruin completed by the well-known constitution *Unigenitus*. In the minds of reflecting and well-disposed persons, they still remained suspected of an attachment to the principles of their most eminent casuists, attacked by Pascal—principles which afforded the most startling solution of their crafty and ambiguous conduct. A lax morality, accommodated to the inclinations of a licentious age, which made interest and external circumstances the rule of conduct, and consecrated the worst means for a good end; their probabilism,—a system of principles and rules of life which tolerated every thing that could be defended as probably admissible; their excuses for perjury and crimes of all kinds, sometimes by arbitrary perversion of language, sometimes by ambiguous expressions and perplexing interpretations, sometimes, too, by mental reservations, according to which a man had only to think differently from what he said and did, to be justified, in his own sight, from the greatest crimes;—these, and other traits of a like nature, may be more fully and accurately learnt from the letters of Pascal, or the writings of the Jesuits, Sanches, Bauny, Escobar, Suarez, and Busembaum. Their own defences against these charges only confirmed the suspicion excited against their system of morals, while they palliated and conceded a part where the whole was culpable. Other accusations were now

brought against them, which they were still less able to repel. Their superficial mode of instruction, and the theatrical disorders of their schools, had been already condemned by Mariana, a learned Spanish Jesuit; the gross selfishness of the order had been publicly exposed in Sciotti's *Monarchia solipsorum*; the indifference with which they permitted their heathen converts to continue their old worship of idols, on condition of their mentally adoring, at the same time, Christ and the virgin Mary; and their want of agreement with the other missionaries in China, had been warmly, but ineffectually, censured by several papal bulls. Their conduct, too, was now and then discovered to harmonize too well with their indulgent code of ethics, as they were not always prudent enough in the commission of their excesses; and it was for this reason that the Iroquois, who had been converted by them, expressly stipulated in a treaty of peace (1682) for the removal of these licentious brethren, who did every thing that Jesus did not do. It was even found necessary to expel them from some of the Italian states for their licentiousness; and the horror which was felt through Europe at the trial of the Jesuit Girard, for the alleged violation of Cadière, an innocent girl, at the time of confession, is hardly yet forgotten. It was now becoming, every day, more evident to the world, that the Jesuits were not aiming to promote virtue and religion, but their own interests. This was confirmed by the complaints of merchants at the extensive traffic of the society of Jesus in the products of their foreign missionary stations. It cannot be denied that the republic of natives, formed by them, under the authority of Spain, in Paraguay and Uruguay, in which they ruled with absolute power, and which, in 1753, contained nearly 100,000 subjects, was conducted by them with consummate policy and skill, and was, perhaps, the best means for civilizing those savages; but that they made it also a trafficking establishment for the emolument of the order, was shown on occasion of a treaty of commerce, by which Spain, in 1750, gave up some districts of this country to Portugal. The resistance which the natives made to the Portuguese, with an army of 14,000 men, commanded by Jesuits, finally obliged the contracting powers to annul the treaty. The Portuguese Jesuits, though they disclaimed all concern in this affair, underwent a prosecution, which was not terminated, when an attempt upon the life of the king of Portugal hastened their downfall. The minister Pombal made out their agency in this attempt to a high degree of probability, and finally succeeded, in 1759, in expelling them from Portugal, and confiscating their possessions, by an edict, in which the king declared them guilty of high treason. Before this first blow, the order consisted of twenty-four professed-houses, 669 colleges, 176 seminaries, sixty-one novitiate-houses, 333 residences, and 273 missions in heathen and Protestant countries, and 22,589 members of all ranks, half of whom were ordained priests. In France, where Choiseul and Pompadour were unfavourably disposed towards them, their ruin was occasioned by the trade which they continued to carry on, in spite of all the pope's orders to the contrary. In 1743, they had established a trading-house at Martinique, by their deputy, father La Valette, under pretence of a mission, which soon monopolized nearly the whole trade of that and the neighbouring islands, and had commercial connexions with the principal merchants of France. It happened that two ships, with a cargo valued at two millions of francs, sent over by La Valette to pay the house of Lioncy, at Marseilles, fell into the hands of the British. The Jesuits refusing to make any indemnification for the loss, the

above-mentioned house brought an action against them, which terminated in the sentencing of the former to make full reimbursement, and was the means, also, of bringing to light other abuses of the order. Lorenzo Ricci, their general, refusing to make any change in their constitution, by the declaration, *Sint ut sunt, aut non sint* (Let them be as they are, or not be), the king issued a decree, in 1764, abolishing the order, in all the French states, as a mere political society, dangerous to religion, whose object was self-aggrandizement. In vain did Clement XIII., in a bull issued at the same time, recommend the Jesuits as the most pious and useful members of the church. They were also driven out of Spain, in 1767, and soon after from Naples, Parma, and Malta, by the efforts of Choiseul and the Spanish minister Aranda. The voice of public opinion at length compelled pope Clement XIV. to publish his famous bull, *Dominus ac Redemptor noster*, of July 21, 1773, by which the society of Jesus was totally abolished in all the states of Christendom. These measures were every where executed with a quick and strong hand, because a formal process would have given time for a formidable opposition. Yet their most important treasures and documents were already taken out of the way, as it is supposed, and their archives and coffers did not satisfy expectation. Ricci, who might have averted this fate by making some concessions towards a change in their constitution, protested the innocence of their order, which was bound to regard every thing which came from him as necessarily right and obligatory; but, in fact, the great infringements on the natural rights of others, incompatible with every well-ordered church or state, which were in a manner legalized by their privileges, rendered the existence of such a body in a state a political solecism. Unquestionably the world had much reason to rejoice at their fall, although a great part of the members were entirely innocent; and their former services will always be gratefully remembered. The ex-Jesuits, however, suffered no further penalty than being obliged to quit their houses, lay aside the garb of the order, renounce all intercourse with one another, and either enter some of the other orders, or put themselves under the superintendence of the bishops. They received annuities from the revenues of their confiscated estates, except in Portugal. In this kingdom, and in Spain, the ex-Jesuits were also prohibited from residing in the country; while, in the States of the Church, in Upper Italy, and in Germany, where they were treated with the most forbearance, in Hungary, Poland, and even in France, they were suffered to remain as private persons. Frederic II., indeed, would not join in the general expulsion of the order, in order to gratify his Catholic subjects in Silesia, to retain a school-establishment which cost him nothing, and to keep a productive source of revenue. Nevertheless, the Jesuits in the Prussian states were obliged to give up the garb of their order, and to renounce their constitution. Under the name of the *priests of the royal school-institute*, they were henceforth confined to the office of instructing youth; and even this institution was abolished by Frederic William II. Russia was now the only country that remained to them. Peter the Great had expelled them from his empire as early as 1719; but, in 1772, several houses of their order fell, with the eastern part of Poland, under the dominion of Russia. Catharine spared them, even after the abolition of the order, out of regard to her Catholic subjects, and on account of the usefulness of their schools. The patronage of Czernitscheff and Potemkin enabled them to obtain permission to erect a novitiate-house in 1779, and in 1782 to choose a vicar-general. Meanwhile, cir-

cumstances had taken a favourable turn for them in Rome. Clement XIV. died 1774, and his successor soon showed himself a friend of the society, which was yet very far from being extinct. The ex-Jesuits, who were deprived at once of their offices by the decrees of abolition, having been condemned unheard, still remained respectable clergymen, who had powerful friends in all classes, and were intrusted with important stations in the church and offices of instruction. In the year 1780, there were 9000 of them out of Italy, who were thought to maintain a constant union, under private directors or superiors; they were also thought to have possessed themselves of the secrets of the Rosicrucians, and to have taken a part in the schemes of the Illuminati. They were charged, moreover, with a plot to destroy Protestantism. But the clamour against them was, no doubt, often unfounded. By *Jesuitism* was still understood, not only the opposition to all ideas and institutions unfavourable to the Roman church, but also the sly and insidious arts of intrigue, the acting according to the principle that "the end sanctifies the means," the concealed movements of a manœuvring ambition, under the mask of piety and devotion to the public good, which had become a second nature with many of the followers of Loyola. Undaunted by these assaults of an often unjust prejudice, the ex-Jesuits, firmly united to each other, were hoping in the meanwhile for the restoration of their order, on which, according to their belief, the welfare of mankind depends. An attempt, in 1787, to revive their order, under the name of *Vicentines*, was unsuccessful. The *Fathers of the faith*, an ecclesiastical order founded by Paccanari, a Tyrolese enthusiast, and formerly a soldier of the pope, under the patronage of the archduchess Mariana, was composed mostly of Jesuits, and put in operation at Rome, by the aid of the easily persuaded pope, as a new form of the society of Jesus, under altered regulations; but they were never recognised by the secret superiors of the ancient Jesuits, as their brethren. The plans of the Jesuits were aided by Pius VII. He established their order in White Russia and Lithuania, where it continued in operation, but confined to offices of teaching and priestly duties, under the vicar-general, Daniel Gruber; and silently restored them, in 1804, in the island of Sicily, which was entirely separated from Europe by the fate of the continent. Hence it excited no surprise among observing men, that this pope, who, in 1806, had canonized a Jesuit, should make use of the first opportunity to revive the order. The bull issued to this effect (*Solicitududo omnium*, Aug. 7, 1814), speaks of urgent entreaties and a general desire of the Christian princes and bishops for the restoration of the society, which restoration is called a *reprintation*, thereby intimating that it would again appear in precisely the same form in which it had fallen. Accordingly, the novitiate at Rome was solemnly opened, November 11, 1814, and about forty men, mostly eminent for rank and attainments, have since been admitted. In 1824, they took possession of the *collegium Romanum* in that city. In 1815, a college was given them at Modena, and they did not delay to accept the invitations of the kings of Sardinia, Naples, and Spain. Ferdinand VII. (May 29, 1815) reinstated them in the possession of all the privileges and property which had been taken from them in 1767. He subsequently appointed St Ignatius captain-general of the Spanish army, and conferred on him the grand cross of the order of Charles III. The Helvetic canton of Friburg, also (September 15, 1818), restored the old Jesuit college, formerly established there, for the instruction of youth. The Spanish revolution of March, 1820, was followed by their banishment from the kingdom; but

they were restored again at the re-establishment of absolute power in 1823. Thus, in the conduct and the fortunes of the order, have been fulfilled the prophetic words of their third general, Francis Borgia: "Like lambs have we crept into power, like wolves have we used it, like dogs shall we be driven out, but like eagles shall we renew our youth." Portugal alone steadfastly adhered to its ordinance of September 3, 1759, which banished the Jesuits out of the kingdom. Germany has hitherto refused to admit them; but the Paccanarists and Redemptorists in Austria have much in common with this society: some of the Jesuits, indeed, were allowed to take refuge there, after their banishment from Russia, but were commanded, in 1825, on pain of exile, to acknowledge the archbishop of the province as their supreme head. In France, the ultra-royalists succeeded in causing their presence to be connived at, and they already had congregations and seminaries at Montbrun, St Acheul, &c., previous to the late revolution. In Russia, where they had been expelled by Peter the Great, and re-admitted by Catharine II., it appeared that they were using their endeavours to win over the sons and daughters of distinguished families to the Catholic church, and they were banished in consequence, by an ukase of Jan. 1, 1817, from Moscow and Petersburg. But, still carrying on their proselyting schemes, and making themselves obnoxious to the government by secret intrigues of all sorts, an imperial ukase of March 25, 1820, abolished their order for ever in Russia and Poland, and provided that the whole body of its members should be transported beyond the boundaries of these two countries, at the expense of the government, having regard to the age and bodily condition of individuals; that the valuable estates of the order should be confiscated, and the academy at Polotsk abolished. In England, the tolerating spirit of the British constitution has permitted them, for the last thirty years, to have a college at Stonyhurst, near Preston in Lancashire, with an academy of 500 pupils, and several smaller boarding schools, from which they carry on with success, the propagation of the Catholic faith. (See Dallas's *History of the Jesuits*, London 1816.)\* They have also three colleges in Piedmont, one in Ferrara, one in Ireland, one in Friburg in Switzerland, and two colleges in the United States, one in Georgetown, in the district of Columbia, the other at St Louis, Missouri.

The Jesuits have outlived their power; the age rejects them. The world is ruled by a spirit with which this fraternity, now inconsiderable in point of numbers, talent and influence, could not keep pace. The sagacious statesmen of the present day need not be reminded of the answer of Maintenon, the mistress of the great patron of the Jesuits, who, on having chosen Lazarists for the spiritual guides of her pupils at St Cyr, was asked why she had not taken Jesuits; "Because," she replied, "I would be mistress in my own house." The order originated in a wise view of the state of the world on the part of leading Catholics, who saw that the rapid advances of the Protestants in learning and science would soon throw the old system of ignorant mendicant orders into contempt. They therefore trained a new race of combatants for the church in the use of intellectual

weapons; but the advantages, which they thus obtained originally, have been lost in the general spread of intelligence, and the Jesuits are now considered as a part of the old regime, and no longer influence public opinion. Their conduct of many years in France has not tended to restore their popularity. The disposition to adapt them to the new order of things, however, has been shown in the acquittal, by the court of Rome, of two Jesuits charged with having spoken well of republics, on the ground that, being citizens of the United States of America, they had a right to defend republican principles.

A Universal History of the Jesuits was published by Wolf (second edition, Leipsic, 1803, 4 vols.). An important historical work, drawn from the first sources, appeared at Leipsic, in 1820, called *Catechismo dei Gesuiti* (Catechism of the Jesuits). The *Monita secreta Societatis Jesu* (Paderborn, 1681) have been reprinted in Latin and German, at Ailla-Chapelle, 1825, with a report of M. Portals, respecting the *Pères de la Foi*. The genuineness of these *Monita*, &c., however, is not fully established. See, also, *Hist. des Confesseurs des Empereurs, des Rois, &c.*, by M. Grégoire (Paris, 1824); also *Procès de l'Histoire générale de la Compagnie de Jésus, suivis des Monita secreta*, by Arn. Scheffer (Paris, 1824); De Pradt, *Du Jéuitisme ancien et moderne* (Paris, 1826); and *Les Jésuites modernes*, by abbé Marcial Marcet de la Roche Arnauld, formerly a Jesuit (Paris, 1826). See the following article.

**JESUITS** [written by a Jesuit. In the preceding article, the opinions of the opponents of the Jesuits are given, and we propose now to give a brief outline of the views of the Jesuits themselves respecting their order, taken from the article *Jesuits*, written by one of the society, for the *Conversations Lexicon*.—The middle ages had ended. It was no longer a question whether the exercise of simple faith was sufficient; societies formed for the contemplative life—the monks—could, in future, have but a subordinate value for the church: the question was now, how to find effectual means to save the Catholic religion and church against the attacks of the spirit of innovation. As action, in the natural world, always produces reaction, so it is in the moral world. A new order originated in the church—the Jesuits. It is true, the intention of Ignatius Loyola was originally directed rather to mystic and ascetic contemplation; but the order soon took a shape adapted to the wants of the church. Ignatius Loyola was a Spaniard of a very warm imagination and great sensibility, which early awakened in him a zeal for religion. After having served against the infidels, he founded a religious society. In the convent of Montserrat, in an almost inaccessible wilderness of Catalonia, he copied the rules of a holy life, which an abbot, cousin to cardinal Ximenes, the minister of state, had prescribed. The inflamed mind of Ignatius saw Mary, the mother of Jesus, in a vision: she gave him the power of chastity. Jesus and Satan appeared to him in the form of military officers enlisting men for service; he followed Christ. The order was founded in 1540. After the death of the founder, the society was further developed by Lainez, and, after him, by Aquaviva, men of deep knowledge of mankind, and steadfast purpose, the real authors of the success which, as John Muller said, deserves to be compared with the great institutions of the lawgivers of antiquity. The object of the society was, as it is described in their institutions, to devote all the powers to the salvation and perfection of the souls, and those of their neighbours, and to occupy themselves for this end in all places, according to the direction of their superiors. The society designated their object by the motto of Ignatius—

\* By the Catholic relief bill (April 13, 1829) it is required that every Jesuit in the United Kingdom shall register his name and place of residence with a clerk of the peace; that any member of the order who shall enter the realm shall be guilty of a misdemeanour, and, on conviction, be banished for life (any natural born subject out of the realm, being a Jesuit, is, however, permitted to return); the admission of any person to the order is also forbidden; both those admitted and the members who administer the engagement are liable to fine and imprisonment, or banishment.

*Omnia ad majorem Dei gloriam.* Severe trials, constant inspection, unconditional obedience in permitted things, ensured the intimate union of the society, as well as the ability and purity of its members. A strictly decorous exterior was enjoined. No Jesuit was allowed to confess a woman, except in the presence of another Jesuit. Mouey a Jesuit never was allowed to take for masses. The seat of the society was in so far in Rome, as the general of the order resided there, with the committee of the society, and the monitor, who, totally independent of him, controlled the general as if he were his conscience. The order was divided into provinces, each of which was superintended by a provincial. Under the care of these officers were the professed-houses, with each a *propositus* at its head, and the colleges, with each a rector. In the latter, there were also novices. The mutual dependence of all parts of the system resembled the structure of a well-built fabric: the relations of subordination were so ordered that the society was *simples duntaxat unum*, without interrupting the free will of the individual, who only had to obey in permitted things. The Jesuits were active, first, as teachers of youth. Lord Bacon says of them, that, when he considered the assiduity with which they gave themselves to the cultivation of science and the maintenance of pure morals, he always thought of what Agesilaus said to Pharnabazus, "As thou art such, I wish thou wert one of ours;" and that, in regard to the method of teaching, the Jesuit schools ought to be taken for models, because, of every mode which had been attempted, none was so good as theirs. Thus far Bacon. But what gave the greatest value to their mode of education was, that with them, religion ruled over every thing: they formed Catholic Christians of a sound mind, not unsettled spirits, like the youth of our times. Their care for the purity of youth was remarkable; and ought they to be reproached because, with this view, they mutilated the classics? A chief object of the Jesuits was the defence of the church against Protestantism. There is no doubt that the reformation would have spread much farther, had not the Loyolies fought for the church. If they were thus anxious to preserve Catholic souls, on the other hand they were not less active to propagate the gospel in distant countries. They took the usual vows of the orders—chastity, poverty and obedience; the latter in so extended a sense, that they were willing to go on any missions. With apostolic zeal, they devoted themselves to the task of converting the heathen. In the heart of Asia, in Japan, and in the Moluccas, they erected the sign of the crucified Redeemer, and preached the doctrines of the gospel: they taught it in China, in both the Indies, in Ethiopia, and among the Caffres. When the church was persecuted in Japan, the Jesuits all became martyrs. One only, Christopher Ferreira, wavered. Exhausted by long continued torments, and by the expectation of still greater ones, he, in a weak hour, was induced to sacrifice to the Japanese gods. But hardly had the news of this deplorable event arrived in Europe, when Jesuits from all the provinces offered themselves as missionaries to Japan, and begged for permission to go there as a favour. Their object was either to bring back Ferreira to the church and the order, or to wash out, with their own blood, the stain of his ignominy. All who were now sent to Japan suffered martyrdom immediately. Ferreira's conscience was soon awakened again: he repented, and went before the magistrates, acknowledging himself a Christian. He was tortured for eight days, in every possible way, and was at last sunk into the Japanese den of death, where, after seven days, death put an end to his torments and repentance. In the other hemi-

sphere, the Jesuits penetrated into the north. The Hurons were civilized, and Canada ceased to be the residence of barbarians only. Others civilized other tribes in the inclement California, and united them into Christian communities.\* At the same time, others traversed the regions north of Mexico, inhabited by wandering tribes, whom no missionary had ever visited before. Others continued the work of conversion in South America, in Brazil, Paraguay, &c. In this region, where the Spaniards had done nothing but murder and pillage, the Jesuits restored humanity to its rights, and brought the European name once more to honour. Their state, Paraguay, was one of the most beautiful creations in history. Whatever poets and philosophers have fabled of the golden age and the world of innocence, the Jesuits, as Raynal says, realized in a distant zone. Raynal, certainly an unsuspected witness, observes, "Perhaps so much good has never been done to men with so little injury. The people of Paraguay had no civil laws, because they knew of no property; nor had they criminal ones, because every one was his own accuser, and voluntarily submitted to punishment. Their only laws were the precepts of religion. There was no distinction of stations, and it is the only society on earth where men enjoyed equality. None were idle, or fatigued with labour. The food was equal, in wholesomeness, plenty, and quality, for all the citizens; every one was conveniently lodged, and well clothed; the aged and the sick, the widows and orphans, were assisted in a manner unknown in other parts of the world. Every one married from choice, and not from interest, and a number of children was considered as a blessing, and could never be burdensome. Debauchery, the necessary consequence of idleness, which equally corrupts the opulent and the poor, never tended to abridge the duration of human life; nothing served to excite artificial passions, or contradicted those that are regulated by nature and reason. The people enjoyed the advantages of trade, and were not exposed to the contagion of vice and luxury. Plentiful magazines, and a friendly intercourse between nations united in the bonds of the same religion, were a security against any scarcity that might happen from the inconstancy or inclemency of the seasons. Public justice had never been reduced to the cruel necessity of condemning a single malefactor to death, to ignominy, or to any punishment of long duration; and the very names of taxes and lawsuits—those two terrible scourges which everywhere else afflict mankind—were unknown." It will not now surprise us, that Montesquieu, in his *Esprit des Loix* (liv. iv. ch. 6), Buffon, in his *Contemplations on the Variety of Human Races*, Albert von Haller, in his miscellaneous treatises on several subjects of politics and morals, Robertson, in his classical History of Charles V. and Muratori, mention, with enthusiasm, the services of the Jesuits as missionaries. Respecting the service which they have rendered to science, there is almost but one voice. No branch was excluded from their care. In theology, they were distinguished teachers: yet their enemies—and they had many, not only among the Protestants, but among the Catholics, and among these latter the most vehement, because of their great privileges, their freedom from the monkish spirit, and their great acquirements—have reproached them with maintaining many odious opinions. They are said to have defended the murder of tyrants. No charge could be more false. Even 126 years before

\* The well-known barbarous state of the above-mentioned tribes will lead the reader to qualify the meaning of the words *civilization* and *conversion* in other parts of the above article.—Ed.

the foundation of the order of Jesuits, John Petit, doctor of the university of Paris, asserted, without any qualification, the legality of the murder of a tyrant. The cause was the murder of the duke of Orleans, in broad day, in the streets of Paris, at the instigation of the duke of Burgundy, his competitor for the regency of the realm during the insanity of Charles VI. John Petit wrote a defence for the duke of Burgundy, in which he defends this horrid act, on the ground that the murder of tyrants is justifiable. The archbishop of Paris condemned this publication; but several French theologians, among whom there were even bishops, defended John Petit's doctrine; and when, some years after, Châlier, a doctor of the Sorbonne, denounced Petit's doctrine, at the council of Constance, before the assembled fathers, Martin Porre, bishop of Arras, defended it as being a doctrine which had been maintained by many learned men and theologians without contradiction. The council was at first undecided, but, at last, condemned, not all the positions of John Petit, but only this one: "Every tyrant may be legally killed by his subjects." According to this sentence, it appears as if the murder of tyrants is permitted under certain circumstances, and this question became a common subject of investigation among the theologians and scholars of the fifteenth century, and down to the middle of the sixteenth. In spite of the condemnation of the main point of this doctrine by the council of Constance, many theologians, chiefly belonging to the order of Dominicans, supported it. At a later period, also, distinguished Protestants upheld the doctrine, as Milton, Buchanan, Bodin, Beza, Du Moulin, and others. The Jesuits took part in this as in all theological questions, but not, as has been said, in order to develop this obnoxious doctrine, but rather to put it down by argument, or to make it as little obnoxious as possible. The learned Jesuit, Salmeron, Loyola's companion, says explicitly, nobody is authorized to kill a prince, even if the latter has obtained possession of the government by violence, particularly if he is once in quiet possession of power. Salmeron, indeed, in another passage, teaches that, if an illegitimate ruler attacks a city, and is just on the point of getting possession of it by arms, in such case, he may be lawfully killed by a private person, having received a commission to such effect from the legal authority. Here Salmeron indeed wrote in the spirit of his time; but it was no small step to confine within such narrow limits the authorized destruction of a tyrant, whilst the principle had been laid down with very little qualification, by many Catholics and Protestants of distinction. In the same sense other Jesuits have written, of whom some declared themselves still more distinctly against the doctrine: thus, for instance, the Jesuits Molina and Lessius said, "A regent, be he even a tyrant, is, nevertheless, the legal sovereign: hence the Holy Scriptures commanded obedience, even to heathen princes, in every thing which is not against the ordinances of God, even if they were the greatest tyrants, persecuted the church, and strove to force Christians to give up their faith. Hence it follows, that the murder of a regent is in no case permitted." Of all the Jesuits, about twelve in the whole, who occupied themselves with this question, only Mariana, in his book *De Rege et Regis Institutione*, upheld the doctrine authorizing the killing of tyrants, and even he with some restrictions. But hardly had Mariana's book appeared, when several Jesuits, particularly Bellarmine, completely refuted his doctrine *de tyrannicidio*; and Aquaviva, the general of the order, after some years, condemned this doctrine, and prohibited all the men of the society from touching the question any more, either directly or indirectly. From

this time, this subject has been banished from their schools and their works. Hence Voltaire, when he was believed to make common cause with the enemies of the Jesuits in the accusation of their defence of tyrannicide, says, "Posterity would unanimously exculpate the order, if I were to accuse them of a crime, of which every man of sense, nay, all Europe, and even Damiani, have acquitted them long ago." Another and equally unjust reproach against the Jesuits is, that their system of morals was lax, that they adhered to *probabilism*. Probabilism was, even 100 years before the foundation of the order, the common doctrine of all bishops, the most distinguished universities, and all the regular clergy. Under certain restrictions, this doctrine is far from being injurious to pure morality. The substance of it is, that where a law is not pronounced clearly, it is permitted to follow that opinion which, being likewise supported by good reasons, favours the natural liberty of man rather than the severity of the law. Next arose the question, whether it was permitted to follow the probable meaning, in preference to the more probable. The probabilists answered in the affirmative. This was asserted by many theologians, particularly Dominicans, long before the origin of the society of Jesus. But, as this doctrine is susceptible of an application really dangerous to morality, the Jesuits had the undeniable merit of having been the first who wrote against probabilism. The writings of the Jesuits Robello, Molien, Gisbert, Aquaviva, Gonzalez, Dama, and others, contain unequalled attacks on probabilism, and attempts to reduce it within reasonable limits. The Jansenists, who were ready to make any charges against the Jesuits, first attacked them on the ground of their upholding probabilism. Pascal and Nicol were the first assailants: the former wished to make the Jesuits ridiculous, the latter, to make them odious. Perrault and Arnaud joined them at a later period. But all these publications were declared by the parliaments of Paris and Bourdeaux, who were by no means generally in favour of the Jesuits, "calumnious writings, full with injustice, deceit, falsifications and ignorance." If Pascal's *Lettres Provinciales* are regarded as an authority against the Jesuits, we should at least consider what Voltaire says: "It is clear that this work (the *Lettres Provinciales*) rests upon a premise totally erroneous, attributing the insane opinions of some Spanish and Flemish Jesuits to the whole order. In the casuistry of the Dominicans and Franciscans, many absurd things might also be found. But the Jesuits alone were to be held up to general derision. The same letters even attempt to prove that it is the plan of the Jesuits to make men worse, instead of correcting them; but such a plan is so senseless, that no sect in the world ever had or could have it." The private lives of the Jesuits were exemplary. The purity of their morals is evident from the disgust which all Europe felt when a thing unheard of happened, when a Jesuit—one of a hundred thousand who composed the order—Girard by name, was accused of rape. There has never existed a society where such deviations from virtue have been met, even if we allow the *Amores Marcelli*, published by Von Long, to be true. The least suspected writer of the Jesuits is probably Voltaire: he says—"What have I seen during the seven years that I lived with the Jesuits? A very active life, connected with many labours, and, at the same time, very frugal and orderly. All their hours were appropriated to their school labours, and to the exercises which the severe order bound them to perform. I call thousands and thousands to witness, who, like myself, have been educated by them. I dare to affirm, that nothing more repulsive and dishonourable to human

nature can be found, than that there are men who reproach such people with laxity of morals." The history of the persecutions of the Jesuits, in the different parts of Europe, is very interesting. The first took place in France. In 1540, they appeared in France. The parliament hated them as friends of the Roman see, the university as dangerous rivals. The hall of the parliament incessantly resounded with the complaints of the university of Paris, who could not bear to see their students departing and putting themselves under the instructions of the Jesuits: still more painful was the loss of so many emoluments, which, under the name *Landis*, were derived from the students, while the Jesuits instructed gratis; and when, at length, the great fame of the Jesuit Maldorat, whose lecture-room was filled two or three hours before the time of the lecture, and who was at last obliged to lecture in the open air, spread farther and farther, the rage of the university rose to the highest degree. The rector of the university therefore intimated to them that they must close their schools. They obeyed; but an uproar took place among the students, and the court ordered the Jesuits to open their schools again immediately, and not to regard the arrogant pretensions of the university. Afterwards, however, when public business kept the king and his ministers for a long time from Paris, the university accused the Jesuits before the parliament. Pasquier, Arnaud, and Dolleu, the advocates of the university, loaded the Jesuits with calumnies. Their advocate, Versaris, defended them so powerfully, that even the parliament, hostile as it was to the Jesuits, acquitted them. When, at a later period, Henry IV. besieged Paris, the Jesuits attracted new odium, by asserting, when interdicted by the citizens, in opposition to the opinion of the other theologians, that excommunication was not the necessary consequence of opening the gates to a heretic king. All the old hatred broke forth anew when Chatel attempted to murder Henry IV. The Jesuits were calumniously charged with being the authors of the attempt, and the parliament tumultuously and unjustly condemned to death the Jesuit Guignard. The judges themselves confessed, some years later, that they had acted over hastily, and all France acknowledged the innocence of the Jesuits. In the first heat, the Jesuits were banished from the realm by a decree of the parliament; but some parliaments in the provinces openly refused to register the ordinance of the parliament of Paris, and those particularly which were independent upon that of the capital, declared the act illegal, hurried, and unjust, and in general protected the Jesuits. For nine years, the Jesuits remained unmolested in Bourdeaux and Toulouse. Students from all France repaired to them, and the king was so much petitioned to restore so useful an order, that he recalled them. The parliament refused to register the royal decree, and sent a deputation to Henry, at the head of whom was the president Harley, who, as the historian Dupleix says, uttered a uniform strain of abuse against the Jesuits. The king answered with a speech extempore, which, as De Thou has not recorded it in his History of France, is hardly known, and we think it proper to give it here, to show how this able monarch spoke extempore: "Your care for my person and the welfare of my empire I acknowledge with pleasure. What you have just told me I have known long since; but my ideas on it were unknown to you. You speak of difficulties, which appear to you great; but I must tell you that I have weighed them duly seven or eight years ago. The best resolutions originate from the lessons of the past, and these I know better than any body else. You imagine that you understand affairs of government,

and that you may interfere with them, which seems to me much as if I should interfere with your duties by making a report in a civil process. I therefore must tell you, first, in regard to the affair of Poissy, that, if all had behaved as one or two Jesuits who happened to be present, every thing would have turned out better for the Catholics. Not their ambition, but their modesty, from that time, has appeared conspicuous; and I cannot conceive how you can accuse those of ambition, who refuse, constantly and unconditionally, abbacies, honorary offices, and dignities; nay, who oblige themselves by vows never to strive for them, and whose life, in general, has no other purpose than to be useful to all people. Is it the name *Jesuit* which excites your zeal? Then you must also dispute with those who have taken their name from the holy Trinity (*les pères de la Trinité*); and, if you believe that you belong as much to the society of Jesus as the Jesuits, you may ask yourselves whether your daughters belong as much to the *Filles de Dieu* in Paris as the nuns who bear this name, and you may as well call yourselves knights of the order of the Holy Ghost as myself and the other knights of the order. I, for my part, should like as well, or rather better, to be called *Jesuit* than *Jacobin* or *Augustine*. If part of the other clergy are hostile to the order, it may originate from the circumstance that ignorance always was hostile to science. I have found that, as soon as I declared my intention to recall the Jesuits, two classes of men immediately opposed the measure, viz., the Huguenots and all the Catholic clergy notorious for bad morals and conduct; but this gave me a greater esteem and love for the Jesuits." The king speaks at length on the reason why the Sorbonne could not agree with the Jesuits, because the latter were more learned, and that they should now not only be suffered, but take root within the realm.\*

In Britain, Jesuits never had much footing. The reformed doctrines had already become the prevalent religion of that country, when the order grew up. The Jesuits in Britain were only a small division of missionaries, who laboured among the dispersed and oppressed Catholics, quietly and under the veil of secrecy. Several Jesuits have suffered martyrdom in Britain, and several laws enacted against them manifest the grossest prejudice, and have been repealed only in modern times.—In the eighteenth century, the Jesuits received their first blow in Portugal. Pombal, minister of king Joseph, a powerful and passionate man, wished to promote the welfare of Portugal; but his plans were those of a despotic minister of a despotic government. Every thing opposed to his wishes was to fall. Many circumstances co-operated to render him inimical to the Jesuits, to whose influence, as confessors, he owed his elevation. It would have been better for the Jesuits if they had avoided accepting confessorships at court, in the same way as they declined the dignities of the church. Pombal believed the country of the Paraguay, in which the Jesuits ruled so paternally, contained a number of gold mines, unknown to the inhabitants. He therefore obtained this country from Spain by exchange for another, 1400 miles distant, into which he wished to transplant all the Indians of Paraguay. The Jesuits received orders to prepare the people for this measure. The natives remonstrated very modestly and respectfully against such a forced emigration, representing how impossible it would be to transplant 30,000 people, with all their goods to such a distance through the wilderness; but the government was inexorable. Only a few months were

\* The speech is long, and its genuineness very suspicious, as it goes carefully through all the points for which the Jesuits had been reproached. It is too long for a king, too systematic for an extempore performance.—ED.

allowed them for preparation. The Indians, who were to be torn from the ground they had first cultivated, the huts where they were born, and the graves of their friends and parents, were reduced to despair. Even the Jesuits, who admonished them to obey, were now suspected by the Indians of conspiring with their heartless oppressors in Europe. The Indians armed themselves for resistance. A war broke out, in which the Indians were at first victorious, but were afterwards conquered. Many burnt their villages, and fled into the mountains, where most of them perished. After having searched in vain for gold every where, Pombal was ashamed of his bloody and bootless measure, and, under Charles III. of Spain, the lands were re-exchanged, after the innocent Indians had become accustomed to all the vices of European outcasts. But, as a despotic minister cannot err, the Jesuits were now to be proved the instigators of the resistance of the Indians to Pombal's humane project of emigration. To make the world believe this, Pombal laid a plan with a certain Platel, whose vices had made him an outcast from various countries. The world was to be persuaded that the Jesuits had maintained a warlike state in Paraguay for a hundred and fifty years, and even a king, Nicholas, who commanded their forces, &c. In Spain, the story was laughed at. People knew why Spaniards had been prohibited, with the consent of government, from visiting the missions—that they might not infect with European vices the innocent Indians. This prohibition was a point on which Pombal's writer always insisted. The statements of Platel were proved to be false by the governor of Peru and the Mexican bishops, and the book was burnt in Madrid; yet Pombal's libels found belief in Europe. The Jesuits were recalled from Paraguay, and imprisoned in Portugal. There were other reasons to excite the minister's anger against the Jesuits. In a question respecting the marriage of the king's daughter, the confessor of the king, the Jesuit Moreira, gave advice contrary to that of Pombal, and the king followed the Jesuit. In the papers of the queen, who died in 1754, Pombal discovered that the Jesuits in Maranhão had often apprized the queen, in consequence of her request, of the extortions, &c. of the governor of the place, the brother of Pombal. His passion rose to the highest pitch. Pombal had excited against him the proprietors of the vineyards of that country by a monopoly of port wine, from which he derived advantage himself, so that the inhabitants devastated his vineyards; the Jesuits, it was reported, had done it. When, after the dreadful earthquake of 1755, the Jesuits made use of this event to bring people to repentance, and the king even expressed the desire to devote himself for eight days to spiritual and solitary meditation, under the direction of the pious Jesuit Malagrida, this resolution of the king gave great uneasiness to Pombal, who feared for his influence. Cost what it would, the Jesuits were to fall. At the same time, another obstacle to Pombal's power was to be annihilated—the high nobility, with whom he lived in decided opposition. These two objects Pombal succeeded in accomplishing with one stroke. September 4, 1758, the king, on his return from a love adventure, was wounded by assassins. Pombal persuaded the king that this attack was owing to a conspiracy of the high nobility and the Jesuits, and don Joseph was now in constant fear of new conspiracies, and therefore totally in the power of his minister. The duke of Aveiro, the whole house of Tavora, were tried by an extraordinary committee, and suffered an ignominious death. Malagrida was arrested as concerned in the conspiracy, and, after several years, was sentenced

and burnt by the obedient inquisition as a heretic. When, with the death of don Joseph, Pombal's despotism was at an end, when the latter himself, being accused and convicted of the most execrable crimes, was sentenced to death by the court unanimously, and pardoned by the queen, and only punished by banishment, then also the affair of the conspiracy was reviewed, and the parties who had suffered were declared innocent. But, if the conspiracy really had existed, nothing proved the connexion of the Jesuits with it. It is true, the Jesuit Malagrida had, shortly before that attempt, declared that, if the king, who was given to sensual pleasures, did not reform his conduct, a great disaster would follow; and other Jesuits were the friends of Tavora and Aveiro. But none but Pombal could have made this circumstance the ground of an accusation against the society. He accused the whole body before the pope, and demanded its abolition. When the pope ordered the trial of the accused, Pombal, without waiting, exiled the Jesuits, sent back the papal nuncio, and broke off all connexion with Rome. One thousand, eight hundred and forty Jesuits were transported, in 1759, to Italy, and suffered the worst treatment. In France, also, the order declined. Madame Pompadour and the minister Choiseul were hostile to it. When the former had appeared at court, without any other claim than because she had become the king's mistress, the scandalous event excited general attention. As most people are more ready to violate the dictates of morality than conventional forms, madame Pompadour resolved to procure a legal title to appear at court, and adopted the idea of becoming *dame en palais* of the queen. But for this the approval of the good-natured queen was requisite, and it was concluded to deceive her by an appearance of repentance, and to make her believe madame Pompadour had ceased to be the king's mistress. A confession was necessary, and the choice fell upon the Jesuit De Sacy, a man apparently simple, who, it was supposed, would not penetrate the plan. But Sacy declared that, if it was really her earnest intention to return to virtue and religion, she must, without delay, leave the court, retire into solitude, and try to repair the evil she had done, by real repentance; until then he could not take upon him the direction of her conscience, and he never would profane the sacraments, and let himself be made a tool of in such an intrigue. This opposition awakened in madame Pompadour inveterate hatred against the order. Choiseul belonged to the philosophers, so called, who were opposed to all positive religion; and the Jesuits were greatly in his way, also, on account of his hatred against the dauphin, who loved the society. An opportunity was soon found to attack them. The Jesuit Lavalette, in Martinique, had been engaged in commerce; his vessels were taken by English privateers, and his bills of exchange were not paid; in consequence of which, the whole order, which certainly was not obliged to answer for Lavalette's illegal conduct, were called before the parliament, which nourished the old hatred against the society, and now counted, moreover, several Jesuits amongst its members. The order was condemned. The process was the signal for a general attack upon the Jesuits. Choiseul had several laws written against them, and the order abolished by the parliament without a hearing, though the bishops of all France declared in its favour. The process of the parliament was a mere farce. The total abolition took place in 1767. Meanwhile Charles III. ascended the throne of Spain, and assured the general of the order of his protection. But the minister Aranda, an intimate friend of Choiseul, praised by Condé as a decided enemy of priests, nobles, and kings,

was an enemy of the Jesuits, as was also his friend Campananes, fiscal of Castile. They procured the exile of the Jesuits in a way that did them little honour. One evening, the rector of the Jesuit college at Madrid was apprized that a stranger wished to see him immediately. The stranger coming, as he said, from the Jesuit rector of Seville, gave to the rector of Madrid a parcel of papers, with the request that he would read them attentively, and make his remarks on them. The rector ordered the papers to be carried to his room, and, as the hour of meeting in the refectory had begun, went thither in order not to interrupt the prescribed order. Hardly had he arrived there, when the house bell was rung violently. Royal commissioners enter, and seal up all papers, including the packet just left, and carry them to Aranda. Not long after, in the night of April 1, 1767, all the Jesuit colleges in the kingdom were surrounded by soldiers at the same hour, and the Jesuits carried to the states of the pope. April 2, 1767, the king declared that he had resolved to keep the true cause of the banishment of the Jesuits secret. Pope Pius VII. some years before his elevation, first found the traces of this infamous intrigue. When a cardinal, he had been appointed by Clement XIV. a member of the committee who were to investigate the affairs of the Jesuits. The Spanish government, to justify itself somewhat with the pope, had sent the alleged proofs against the Jesuits to Rome. Among these were letters purporting to have passed between distinguished Jesuits, containing remarks of the most infamous character; among other things, it was said in them, that the king was an illegitimate son of cardinal Alberoni, and hence not entitled to the throne, &c. Of course, these letters must have excited the king, and prompted him to banish the order. But it was also found, by a comparison of the hand-writings, that these letters were forged. It was now evident who had brought the parcel only a few moments before the seizure of the papers in the Jesuit college in Madrid. The exile of the Jesuits, and several other circumstances, had caused a dispute between the pope Clement XIII. and Portugal and Spain. The pope (Reasonico) died, without an adjustment of the dispute having taken place. The election of his successor was now a matter of the highest importance. The question was, whether the Jesuit party should prevail or not. Cardinal Ganganelli had already, under Clement XIII., expressed his opinion, that it was more advisable to sacrifice the Jesuits, though innocent, than to live in constant dispute with the kings. The Bourbon party therefore supported him at the election. At the same time, in the conclave, he gained the friends of the Jesuits by maintaining that the new pope ought not to think any more of the abolition of the order than of pulling down St Peter's; and he was elected. The new pope, in fact, after his accession, said, in his missives to the courts of Versailles, Madrid, and Naples, that he neither could blame nor abolish an order which nineteen of his predecessors had solemnly confirmed; it could be the less expected of him, as the same had been confirmed by an oecumenical council at Trent, whose decrees, according to the principles of the Gallican church, were binding on the pope; but he would, if asked, call another council, in which the Jesuits should be heard, all questions investigated anew, and decided upon; that he was obliged to protect the Jesuits equally with the other orders; that, moreover, all the princes of Germany and the king of Sardina had written to him in favour of the Jesuits, and he therefore could not yield to the wish of some cabinets, which desired the abolition of the order, without drawing upon himself the displeasure of so

many other monarchs. But the papal letter was of little avail. The courts threatened the pope with the publication of his letters, written before he had acquired the pontificate, in which he promised to the courts the abolition of the Jesuits, if they would lend him their support in the election. The abolition was difficult, as Clement XIII., with the assent of the whole college of cardinals, had, a short time before, solemnly confirmed the order by the bull *Apostolicum*, and the immediate contravention of the bull would have been an unparalleled scandal, to which the cardinals never would have given their consent. There was no way left, therefore, but to choose the form of a brief—a decree which the popes issue without consulting with the college of the cardinals. In 1773, the brief was issued. The reasons for the abolition were not given in the brief; it was only said that the popes had abolished several other orders, and that the council of Trent had not exactly pronounced a confirmation of the order. Four weeks after this violation of justice, Ganganelli appointed a committee to investigate the accusations against the Jesuits! The Protestant historian John Muller says of this abolition—"It was soon apparent to wise men, that a common bulwark of all authorities had fallen." Prussia did not acknowledge the abolition, but retained the Jesuits, as useful instructors, in Silesia, until at last they themselves, from obedience to the pope, urged the king to complete their abolition. In Russia, also, the order remained, because Catharine was convinced of its utility; and the government obtained the necessary permission from the popes Pius VI. and VII. Clement XIV. died in 1774. His sickness and death were accompanied by strange symptoms, and calumny immediately accused the Jesuits of having procured his death. The persons in attendance on the pope, and the physicians, gave, however, no satisfactory statements; and Le Bret, in his Magazine of Political and Ecclesiastical History, so clearly showed the innocence of the Jesuits, that this calumny never could gain footing. (See *Clement XIV.*) The abolition of the Jesuits had serious consequences. In most Catholic countries, it produced a chasm in the means of public instruction, which it was not easy to fill. The education of youth lost, in many cases, the salutary religious direction which distinguished so much the instruction of the Jesuits. Neither the archives nor the coffers of the Jesuits satisfied expectation. Some persons believed the money to have been carried off; but nothing has been heard of it for fifty years. The order was re-instituted in White Russia in 1801, and in Sicily in 1804, and was put entirely on its old footing in 1814, by the pope. Whether it ought to be restored every where, is a question which, we think, is different from what it was formerly. In the southern countries of Europe, it appears capable of becoming very useful. Of its re-establishment in Germany, there is little hope. There is such a mass of knowledge distributed in the German nation, its public instruction is so thorough, and the establishments for education so well founded, that the Jesuit schools appear, at least, not to be needed. In this nation, too, materialism does not remain to be conquered, but the sound sense of the people soon led it back to religion. Besides, the society's plan of education would little agree with that of the Germans, because that of the Jesuits is by its nature a general, and therefore a stable one, and cannot adapt itself to modern systems of education.\*

\* The length of the articles on the Jesuits may be excused from the interesting nature of the subject. Any view, however, of the subject, which could be given in a work of the character of the present must be too concise to enable the reader to form satisfactory conclusions; to do

**JESUITES DE ROBE**; secular persons of high rank—as, for instance, Louis XIV. of France—who are bound to the order by vows of obedience, but have not taken the spiritual vows.

**JESUS**, called also *Christ* (*Xpiston*, the Anointed), the Son of God, the Saviour of men, whose birth, life, and death, were predicted by prophets, and attended with miraculous manifestations of divine power, was born of the virgin Mary, of the tribe of Judah, who was betrothed to Joseph, an obscure artisan. The place of his birth was Bethlehem: the time is uncertain, but is commonly considered to have been in the twelfth year of the consulate of Augustus, four or five years before the beginning of the vulgar era. Our information concerning him is derived almost entirely from detached sketches of his life, written by four of his followers. The angel Gabriel had announced to Mary, that the power of the Highest should overshadow her, and that she should bear a son who should rule over the house of Jacob for ever; and on the night of his birth, an angel appeared to some shepherds, and announced the coming of a Saviour. On the eighth day, he was circumcised according to the law of Moses, and, on the fortieth, was presented in the temple, where the aged Simeon pronounced him to be the light of nations and the glory of Israel. The coming of the divine infant was also hailed by the adoration of the Magi, who were miraculously directed to the house where the young child was. Herod, alarmed by these indications, determined to destroy all the male children of Bethlehem and its vicinity, of the age of less than two years, for the purpose of effecting the death of Jesus. But Joseph, being miraculously warned of the danger, fled to Egypt with the virgin and her child, and, on his return after the death of Herod, went to reside at Nazareth, in Galilee, whence Jesus is called a *Nazarene*. We have no further accounts of the earlier years of Jesus, except the remarkable scene in the temple, when he was twelve years old, and the general observation of Luke, that he remained in Nazareth with his parents, and served them. At the age of about thirty (*Luke* iii. 23), he was baptized by John in the river Jordan; the Spirit of God descending upon him like a dove, and a voice from heaven proclaiming, "This is my beloved son." Previously, however, to entering upon his office of divine teacher, he retired to a solitary place, where he passed forty days in fasting, meditation, and prayer. His mission is generally considered to have occupied three years, spent in acts of mercy, in inculcating a purer system of morals, more exalted notions of God, and more elevating views of man and his destiny, than had yet been presented to the world. If, when we consider his miracles, he appears like a God, we must also acknowledge something superhuman and divine in his purity of life, his warm love for others, and his self-devotion to their welfare; his meek yet firm and unshrinking endurance of insult, contempt, calumny, and suffering. While he denounces sin, and prophesies the coming desolation of the corrupt city, he forgives the sinner,

which, great knowledge of facts and critical acumen are requisite. The articles can only serve to indicate the most important points to be investigated. The second article was given to show what construction Jesuits themselves put upon the important charges against them. We may close with remarking, that every thing in history has its time, and the order of the Jesuits can never rise to any great eminence in an age in which knowledge is so rapidly spreading. It is connected with the old order of things, not with the new, and has twice returned with servilism into Spain, and once into France. The *Encyclopédie Moderne*, in its article on the Jesuits, calls them the *pretorian guards*, the *strutgers*, the *janizaries* of the pope; and it can hardly be supposed that the guards will flourish when the sovereign is daily declining in splendour and power.

and weeps over the fate of the obdurate Jerusalem. Nothing can surpass the perfect beauty of his life, but the godlike sublimity of his death. It is unnecessary here to trace the particulars of his short but eventful mission. He had chosen twelve apostles to be the companions of his ministry, the witnesses of his miracles, and the depositories of his doctrine, and he was betrayed into the power of his enemies by one of these, with the mockery of a friendly suggestion. Betrayed by one, denied by another, and abandoned by all, he was carried before the Jewish priests, found guilty, and by them delivered over to the Roman magistrates, who alone had the power of life and death. Condemned to death as a disturber of the public peace, he was nailed to the cross on mount Calvary; and it was in the agonies of this bitter death, that he prayed for the forgiveness of his executioners, and with a touching act of filial love, commended his mother to his favourite disciple. The evangelists relate that, from the hour of noon, the sun was darkened, and, three hours after, Jesus, having cried out, "It is finished," gave up the ghost. The veil of the temple, they add, was torn asunder, the earth shook, rocks were rent, and the tombs opened. The centurion who was present, directing the execution, exclaimed, "Truly then was the son of God." The body of Jesus was taken down by Joseph of Arimathea, and placed in a tomb, about which the Jewish priests, remembering his prophecy that he should rise on the third day, set a guard, sealing up the door. Notwithstanding these precautions, his prophecy was fulfilled, by his resurrection on the first day of the week (Sunday); and he appeared repeatedly to his disciples, to encourage, console, and instruct them. On the fortieth day after his resurrection, while with them on the mount of Olives, he "was taken up," and disappeared out of their sight.

**JESUS SIRACH.** See *Sirach*.

**JET.** The colour of jet is a pure and deep black, sometimes with a tinge of brown. It occurs in opaque, compact masses, so solid and hard that they are susceptible of being turned on a lathe and highly polished. Its fracture is conchoidal or unbroken, shining, or even splendid, and it has a waxy lustre; its specific gravity from 1.25 to 1.30. By friction, it acquires a weak electricity, even when not insulated. It sometimes presents the form of branches of trees, and exhibits traces of a ligneous texture. It burns with flame often a little greenish, but it does not melt, like solid bitumen. It exhales, while burning, a strong and sometimes aromatic odour, sensibly different from that of coal or bitumen. It most frequently occurs in detached masses of a moderate size, in beds of sandstone, marl, limestone, and secondary trap. It is also connected with formations of coal, particularly that which is associated with secondary trap rocks. It is also found with other varieties of lignite. Good specimens of jet are found in Galicia and other places in Spain; near Wittenberg, in Saxony; in the department of Aude, in France, where it sometimes contains small bones. In England, it occurs near Whitby. In the Færo islands, and in the Isle of Sky, it occurs in trap rocks. In Massachusetts, America, it is found in South Hadley, in the coal formation. Jet is sometimes employed for fuel, but is more frequently cut and polished, for ornamental purposes, buttons, bracelets, snuff-boxes, &c. Some mineralogists consider it intermediate between coal and bituminous wood.

**JEUX FLORAUX** (*floral games*): a festival annually celebrated in Toulouse. As early as the times of the Troubadours, Toulouse had a literary institution, called the *collège du gai savoir*, or *de la*

*gaie science*, as poetry was then termed. It was founded before the year 1323. Seven Troubadours and a chancellor formed the college; they conferred the degrees of doctor and bachelor, and taught in their palace and gardens the *lais d'amour* or *fleurs du gai savoir* (laws of love, or flowers of the gay science). In 1323, they sent a letter, in verse, to all the poets of the Langue d'Oc, inviting them on the 3d of May, 1324, to a poetic festival, where the composer of the best poem was to receive a violet of fine gold. The celebrated Troubadour Arnould Vidal won the prize. The *capitouls* (magistrates) of the city, who had likewise been invited, to encourage a festival so much to the honour of Toulouse, offered, in future, to furnish the golden violet. To increase the splendour of the annual celebration, two other prizes were added to the violet—an eglantine and a pansy, both of silver. Similar institutions afterwards arose at Barcelona, in the reign of king John, and at Tortosa, in the reign of king Martin. The original institution at Toulouse, on the other hand, began to decline, and, at the end of a century, was nearly extinct, when it was revived by Clemence Isaure. (See *Clemence Isaure*.) She left by will a considerable sum for the celebration of this poetic festival, which was now continued under the name of *jeux floraux*. Mass, a sermon, and alms-giving, commenced the ceremonies. Before the awarding of prizes, the tomb of Clemence was strewn with roses. More costly flowers rewarded the seal of the competitors. Four prizes were offered—an amaranthus of gold, of the value of 400 livres, for the best ode; a violet of silver, value 250 livres, for an essay in prose, which was of not less than a quarter nor more than a half hour in reading; a silver pansy, value 200 livres, for an eclogue, elegy or idyl; and a silver lily, value sixty livres, for the best sonnet, or hymn, in honour of the holy virgin. Instead of doctors, there were now a master of the games, and forty judges (*mainteneurs*). In 1694, the college was formally erected into an academy. The office of chancellor, and other distinctions of rank, were abolished in 1773. The seal is kept by a standing secretary, and one of the members presides, with the title of *modérateur*, who is appointed by lot every three months. After an interruption of fifteen years, from 1790–1806, the *mainteneurs* assembled again in Toulouse, the academy went into operation, and, according to the old custom, awarded the prizes founded by Clemence Isaure. Since then, this festival, associated with so many poetic recollections, has been annually celebrated. The academy assembles in the council-house of Toulouse, which is called the *capitolium*.

JEW, THE WANDERING, OR ETERNAL; a poetical personage of popular traditions, who owes his existence to a story connected with the well-known scene in the history of Christ's passion. As the Saviour was on the way to the place of execution, overcome with the weight of the cross, he wished to rest on a stone before the house of a Jew, whom the story calls Ahasuerus, who drove him away with curses. Jesus calmly replied—"Thou shalt wander on the earth till I return." The astonished Jew did not come to himself till the crowd had passed, and the streets were empty. Driven by fear and remorse, he has since wandered, according to the command of the Lord, from place to place, and has never yet been able to find a grave. This punishment of unbelief and hardness of heart—a condemnation to wander for ever on the earth, and to be the contemporary of all centuries—has afforded materials for the poets and novelists. Shelly, Monk, Lewis, Dr Croly, and Mrs Norton in England, and Schubart and Schlegel in Germany, have turned this legend to ac-

count. Goethe (in the third volume of his own *Life*) has sketched Ahasuerus, with great spirit and humour, as a philosophic cobbler at Jerusalem, who opposes the Saviour with a cold, worldly logic, which will not look above the things of earth, and is therefore condemned to remain in this world (which is all to him) until a desire for higher things should awaken in him.

JEWS. After the Babylonish captivity, the Hebrews (see *Hebrews*) were called *Jews*, the greater part of the nation having remained in the middle and eastern provinces of the Persian empire, and only 42,360 men, with their families, principally of the tribes of the kingdom of Judah, having returned to their country, when permission was granted by Cyrus (536 B. C.). They founded a new kingdom in Judea, dependent on Persia, but under the domestic direction of high priests and elders, according to the Mosaic constitution. Jerusalem, the temple, and the Levitical cities of the country were rebuilt, not without difficulty; the writings of Moses, the historical and prophetic books collected; the great synagogue of 120 learned men established for the critical revision and explanation of the Holy Scriptures, as well as separate synagogues and schools for the expounding of the law, and the instruction of the people. All these institutions did not enable Ezra and Nehemiah, the restorers of their nation, to revive the primitive Mosaic constitution. The spirit of his code belonged to another age, and to other circumstances. The later Jews could retain only the letter of the law, and, in their expositions, lost themselves in the subtleties which they had learned from the Chaldeans. In enterprise and activity, however, they surpassed their fathers. Their commerce, and their annual pilgrimages to the temple, to which each Jew was obliged to make an offering, accumulated at Jerusalem, under the mild government of the Persians, more treasures than Solomon's age had ever seen. They were not therefore destitute of the means for conciliating the Macedonian conquerors, and although, on the fall of the Persian monarchy, they submitted to Alexander the Great, and were involved in the wars of his generals for the supremacy, yet their fate was not hard. Ptolemy, king of Egypt, who took possession of Palestine 320 B. C., allowed them the enjoyment of their singular customs, and granted the colonies which he transplanted to his capital (Alexandria), for the purpose of extending its commerce, peculiar privileges over the natives. The Jews were far from improving their condition by engaging in the war between the Syrian and Egyptian kings, on the side of the former (197 B. C.); for the Syrian Seleucidæ considered their possessions as lawful subjects of plunder. Selencus IV. attempted to plunder their temple, and Antiochus IV., in order to reduce them to a uniformity with the rest of his subjects, determined to destroy their religion. His pretext for this was the shameful spectacle of intrigue and corruption displayed at the Syrian court, in the rivalry of the priests and nobles for the dignity of high priest; but the nation adhered, with its characteristic obstinacy, to the forms of the Mosaic worship. When, therefore, Antiochus set up the Olympian Jupiter for worship in the temple, and compelled the Jews to sacrifice and eat swine, many suffered the most terrible death, rather than transgress the law of Moses. In vain were Jerusalem and the surrounding country laid desolate. These persecutions only served to develop a national spirit, which broke out in the insurrection of the Maccabees. Judas, surnamed *Maccabæus* (the hammer), was the third son of a priest, who had fled, with his family from persecution, and had collected, in the mountains of Judea, a band of faithful believers.

With their assistance, he defeated the Syrians, took Jerusalem, and restored the Mosaic worship (165 B. C.). A new epoch of glory and renown for the Jews begins under the government of the Maccabees, three brothers of this family of heroes—Judas, Jonathan, and Simon—bore successively the dignity of high-priest, and completed their deliverance from the Syrian yoke. Simon, whom the gratitude of the nation had created a prince, left to his son, John Hyrcanus (135 B. C.), an independent kingdom, secured by an alliance with the Romans. The latter extended it by his victories over the Idumeans and Samaritans, and confirmed it by the establishment of the high council, or sanhedrim. The reign of Hyrcanus was distinguished for the progress of civilization and the increasing prosperity of the nation. In his time also arose the sects of Pharisees, Sadducees, and Essenes, (q. v.) His son Judas Aristobulus, received the royal dignity (105 B. C.), and the Jewish state appeared to be in the way to recover the power and splendour of David's time, since Alexander Jannæus, the successor of Aristobulus, took Gaza, in a successful war against Egypt; but the above-mentioned sects gave rise to civil dissensions. After the death of queen Salome (70 B. C.), who was ruled by the Pharisees, the succession was disputed by her sons Hyrcanus and Aristobulus. The war between the brothers introduced foreign umpires into the country. Pompey conquered Judea (63 B. C.), according to the Roman policy, for the weak Hyrcanus. This result of the contest put an end to the new freedom of the Jews. Jerusalem lost its walls, the kingdom its new conquests, the nation its independence, and the family of the Asmoneans (the *illustrious*, a title borne by the Maccabees), its royal dignity. Hyrcanus was made high-priest and ethnarch, and each Jew became a tributary to the Romans. It was in vain that the sons of Aristobulus endeavoured by repeated insurrections, to restore the former state of things. The Roman power kept the people in chains, and a false friend (Antipater of Idumea) introduced himself, as a Roman procurator, into the family of Hyrcanus, to effect its ruin. While the Asmoneans were struggling for independence, Herod, Antipater's son, was securing the kingdom for himself at Rome. Antigonus, son of Aristobulus II., who had maintained himself five years in Jerusalem, by the assistance of the Parthians, was expelled by the new king Herod (q. v.) 35 B. C., and the last of the Asmoneans was put to death. The reign of this foreign king, who acquired the name of the *Great* by maintaining himself amidst many difficulties, was of no advantage to the country. The doubtful character of his faith made the chief men, who were dependent on him, indifferent to their ancient religion, and the murders which he committed in his own family, as well as the unceasing oppression of the Romans, filled the people with general discontent. The divine worship constantly degenerated more and more into empty forms, and the licentiousness of the court contaminated all ranks of the nation. Such was the situation of the Jews and of Judaism when Christ was born. Herod survived this great event to stain his last days by the murder of the children of Bethlehem; but neither he and his successors, nor the councils of the Pharisees, could avert the fate of the Jews. Under the feeble princes who succeeded Herod, the country soon came to be treated merely as a Roman province. Oppressed by the procurators, precluded from the exercise of their religion, the infuriated people broke out into a rebellion (A. D. 66) which terminated in the total destruction of the Jewish state. September 7, A. D. 70, Titus took Jerusalem by assault, burned the temple, demolished the city, and sold into slavery, or drove into

exile, all the inhabitants who escaped death. About 110,000 Jews perished during the siege, and at the destruction of Jerusalem. There was no suffering which this unhappy people did not undergo. Those Jews who had taken refuge in the mountains and the ruins, were compelled, after many unsuccessful efforts, to abandon their country, now changed into a barren desert.

The remnants of the nation, scattered over all the earth, still possessed advantages which could bring to no other people in similar unhappy circumstances. Their natural ingenuity and industry, the strength of their religious seal, the literary treasures of their holy writings, secured to them every where admittance and success, and preserved their national character. They found proselytes and old believers in all countries of the Roman empire, and in the East, as far as the Ganges, where those who had settled, during the Babylonian captivity, had greatly multiplied. Egypt, and the northern coast of Africa, were filled with Jewish colonies, and in the cities of Asia Minor, of Greece and Italy, were thousands enjoying the rights of citizens. Thus, by their mutual connexions, and by their holy books, they became the involuntary instruments of the propagation of Christianity, which but few of their own number embraced. They were not required to receive it by the Roman emperors. Under the emperor Julian, they ventured to make preparations for a new temple in Jerusalem, which had been rebuilt by Adrian, under the name of *Ælia Capitolina*. Although this attempt failed, they derived great advantages from their sanhedrim, revived at Tiberias, and their patriarchates (presidences of the sanhedrim), which were established—one at Tiberias, for the Western Jews (429), the other for the Jews beyond the Euphrates, first at Mahalia, afterwards at Bagdad. The former was hereditary, the latter, elective by the sanhedrim at Bagdad. The incumbent of the latter, which subsisted till 1058, was called *aichmatotarca* (prince of the captivity.) These two patriarchates became points of union, and their flourishing academies in the East served as annuaries for their learned rabbins. One of the works of these scholars was the collection of the traditional expositions of the Old Testament, and additions to it, which was begun, A. D. 200, by rabbi Jehu the Holy (Hakkadosh), completed A. D. 500, and received, under the name of the *Talmud*, as a rule of faith, by the scattered communities of Jews. It requires that wherever twelve adults reside together in one place, they shall erect a synagogue; and, since the destruction of the temple had put an end to sacrifices, they are to serve the God of their fathers by a multitude of prayers, and little formalities, amidst the daily occupations of life. This book of law allows usury, treats agriculture and growing with contempt, requires the strictest separation from other people, commits the government to the rabbins, as the teachers and nobles, and inculcates a corrupt moral system, which has degraded the character of the great mass of this unfortunate people, rendered them dangerous to those among whom they live, and obstructed their naturalization, even where they enjoy the greatest privileges. This applies to the Rabbinites (that is, the followers of the Talmud), to which sect nearly all the European Jews belong. The sect of the Caraites, who reject the Talmud, and hold to the law of Moses only, are less numerous, and are found chiefly in the East, in Turkey and Eastern Russia. During the decline of civilization in Europe, when the Jews had settled as colonists, even under the Romans, and had penetrated as far as Gaul and Germany, owing to the slave-trade, they preserved, a certain degree of civilization by means of their schools, which, during the confusion consequent on

the destruction of the old, and the formation of new states, by the irruption of the barbarians, not only preserved their existence, but obtained their influence and authority. They made themselves masters of the commerce of the old world, and, as money-lenders and brokers, were often of great importance to princes and nobles; and, during the dreadful persecutions which they underwent from the cruelty of the Christians, even after the seventh century, they still continued prosperous in those countries, even during the periods in which they suffered most. Their own usury, and the rapacity of the Christians, rather than religious hatred, were the true causes of these persecutions. The most dreadful crimes, and all public calamities, were attributed to them by the Christians, as a pretext for ridding themselves of troublesome creditors, or for obtaining possession of their treasures, either by their execution or banishment; but their wealth and adroitness had rendered them so important, that they were always able, eventually, to secure the protection of spiritual and temporal rulers. They lived more happily among the Mohammedans, although they were distinguished by dishonourable badges, and oppressed by heavy taxes; and, during the Moorish supremacy in Spain, their prosperity was increasing, and their learning flourishing. See *Rabbinical Language and Literature*.

In the cities of France, Germany, and Italy, after the eleventh century, particular streets and enclosed places, were assigned to them, in consequence of which, in the persecutions during the crusades, thousands often fell victims at once to the popular fury. Decrees of councils, and the ordinances of secular rulers, repeatedly declared the Jews incapable of enjoying the civil rights of Christians, and of holding public offices. They could no where be domiciliated, nor attached to any guild or corporation; but, in consideration of the payment of certain sums of money, they enjoyed the immediate protection of the sovereign, who, in his financial embarrassments, obliged them to make repeated contributions. In Germany they paid a considerable tax, in return for which they were protected, as the money agents (*Kammerknechte*) of the holy Roman empire, as they are denominated in an imperial letter of protection. Their conversion to Christianity could not be effected by such treatment. In Spain and Portugal, indeed, at the end of the fifteenth century, they yielded to force, and suffered themselves to be baptized *en masse*; but, as soon as the storm was over, they were seen again in the synagogues. The superstition of the fifteenth century, whose worship of saints and relics must have appeared to them idolatry, might well persuade them that their own pure monotheism was more rational and scriptural. From this circumstance, and from their pride in the antiquity of their nation and constitution, we may infer how many of those who publicly professed to be converts to Christianity, and were called, in Portugal, *new Christians*, and who might attain to a noble rank, and even to high church dignities, were still, in private, Jews, continuing scrupulously to observe the Mosaic ceremonies.\* The Portuguese Jews, on account of their connexion with these secret adherents to Judaism, have been particularly respectable, and are in possession of large landed estates. The Dutch Jews, chiefly fugitives

from Portugal, were once distinguished for their immense wealth. The Polish (who, since 1264, have been in possession of important privileges, and have been a great hinderance to the industry of the cities) and the Russian (now the most numerous) have possessed themselves of nearly all the commerce; also of the inns, the beer and brandy shops, and, in some places, of the post-offices. The German Jews, on account of the increase of the commercial cities and corporations, have kept only the gleanings of the retail trade. In all places, the Jews have a peculiar character. Their confinement to employments which depend principally on ingenuity and cunning, has had a debasing effect on the great body of them. In modern times, however, distinguished scholars, philosophers, artists, physicians and merchants have been found among them; as Spinoza, Moses Mendelssohn, David Friedlander, Moses Kuh, &c.

The philosophical spirit of the last half of the eighteenth century first began to acknowledge the rights of the Jews. Plans for the improvement of their political and moral condition were discussed, and afterwards, by the benevolence of some governments, carried into execution, but with little, and often with no success. The only consequence of the great sanhedrim, to which the emperor Napoleon summoned 100 rich Jews (1806), was an imperial decree, soon after, declaring those Jews only to be French citizens who were occupied in some useful employment; but they were still drawn as conscripts. The German princes were more desirous to give the rights of citizenship to the Jews. The disabilities to which they had hitherto been subject, were removed; civil privileges were granted to them; the Israelitish consistory was established in Cassel, under the Westphalian government, for the improvement of their worship and their schools. Still more important are the improvements in the Jewish schools in Austria, where there are academies for rabbins at Prague and Lemberg; in Bavaria, where there is a similar institution, at Furth; and in the Prussian states, where they acquired all civil rights in 1811. There is no distinction whatever between Jews and Christians by the constitution of the United States, but, in some of the states, certain officers, as the governor, counsellors, representatives, are required to profess, under oath, their belief in the Christian religion. In England, the Jew bill, passed in 1753, enabling Jews to prefer bills of naturalization in parliament, without receiving the sacrament, was repealed the next year. In May, 1830, an attempt was made, in parliament, to remove the civil disabilities affecting the Jews, but was opposed by the ministry, and the question was lost. In France, the chamber of deputies voted, in 1830, that the Jewish ministers of worship should be paid from the public chest, like the Christian. In Germany, a number of Jews have lately abandoned the system of the rabbins, and performed divine worship in the German language, in a manner approaching that of the Christians. Hamburg is the seat of this society. In general, the Jews in Europe, without renouncing their religion, have, more than formerly, shown a disposition to adopt Christian refinement, while their brethren among the Mohammedans and heathens share the barbarism of their masters. By the ukase of March, 1817, important privileges are conferred on the Jews in Russia who embrace Christianity. Land is given to them gratuitously, where they may settle under the name of *The Society of Israelitish Christians*. They are immediately subject to a court at Petersburg, appointed by the emperor, are exempt from military service, from having soldiers quartered on them, from all taxes for twenty years, and may engage in any trade without being subject to the restrictions of the craft.

\* It is well known that the literature of Spain is much indebted to the Jews. A list of authors of Hebrew origin gives 361 on philology, twenty on astrology, sixty-seven commentators, or expositors, eighty-four on philosophy, fifty-two in grammar, thirty-six on medicine, eighteen historians, fifty-two jurists, eighteen mathematicians, fifty-seven poets, eight on rhetoric, sixty-eight on the Talmud, nineteen theologians, and seventy-three translators.—*Journal of the Literary Convention*, held at New York, Appendix, No. 1. (New York, 1831).

(For the institutions for the conversion of the Jews, originating in Britain, see *Missions*.)

The following is an estimate of the number of Jews in different parts of the world, taken from the Weimar *Ephemeriden Geographischen*:—*Europe*; in Russia and Poland, 658,809; Austria, 453,524; European Turkey, 321,000; States of the German Confederation, 138,000; Prussia, 134,000; Netherlands, 80,000; France, 60,000; Italy, 36,000; Great Britain, 12,000; Cracow, 7300; Ionian Isles, 7000; Denmark, 6000; Switzerland, 1970; Sweden, 450: total number of Jews in Europe, 1,918,053, or a proportion of 113th part of the population, calculated at 227,000,000.—*Asia*; Asiatic Turkey, 300,000; Arabia, 200,000; Hindostan, 100,000; China, 60,000; Turkestan, 40,000; province of Iran, 35,000; Russia in Asia, 3000; total, 738,000.—*Africa*; Morocco and Fes, 300,000; Tunis, 130,000; Algiers, 30,000; Abyssinia, 20,000; Tripoli, 12,000; Egypt, 12,000: total, 504,000.—*America*; North America, 5000; Netherlands colonies, 500; Demerara and Essequibo, 200: total, 5700. New Holland, 50. Grand total, 3,218,000. Other estimates carry the number to five or even six millions. The black Jews, in the East Indies, are natives, and slaves who have embraced Judaism.

See Basnage, *Histoire des Juifs*, from the Christian era to 1716 (fifteen volumes); J. M. Jost's *History of the Israelites since the time of the Maccabees*, (Berlin, 1820—1826, seven volumes, from 105 B. C. to A. D. 1820.) On the civil condition, commerce, and literature of the Jews in France, Spain, and Italy, during the middle ages, from the beginning of the eighth to the end of the sixteenth century, see Arthur Beugnot, *Les Juifs de l'Occident*, &c. (Paris, 1824). The best religious history of the Jews is Peter Beer's *History, Doctrines, and Opinions of all the religious Sects that have existed or do exist among the Jews, and of the mystical Doctrine of the Cabbala* (Brunn, 1822, two parts). See Zee's *History of the Jewish States* (Berlin, 1828); see also the *Hebrew Commonwealth*, translated from Jahn's *Biblische Archæologie* (Andover, 1828), and Milman's *History of the Jews* (London, 1829).

**Jewish Law.** The sources of the Jewish law are the Mosaic law and the Talmud; hence the rabbis are the Jewish lawyers. The Jewish law in all its extent, is very complicated, and full of niceties. In some countries of Europe, the Jews enjoy a separate jurisdiction to a certain degree, and inherit according to their own law. (a) The Jewish matrimonial contract is made partly in writing and before witnesses, and partly by the delivery of a ring to the bride from the bridegroom. The husband acquires a right to every thing which his wife obtains by labour or otherwise; he has also the use of the fortune which she possessed at the time of the marriage, and is her sole heir. Testaments are governed by the principles of the *donatio inter vivos* and the *donatio mortis causa*, according as the will was made, in a state of health, or of dangerous sickness. The rules of legal descent among the Jews are as follows:—(aa) Among the descendants, the sons and their male descendants inherit first; after them the daughters, and, in case of there being none, the female descendants in the next degree. (bb) After the descendants follows the father; if he is dead, the brothers of the deceased and their descendants, and, in failure of all these classes, the sisters of the deceased and their descendants. Persons related by the mother's side never inherit from each other: children may inherit from the mother; the mother never can from the children. Legitimate children do not exclude illegitimate, even if the fruit of an incestuous connexion, unless the mother of the illegitimate children is a slave, or not of Jewish

blood; in which case, the children do not inherit from the father in any event. The first-born son receives a double share of the property which the father actually possessed, not, however, of uncollected debts. On the other hand, he has to bear also a double share of the debts due from his father. If the first-born dies before the division takes place, his right of primogeniture falls to his descendants. Any one may renounce, sell, or give away his right of primogeniture. The hereditary succession of the husband and wife is regulated by the time of the continuance of the marriage. (c) Every grant must be public, and the property be regularly transferred; to annul a legal grant, a new grant, with proper formalities, is requisite. A verbal grant is binding only when made by a very sick person, or one in imminent danger. A Jew attains his majority at the age of thirteen years and one day, if he has obviously reached the period of puberty. A Jewess, under the same circumstances, is of age at twelve years. A Jew is not allowed to engage in commerce before his twentieth year. The girl remains, until she is full grown, under the paternal authority, when the father may give her in marriage, against her knowledge and wish. According to the laws of several countries, full age of Jews is the same as that of other inhabitants.

**JEWS-HARP** is a kind of musical instrument held between the teeth, which gives a sound by the motion of a spring of iron, which, being struck by the hand, plays against the breath. "The Jews-trump," says a diligent investigator of such matters, "seems to take its name from the nation of the Jews, and is vulgarly believed to be one of their instruments of music. But, upon inquiry, you will not find any such instrument as this described by the authors that treat of Jewish music. In short, this instrument is a mere boy's plaything, and incapable, of itself, of being joined either with a voice or any other instrument. and I conceive the present orthography to be a corruption of the French *jeu trompe*, a trumpet to play with. And in the Belgic or Low Dutch, from whence come many of our toys, a trumpet is a rattle for children. Sometimes they will call it a *Jews harp*; and another etymon given of it is a *jeux-harp*, because the place where it is played upon is between the jaws." *Pegege Anonymiana*, i. 82.

**JEZIRAH**, in the Cabbala, is the third world, the world of the thinking substances. In the Cabbalistic theology, it is also the name of a book, in six chapters, which treats of the world, of motion, of time and of the soul. It is extremely obscure; everything in it is expressed in numbers and letters. One tradition makes the patriarch Abraham the author. It is mentioned in the Mishna and Sanhedrin, and, therefore, must have existed before the Talmud. The book is very short, and many editions have been published. The last edition is by Rittangel (Amst. 1648, with a Latin translation, equally incomprehensible.

**JIDDA** or **JUDDA**; a considerable commercial haven of Arabia, on the shore of the Red sea. It may be considered as the port of Mecca, and is supported partly by carrying on the trade with India and Egypt, and partly by the concourse of pilgrims from the coast, and of those from the opposite regions of Africa, who cross at Suakem to reach this famed seat of Mohammedan pilgrimage. It is situated in a barren, sandy district, destitute of water. The streets are very narrow. The entrance to the road is full of shoals, and it is dangerous to attempt going in without a pilot. The British trade here was formerly considerable; but numerous exactions have now reduced it to a low ebb. The Americans have some commerce with this place. Lon. 39° 15' E., lat. 21° 29' N. For further information, see Blackhard's *Travels in Arabia*.

JIHON, or GIHON, or SIHON, or AMOL, or AMU (anciently *Orus*); a river of Central Asia, which rises from mountains between Great Bucharía and Chinese Tartary, and, after a N. W. course of more than 1200 miles, flows into the lake of Aral. The cities of Samarcand, Bucharía, Termed, Balk and Gaur are on its branches. It has been generally believed, that it formerly flowed into the Caspian sea, and that its course was turned into its present channel by the Tartars, according to some, before the sixteenth century, but according to others, about 1719. This opinion is rejected by Malte-Brun, and other geographers, who maintain that the Jihon always flowed into the lake of Aral, and that the rejected opinion was formed and propagated by persons whose knowledge was imperfect, particularly with regard to the form of the Caspian sea, or the existence of the lake of Aral.

JOAB, son of David's sister, and his first general, fought valiantly for David, but often showed a revengeful and artful spirit; for instance, against Abner (2 *Samuel*, iii. 27, 39) and Amasa (2 *Samuel*, ix. 9, seq.) His services secured him the favour of David, though that king was often offended with him (2 *Samuel*, xviii. 33, xix. 4.) After David's death, he espoused the cause of Adonijah, and was killed in the temple, by the altar, at the command of Solomon (1 *Kings*, ii. 28, seq.)

JOACHIM MURAT. See *Murat*.

JOACHIMSTHALER. See *Dollar*.

JOAN, the popess, according to a story long believed, but now acknowledged to be a fiction, was a native of Ments, of the name of Gilberta or Agnes, who, falling in love with an Englishman at Fulda, went to travel with him, studied at Athens, and visited Rome. Continuing to conceal her sex, she took the name *Johannes Angelicus*, and rose, by her talents, from the station of a notary to the papal chair, under the name of John VIII (854 to 856, between Leo IV. and Benedict III). She governed well, but, having become pregnant by a servant, or, according to some, by a cardinal, she was delivered in a solemn procession, and died on the spot, near the Coliseum, which place the popes are said to have avoided ever after in their processions. This story, first related by Marianus Scotus, in his *Chronicon* (in the twelfth century), is not mentioned by any contemporary writer hostile to the papal see, and is generally considered, since Blondell's *Eclaircissement sur une Femme*, as a mere fable. The examination on the *sella stercoraria*\* perhaps gave rise to this story; perhaps it is a satire on the barefaced profligacy of some popes; perhaps it is a fruit of the excitement against the popes, which became very general in the thirteenth century; others still have thought it to be an allegory of the decretals of the pseudo Isidore, then brought to light. Clemens Sylvius first showed the falsehood of the story. Spanheim defended the account in his *De Johanna Papissa*. Gibbon says, "Till the reformation, the tale was repeated and believed without offence, and Joan's female statue long occupied her place among the popes, in the cathedral of Sienna. She has been annihilated by two learned Protestants, Blondell and Hayle; but their brethren were scandalized by this equitable and generous criticism. Spanheim and L'Enfant attempted to save this poor engine of controversy; and even Mosheim condescends to cherish some doubt and suspicion."

\* From the time of Honorius II. 1064 to Leo X. the popes were actually obliged, after their election, to seat themselves upon a stool with an opening, where they were examined by the youngest deacon, in order to determine that they were males, with their organs perfect, because no mutilated person can be a member of the Catholic priesthood.

JOAN OF ARC (*Jeanne d'Arc*); the Maid of Orleans. The belief, prevalent in the middle ages, that particular individuals were gifted with supernatural powers, as instruments of a higher will, explains the extraordinary character and conduct of the maid of Orleans. After the death of Charles VI. king of France, in 1422, Henry VI. of England, then a child of nine months old, was proclaimed king of France, according to the treaty of Troyes (1420); his uncle, the duke of Bedford, acted as regent. France had been distracted, for forty-two years, by civil dissensions. On one side were queen Isabella, the duke of Burgundy, and England; on the other, the dauphin Charles, who had been abandoned by his own mother, was supported by the Orleans party. This division, and the talents of the English generals, the earls of Somerset, Warwick, Salisbury, Suffolk, Arundel, Talbot, and Fastolfe, had reduced nearly all France to the dominion of England. The dauphin, a youth of nineteen, was crowned at Poitiers as king Charles VII. He possessed many qualities proper for interesting his countrymen in his favour, and was wanting only in firmness and resolution. Still he maintained himself in France for the space of seven years. At length, Bourges, and the territory belonging to it, were nearly all that remained to him. Paris and the north of France, as far as the Loire, were in possession of the English. Salisbury had been besieging Orleans since October 12, 1428. The city was bravely defended by Gaucour. Its fall would have ruined the cause of Charles. In the valleys of the Vosges, on the old frontiers of Lorraine, in the village of Domremy la Pucelle, on the banks of the Meuse, lived a peasant girl, Jeanne d'Arc, whose parents were common country people of reputable character, and in good circumstances for their station. In the midst of timid and superstitious persons, who were in continual trouble and alarm at the misfortunes of their country, Joan was quietly occupied in domestic employments, and sometimes in driving the cattle to pasture. Her history has been very minutely traced. The third volume of the Notices and Extracts from Manuscripts in the library of the king, by De l'Averdy (Paris, 1790, 4to), contains whatever is important respecting her, taken from twenty-eight manuscripts relating to her trial and condemnation. She was of a delicate frame, and uncommon sensibility of temperament. This, perhaps, was heightened by the circumstance of her being exempt from the common law of her sex; and Dufrenoy has remarked how this circumstance and her spirit of devotion may account for her visions. Her enthusiasm, and her habits of solitary meditation, explain the angelic voices and visions of the maid. While her companions were sporting beneath the Fairies' tree, the beautiful May (*le beau Mai ou l'arbre des fées*), not far from the fountain of Domremy—a tree which was once sacred to the Druids, and famous in many a ghostly tale—Joan was singing and dancing by herself, in pious enthusiasm, and binding garlands for the holy virgin, in the little chapel of "our Lady of Bellemont," which she usually visited on Saturday. She was never a servant, at least not in an inn. The English chroniclers have misrepresented these facts; and Hume is also in error with regard to her age. The beautiful Joan was but eighteen when she went to the dauphin at Chinon in Touraine. Commanded, as she asserted, by a vision of our lady of Bellemont, to raise the siege of Orleans, and to conduct Charles to Rheims to be crowned, she presented herself in February, 1429, to the governor of Vaucouleur, Robert of Baudricourt, who at first thought her possessed, and twice dismissed her; but upon her returning a third time, he sent her to Chinon with

letters of recommendation. Here the dauphin ordered her to be examined by the bishop of Meaux and John Morin. She is also said to have immediately pointed out the king, whom she had never seen, and who had purposely mixed among his courtiers, and to have repeated to him a prayer which he had made to the virgin Mary. It is certain that she was examined for three weeks, by many intelligent men, counsellors of parliament and divines. She was then secretly inspected by the dauphin's mother-in-law and her court ladies, who declared her to be a true virgin (*qu'elle était une entière et craie pucelle*). At length, being satisfied of the truth of her claims, D'Aulon the most virtuous man at court, was appointed to be her constant attendant and brother in arms, and she received permission to hasten with Dunois to the deliverance of Orleans. From this period, she appears the finest character in the history of the middle ages of France. In a male dress, armed *cap à pie*, she bore the sword and the sacred banner, as the signal of victory at the head of the army. Still no unfeminine cruelty ever stained her conduct. She was wounded several times herself, but never killed any one, or shed any blood with her own hand. There appears, as Fr. Schlegel says in his History of the Maid of Orleans, from old French Documents (*Geschichte der Jungfrau von Orleans, aus altfranz. Quellen*, Berlin, 1820), there appears to have been no other earthly passion in her heart than devotion to her country, to the descendant of St Louis, and the sacred lilies. It is shown also, by the documents of her trial, and of the revision of it, in 1453, that she had not killed any of the enemy with her own hand, from a tenderness of conscience, and was even more anxious about the souls than the bodies of the English who were slain. Nevertheless, it would seem from some passages of Lenglet Dufresnoy (*Histoire de Jeanne d'Arc, Vierge Héroïne*, Paris, 1753, and Amsterdam, 1759), that she did not always carry the banner, and actually made use of the consecrated sword in case of necessity. This sword was taken by her directions from the church of St Catharine at Fierbois, where, according to the story, nobody had before known of its existence. After sunset, she avoided the company of men, passed her nights with women, and kept all loose females, as much as possible, away from the camp. The general belief of her elevated mission, of which she herself was piously persuaded, produced the most extraordinary effects. Resolute, chivalrous, pious and brave, looking to one single aim, she was skilfully employed by the generals to animate the army, while they did not implicitly follow her counsels. The first enterprise was successful. With 10,000 men, under the command of St Severre, Dunois and La Hire, she marched from Blois, and, on the 29th April, 1429, entered Orleans with supplies. By bold sallies, to which she animated the besieged, the English were forced from their intrenchments, and Suffolk abandoned the siege (May 8, 1429). Joan next captured several places in the enemy's possession, and defeated them in a battle near Patay, where general Talbot was taken, and the valiant Fastolfe himself was forced to fly. Charles entered Rheims in triumph. At the anointing and coronation of the king, July 17, Joan stood at his side. In full armour, and bearing the banner, she took the office of a constable, and held the sword over the king. Her commission having been thus fulfilled, she wished to return to her home, but was prevailed upon to stay. All France now acknowledged Charles as king; and Bedford could only maintain himself by valour and prudence. He repulsed, in September, the assault upon Paris. Here Joan was wounded, and Charles retired to Bourges. A title of nobility was now conferred on

the heroine and her family. She was first called *Dalis*, then *Duliz*, and, finally, *Dy Lys*; her coat of arms contained two golden lilies and a sword pointing upwards and bearing a crown. Meanwhile Bedford was assembling new forces. Burgundy and Brittany still acknowledged the young king Henry VI., who had been crowned at Paris. Thus strengthened, the English again pushed on and besieged Compiègne. The maid threw herself into the town, as she had done at Orleans, but in a rally, May 23, 1413, was taken prisoner by the Burgundians. She surrendered to Lyonnell, the bastard of Vendôme. She was at first confined at Crottoy, but afterwards at Beaufort. Upon hearing that she was to be delivered to the English (king Henry having paid 10,000 livres for her), she attempted to escape by leaping from a window of the castle, and was seriously injured. In this condition, she came into the power of the English. At the instigation of her own countrymen, Pierre Cauchon, bishop of Beauvais, mounted a process against her, and the university of Paris demanded her execution. She was condemned by the church as a sorceress and heretic. The secular arm had no control over this decree. De l'Avèry gives this as an excuse for the inactivity of the king, who made little exertions in behalf of the heroine. But that light and indolent prince never showed himself zealous and constant in any thing. After four months' imprisonment, the innocent enthusiast, who had resolutely defended herself, and at the examination had named St Michael as the angel whose voice she had heard in her father's garden, in her fifteenth year, and as her constant guardian and attendant, was sentenced, by the inquisitors at Rouen, to be burnt for sorcery and intercourse with infernal spirits. She was carried, May 24, 1431, to the stake, when her courage appeared to be daunted. She submitted to the church, and declared her revelations to be the work of Satan. Her punishment was then commuted to perpetual imprisonment. But pretexts were soon found to treat her as a relapsed criminal, and, as such, she was burnt by a slow fire at Rouen, May 30, and her ashes were thrown into the Seine. She died with undaunted fortitude. When they were putting the inquisition cap on her head, before going to the pile, she said to her attendant, *Maître, par la grace de Dieu, je irai ce soir en paradis*. There is a tradition that, when she expired, a white dove was seen to rise from the pile. Among the divines who had condemned her, there was only one Englishman, the bishop of Winchester. In 1460 and 1451, measures were taken for reviving the process. 1455, the relations of Joan applied for a revision. Pope Calixtus III. committed the affair to the archbishop of Rheims, the bishops of Paris and Coutance, and an inquisitor. This court pronounced, in 1456, their decision, that the twelve articles alleged against her were false, and declared her entirely innocent. Her memory was preserved by monuments. In the market-place at Rouen, there is a statue of her, on which, under her coat of arms is the inscription:

*Regia virgineo defraudatur cruce corona.  
Lilium virgineo tula sub cruce nitent.*

The maiden's sword protects the royal crown.  
Beneath the maiden's sword the lilies safely bloom.

According to the portrait of the maid, which Alvin Lenoir discovered in the town-house at Orleans, where there is also a statue of her, and which he sent to the Paris museum of French monuments, *une petite Augustins*, she must have been exceedingly beautiful. Her features have a soft and endearing expression; they have what the French call *l'air du calme*. She has a cap with feathers on her head, and is holding in her hands a shield and the cross-staff.

sword. A monument, with her bust, in marble, was erected to her in Domremy, September, 1820.

See Berriat St Prix, *Jeanne d'Arc, ou Coup d'Éclat sur les Révolutions au Temps de Charles VI. et VII.* (Paris, 1817); Lebrun des Charmettes, *Hist. de Jeanne d'Arc* (from original documents, Paris, 1817, three vols.); Jollois, *Hist. abrégée de la Vie et Exploits de Jeanne d'Arc* (Paris, 1821).—The name of the maid of Orleans is no less celebrated in the annals of poetry. The epic and romantic character of this subject has been variously managed by different authors. Chapelain, a contemporary of cardinal Richelieu, in his epic poem, *La Pucelle*, sang her exploits in twelve times 1200 wretched verses, as Boileau says. In 1730, Voltaire undertook to parody the monstrous production of his predecessor, and, following Shakespeare, who had introduced this subject as an episode in the First Part of his *Henry VI.*, where he represented the maid as a witch in confederacy with evil spirits, he turned the whole stream of his impure wit upon the subject. Thus was produced that too well known mock heroic poem, which Mercier called "a crime against the nation" (*crime anti national*). It first appeared in print, 1757. The first poetical attempt towards restoring a subject, thus profaned by the grossest wit, to its native dignity, was made by Robert Southey, in his epic *Joan of Arc*. Du-moulin's Epopee *Jeanne d'Arc, ou la France sauvée* (Paris, 1818), is very poor; D'Avrigny's *Pucelle d'Orléans*, a tragedy, has been occasionally performed at Paris; Alex. Soumet's *Jeanne d'Arc, Tragédie en cinq Actes et Vers*, appeared in 1825. But all these fall infinitely below the noble tragedy of Schiller, *Die Jungfrau von Orléans*, which first appeared in 1802. He has done more than Calixtus III. for her fame; he has restored the high-souled enthusiasm to her rightful place in the age of romance to which she belongs. He shows us the chivalrous heroine as an instrument of Heaven, engages our love for her, and makes her fall in glorious strife with her country's foes. Wetzel's *Joan of Arc*, a tragedy (Leipzig, 1817), adheres more strictly than Schiller's to historical truth. Lebrun des Charmettes' *Orléanaide*, a poem in twenty-eight cantos (Paris, 1820), is modelled after the drama of Schiller.

JOANNINA, or JANINA; the capital city of Turkish Albania (Epirus), on the lake of Acherusia, in which there is an island with a strong castle, where resides the pacha of Janina. (See *Ali*, and *Greece, Revolution of*.) The city has a Greek archbishop, and about 30,000 inhabitants, mostly Greeks, who carry on a considerable commerce with Austria, Russia, and the Ionian islands. Joannina was formerly the centre of the literary intercourse between the modern Greeks and Italy, France and Germany. At the end of the last century, there were in this city two celebrated schools, in which mathematics and philosophy, together with ancient Greek, were taught. The one was founded by a merchant, Ghioni, in the last half of the seventeenth century, the other about 1790. They had two libraries and a cabinet of natural history. The inhabitants of Joannina, who are among the best informed and most industrious of the Greeks, deposited the funds of the two colleges in the treasury of Venice; but, by the fall of that republic, they were lost. The schools were, however, maintained by the generosity of three Epirotes in Russia—the brothers Zosima and Pikrossoy; the schools also received the interest of a million of roubles deposited in Russia. At the bombardment of the city by Ali Pacha, 1820, the buildings belonging to these institutions were destroyed, and all the books and manuscripts which they contained, among which were the original manuscripts of the geographer Meletios, a native of Joannina, were burnt.

Besides the Greeks, there are in Joannina Mohammedans, Jews, and Gypsies, but they all speak Greek.

JOB (Hebrew *Hiob*, i. e. the sufferer, the persecuted); the hero of an ancient Hebrew poem, which has been preserved to us in the canon of the Old Testament. It has been much disputed whether Job is a real or fictitious personage; whether the poem is epic, didactic, or dramatic; who is the author; what was his age and country; and when and where the scene is laid. The work has been attributed to Job himself, Moses, Elihu, Solomon, and others. The scene of the poem (the land of Us) is supposed to be in Arabia; but the time is by some placed in the age of the patriarchs, and by others, after the Babylonish captivity. The design of the work seems to be a justification of divine Providence, and the inculcating a submission to the divine dispensations. The scene is partly in heaven and partly on earth; the actors are Jehovah, Satan, Job, and his four friends, Eliphaz, Bildad, Zophar, and Elihu. Job, an upright man, with a family of seven sons and three daughters, with large herds and numerous servants, is suddenly, with the permission of Jehovah, and by the agency of Satan, deprived of his possessions and his children, yet submits patiently to the divine will. He is then further tried by the infliction of a sore disease, yet is silent. Three friends come to console him; but, struck with his desolate condition, they burst into lamentations, and sit down with him seven days in silence, "for they see that his grief is very great." At the end of this period, the grief of Job finally breaks out into bitter complaints. The remainder of the poem is occupied with the answers of his friends, and his replies to them, until the close, when God himself is introduced answering Job out of a whirlwind. After this event, Job lived 140 years, became richer than he had been before, and begat seven sons and three daughters. The whole poem is characterised by freshness and truth of colouring, simplicity, and dignity of manner, and loftiness and purity of sentiment. Intensity of passion is combined, in a striking manner, with deep views of the nature of man and the providence of God. Stuhlmann (*Hiob, ein religiöses Gedicht*) maintains that Moses could not have been the author of the poem, because it contains no allusions to the Mosaic doctrines; though this argument seems inconclusive, because, the scene being in Arabia, and the persons Arabian, such allusions would naturally be avoided. Doctor Good (*The Book of Job*, from the Hebrew, with Notes, London, 1812) considers Moses to be the author, and calls it a *Hebrew epic*. An Amended Version, with Notes, by Mr Noyes, was published in Boston, America, 1827. See the Introductions of Eichhorn, Rosenmüller and Jahn.

JOCASTA (also *Epicasta*); daughter of Menœceus, sister of Creon, and wife of the Theban king Laius, by whom she had Œdipus. After having unconsciously slain his own father, Laius, Œdipus solved the riddle of the Sphinx, and received, as his reward, the hand of Jocasta, his own mother (of which circumstance he was ignorant). After the error was discovered, Jocasta hanged herself in despair. See *Œdipus*.

JODELLE, ETIENNE, born at Paris, 1532, wrote the first regular tragedies and comedies for the French stage. Among the former are *Cléopâtre captive* and *Didon*. His comedy *Eugène* was praised by Ronsard. Though Jodelle enjoyed the favour of Charles IX. and of Henry II., he died in great poverty in 1573. His works were collected by De la Motte (Paris, 1574, 4to, and Lyons, 1597, 12mo) He was one of the French Pleiads. See *French Theatre*, in the article *France*.

JÖCHER, CHRISTIAN THEOPHILUS, a celebrated German scholar, was born in 1694, at Leipsic, where he studied medicine and theology (1712). In 1714, he delivered lectures, in which he showed himself an adherent to the philosophy of Leibnitz and Wolf. In 1732, he was made professor of history; in 1735 doctor of philosophy; and in 1742, librarian of the university. He died in 1758. His *Allgemeines Gelehrten Lexikon* (Leipsic, 1750 et seq., 4 vols.) is still valuable. Adelung brought down a supplement to this work (in 2 vols. 4to., Leipsic, 1784) to the letter I, which Rotermund of Bremen has continued.

JOEL, one of the twelve minor prophets, the time and place of whose birth are not known. From his style and poetical language, most critics place him in the golden age of Hebrew literature. Tradition makes him a contemporary of Hosea and Ezekiel, because he is placed between them in the canon. He describes a dreadful desolation of the country by grasshoppers (whether these signify an army, or really grasshoppers, commentators disagree), and finishes with a picture of better times, (the destruction of the Chaldeans), and a call upon the Deity for vengeance. His imagery is often imitated in the Apocalypse: He was always reckoned among the canonical writers, and is quoted in the New Testament (*Acts* ii. 17), which is a proof of his canonical authority at that time. Conjectures respecting his country and age are collected from the rabbins in Carpovius's *Introd. in F. T.* p. 302, from which it appears he lived in Judah, because his writings relate to Judah and Jerusalem.

JOHANNES SECUNDUS (the bibliographical name of John Everard, a celebrated Latin poet) was born at the Hague, 1511. His father was a distinguished lawyer, who was president of the supreme council of Holland at Mechlin, during the reign of the emperor Charles V. At Bourges, where John studied law under Alciatus, he received a doctorate; but literature had more attractions for him than jurisprudence. He became acquainted with some poets of the age, and his intercourse with them tended to strengthen his predilection for works of imagination. He also distinguished himself by his skill in painting, sculpture, and engraving; but he was most indebted for his fame to his poetical works. For the improvement of his talents, he travelled to Italy, and thence to Spain, where he became secretary of cardinal Tavera, archbishop of Toledo, by whose advice he attended Charles V. on his journey to Tunis. The weak state of his health, however, did not permit him to endure the hardships of war, and he returned to the Netherlands, where he died, at Utrecht, in 1536, of a malignant fever. Few modern Latin poets have left us such pleasing amatory poems as his. The Kisses of Johannes Secundus are best known. His works, consisting of elegies, odes, epigrams, and miscellaneous poems, were published by his brothers, Nic. Grudius and Andr. Marius (who were likewise distinguished as poets), and have gone through many editions. One of the latest is that of 1771 (Leyden), with a French translation. The Kisses have been repeatedly translated into English, German, and French.

JOHANNESBERG, or BISCHOFFSBERG; a village and beautiful castle, built (between 1722 and 1732) on a hill in the Rheingau (Nassau), formerly belonging to the bishop of Fulda, under the jurisdiction of the elector of Mentz. It is celebrated for its excellent Rhenish wines. The best is made on the castle hill itself. In 1807, the vineyards and castle were given by Napoleon to marshal Kellermann. In 1816, the emperor of Austria gave them to prince Metternich, on condition of receiving

a tenth part of the produce. Sixty-three morgen in morgen is somewhat less than an acre) yield annually about 32,500 bottles, worth from 23,000 to 24,000 guilders. Good years yield double this quantity, exclusive of a quantity of less valuable wine. The cultivation of the vineyards which produce this wine is expensive, and the profit not great, though it is high. In 1809, a bottle of the best quality cost four guilders on the spot, and the wines of 1779 to 1783, and that of 1801, were sold for twelve guilders a bottle. The view from the mountain is one of the finest on the Rhine. The eye wanders over the charming Rheingau, with its numberless villages, seats and convents, hills with their castles, and the noble river with its islands.

JOHN THE BAPTIST was born six months before Jesus (their mothers were relations), of a Levitical family in Judea, and his birth was attended with circumstances (*Luke*, chap. i.) which marked him out as one chosen by God to accomplish the divine purposes. He chose the austere course of life suited to a person dedicated to God, and by his early simplicity in food and dress, by his solitary meditations on, and deep knowledge of, the spirit of the Holy Scriptures, obtained that independence and strength of mind, which made him the object of universal admiration, when he appeared in the character of a prophet. His teachings were earnest exhortations to repentance and preparation for the kingdom of heaven, which he announced to be at hand. His preaching, as recorded in the Gospels, was severe and powerful. He proclaimed himself the harbinger of a greater, who should come after him, and fulfilled his mission to prepare for him the way, with a zeal equalled only by his self-denial and humility. He baptized many converts to his doctrine, and obtained respect among all classes, by the contrast of his severe virtue with the corruption of the times. When the higher mission of Jesus was made known, at the time of his baptism in the Jordan, John pointed his disciples to this new master, and saw, without envy, his own words fulfilled—"He must increase, but I must decrease." He coveted no fame, and wished no further success. He desired only to maintain the right of speaking the truth, and sell a victim to his boldness. To gratify a vindictive woman, Herod Antipas, tetrarch of Galilee, caused him to be beheaded in prison. A number of his disciples continued faithful to him till death, and are said to have established the still existing sect of *Sabians*, or *St John Christians*, in Persia, distinguished for their veneration of John the Baptist. See *Sabians*.

JOHN THE EVANGELIST is one of the most pure and lovely characters of Christian antiquity. In his youth, he left his nets at the call of Jesus, and from that time followed his divine teacher with unchanging fidelity. Not only on his journeys was he always with him, and in all conditions his most confidential friend, but, even when the other disciples fled, he accompanied him to the judgment-seat; and under the cross, his expiring Lord pointed him out to Mary, as one who was to stand in the place of a son and protector to her. Hence he was called emphatically the *disciple whom Jesus loved*. The gentleness and tenderness which breathe through the writings of John, adapted him peculiarly to understand all the feelings of his Lord. He shared the labours and sufferings of the apostles, lived in Ephesus, was for a time an exile in Patmos, perhaps resided in Rome, and finally died at an advanced age, in the bosom of the Ephesian church, which was dearest of all to his heart. St Jerome gives a very affecting account of the last years of his life. As the infirmities of age made him unable to address the church in a systematic discourse, he always desired to be conveyed

to the assembly, and, as often as he came, addressed them thus:—"Children, love one another." Being asked, at length, why he always repeated this exhortation, with nothing new, he answered, "Because it is the precept of the Lord; and if this is fulfilled, it is enough." John was the author of one of the Gospels, of the book of Revelation, and of the three Epistles which bear his name.

JOHN. Besides the apostle, there are many saints and martyrs of this name:—

1. *St John*, a warrior in the fourth century, who encouraged Athanasia, with her three daughters to brave martyrdom. He was himself beheaded.

2. *St John of Nicomedia*, who was skinned and tortured with salt and vinegar, by order of Diocletian, because he tore down the imperial edict which ordered the imprisonment of all priests, and required them to embrace paganism.

3. *St John the Alms-giver* was born in the island of Cyprus in the sixth century. He was made patriarch of Alexandria, and spent every thing he had for the poor. His day is January 23; with the Greeks, November 11.

4. *St John of Damascus*, or *Johannes Damascenus*, in the dispute concerning the worship of images, defended the practice, against Leo Isauricus and Constantinus Copronymus. He died in 760, in a convent. His day is May 6; with the Greeks, November 29. The most complete edition of his works was published by Le Quien, 2 vols., Paris, 1512, folio. Several of his works have never been printed.

5. *St John of God* (*Joannes a Deo*); born at Monte Mayor el Novo, in the province of Alentejo, in Portugal, in 1495, of poor parents. While keeping a shop in Granada, being affected by a sermon of John of Avila, he gave all his property to the poor, and became his pupil. He displayed so much fanaticism, that he was thought to be mad, and carried to an hospital; but being soon released, he established an hospital himself, which he maintained by alms. He founded a convent, from which originated the Hospitalers or Brothers of Charity. He practised the greatest severity towards himself. The bishop of Tuy, who came to Granada, gave him the name of *John of God*, which he retained. He died in 1550, and, in 1680, pope Urban VIII. canonised him.

6. *St John Chrysostomus*. See *Chrysostom*.

7. *St John Nepomuk*. See *Nepomuk*.

There are, besides, many martyrs and monks bearing the name of *John* and *St John*.

JOHN; the name of twenty-two or twenty-three popes, the last of whom died in 1419. That no subsequent pope has called himself John, is probably owing to the polluted character of several of the name, and particularly the public condemnation of the last for atrocious crimes. Among these pontiffs are the following:—

*St John* (*John I*) succeeded Hormisdas in 523, and was a friend of Boethius, who dedicated to him several of his works. Theodoric sent him to Constantinople, to induce the emperor Justin to adopt milder measures towards the Arians. Though John was received with uncommon pomp, his mission was fruitless, and on his return Theodoric threw him and his companions into prison, where he died in 526. His day is May 27. Felix IV. succeeded him.

*John VIII.*, or *Johanna Papiasa*. See *Joan*, the *papasa*.

*John XI.*; son of Marozia and the pope Sergius III. He ascended the papal chair in 931, though very young, by the influence of his mother, who governed Rome. Marozia, after the death of her husband Guido, married Hugh, king of Lombardy,

who insulted Alberic, son of Marozia and Guido. Alberic revolted, and imprisoned Marozia and the pope, who died in prison in 936. Leo VII. succeeded him.

*John XII.*, son of Alberic and grandson of Marozia, though an ecclesiastic, succeeded to the dignity of his father, a patrician of Rome, and, in 956, after the death of Agapetus II., possessed himself of the tiara, though only eighteen years old. He was the first pope who changed his name on his accession to the papal dignity. He applied to the emperor Otho I. for assistance against Berengarius II., crowned the emperor, 962, and swore allegiance to him, but soon after revolted against Otho, who caused him to be deposed by a council, in 963, and Leo VIII. to be elected. On Otho's death, in 964, John returned, and died in the same year. He polluted the papal see by the most revolting licentiousness. Benedict V. succeeded him.

*John XIII.*; made pope in 965 by the influence of the emperor, for which the nobles of Rome hated and expelled him. Otho II. restored him to Rome, and was crowned by him. He died in 972. According to Baronius, he introduced the custom of consecrating bells.

*John XV.*; a Roman, elected in 985. He was the first who solemnized a formal canonization (of Ulric, or Udalric, bishop of Augsburg) in 993. He settled the disputes between king Ethelred of England and Richard of Normandy. He induced Otho III. to assist him against Crescentius, but died whilst the former was besieging the castle of St Angelo, in 996.

*John XVIII.*, or *XIX.* (if John XVI. is counted, which Baronius does not do); elevated to the throne in 1004. We mention him merely because a union is said to have been effected between the Eastern and Western churches, under his pontificate; and, in the mass, besides the name of the pope, that of the patriarch of Constantinople is said to have been mentioned.

*John XXI.*, or *XXII.* (James of Ossa), a native of Cahors, chancellor of Robert, son of Charles II. of Naples, was archbishop of Avignon, and was elected pope at Lyons in 1316, after the death of Clement V. He resided at Avignon, but had many adherents in Italy. He is important in German history, on account of the active part he took in the disputes of the emperors Louis of Bavaria, and Frederic of Austria. He was entirely in the interests of France. He died in 1334, after having been once deposed by Louis, who caused Nicolas V. to be elected in his stead. The Clementines and the Extravagantes (see *Canon Law*, and *Corpus Juris*) prove his learning. As a theologian, he held a heretical opinion respecting the beatific vision of God, maintaining that Mary and all the blessed could not enjoy it until after the final judgment, and was on the point of being deposed by a general council on that account. He established several bishoprics and archbishoprics in France, which increased his revenues, so that he was enabled to leave immense treasures, which were not all well acquired. He fixed the festival of the Holy Trinity on the Sunday after Whitsuntide. Benedict XII. was his successor.

*John XXII.*, or *XXIII.* (Balthasar Cossa), born in Naples, was a pirate in his youth, afterwards became an ecclesiastic, studied at Bologna, was made a *doctor juris*, and was elected pope in 1410, by the council of Pisa, after the death of Alexander V., on condition that, if Gregory XII. and Benedict XIII. would resign, he would also retire, to end the schism. He summoned the council of Constance, demanded by the emperor Sigismund, in 1415, where he appeared in person, and confirmed his resignation,

March 2; but, March 20, he fled, secretly, from Constance to Schaffhausen, and revoked his resignation. He was cited before the council, but not appearing, he was suspended, and finally deposed, May 29, for seventy crimes (malice, tyranny, incest, licentiousness of all kinds, intercourse with his brother's wife and with 300 nuns, simony, murder, &c.), attested by thirty-seven witnesses. He was confined in the castle of Göttingen, near Constance. The elector of the Palatinate was then charged with his safe keeping, and he remained at Mannheim and Heidelberg, under custody. Four years after, he was released, on the payment of 30,000 gold guilders, went to Italy, and threw himself at the feet of pope Martin V., in Florence, who pardoned him, and made him cardinal, bishop of Tuscoli, and dean of the college of cardinals. He died soon after, in November, 1419.

JOHN, king of England, born in 1166, was the youngest son of Henry II., by Eleanor of Guienne. Ireland being intended for his appanage, he was sent over, in 1185, to complete the conquest; but such was the imprudence and insolence of himself and his courtiers, that it was found necessary to recall him. Although his father's favourite, he joined his brother Richard in his last unnatural rebellion, and partook with him the curse pronounced by the heart-stricken king and parent on his deathbed. He was left without any particular provision, which procured for him the name of *Sans Terre*, or Lackland; but Richard, on his accession, conferred on him the earldom of Mortaigne, in Normandy, and various large possessions in England, and married him to the rich heiress of the earl of Gloucester. This kindness did not prevent him from forming intrigues against his brother, in conjunction with Philip of France, during his absence in Palestine; but Richard magnanimously pardoned him on his return, and left him his kingdom, in preference to Arthur of Brittany, the son of his elder brother, Geoffry. So imperfectly was the rule of primogeniture then established in this country, that no disturbance whatever ensued, although the French provinces of Anjou, Touraine, and Maine declared for Arthur, who was taken under the protection of the king of France. A war ensued, in which John recovered his revolted provinces, and received homage from Arthur for the duchy of Brittany, inherited from his mother. In 1200, he married Isabella of Angoulême, after divorcing himself, on some pretence, from his first wife. In 1201, some disturbances again broke out in France, whither he led another expedition; and the young Arthur, having joined the malcontents, was captured, and confined in the castle of Falaise, whence he was subsequently removed to Rouen, and never heard of more. The manner of his death is not certainly known; but it was generally believed that John stabbed him with his own hand, and he now became the object of universal detestation. The states of Brittany summoned him to answer the charge of murder, before his liege lord, king Philip; and, upon his refusal to appear, the latter assumed the execution of the sentence of forfeiture against him, and in this manner the whole of Normandy was recovered by the French crown, after its alienation for three centuries. John laid the fault of his disgrace upon his English nobles, whom he harassed by fines and confiscations; but, after some ineffectual attempts, he was obliged to acquiesce in a truce in 1206. The pope at this time was the haughty and able Innocent III., who, in consequence of a contested election for the see of Canterbury, nominated a creature of his own, cardinal Stephen Langton. John, highly enraged, acted with his usual haste and folly, and displayed so much contempt for the papal authority, that

Innocent laid the whole kingdom under an interdict. This quarrel lasted some years, and the king, by his tyranny, depriving himself of the support of his nobles, was perplexed on every side. In order to give some lustre to his degraded administration, he undertook expeditions into Scotland, Wales, and Ireland, in which he was successful, and, in particular, quelled all opposition to his authority in the last country. In the mean time, the court of Rome communicated the king, personally, and formally absolved his subjects from their allegiance. Philip of France was again ready to put the sentence against John into execution, and prepared an expedition in the ports of Picardy, which, however, the latter was enabled to oppose. So much disaffection, nevertheless, prevailed, that Pandulph, the pope's legate, induced him not only to receive Langton, as archbishop of Canterbury, but abjectly to resign his kingdom of England and Ireland to the holy see, in order to receive them again as its vassal, with absolute. This ignominious compact was executed at Dover, in May, 1213; and the pope, now regarding England as his own, and jealous of the aggrandizement of Philip, required the latter to desist from hostilities against a country under the protection of the see of Rome. Philip received this mandate with great indignation, but, in consequence of a victory over his fleet, was gradually brought to reason. Flashed with this success, John resolved to endeavour to recover his continental dominions; but the English barons declined the service. In the next year, however, he carried over an army to Poitou; but, after some partial successes, was obliged to return in disgrace. John had, by this time, rendered himself the object of such universal contempt and hatred, that his nobles, who had long felt aggrieved by the usurpation of their sovereigns, and of the reigning one a particular, determined to seize upon so favourable an opportunity to control his power, and establish their privileges. Langton produced to them a copy of the charter of rights granted by Henry I., and, at a general meeting in London, in January, 1215, they laid their demands before the king, which he attempted to elude by delay. In the mean time, he sought to ingratiate himself with the clergy and the pope, with whom he lodged an appeal against the compulsory proceedings of the barons. The papal pencil, who found it his interest to support a sovereign who had so far humbled himself, declared his disapprobation of their conduct; but, little moved by the declaration, the latter assembled in arms at Oxford, where the court then was, and, choosing a general, immediately proceeded to warlike operations. They were received without opposition in London, which so intimidated the king, that he consented to sign such articles of agreement as they thought fit to dictate. Such were the steps which produced the *Magna Charta*, which was signed by John at Runnymede, on the banks of the Thames, June 19, 1215. By the charter—the basis of English constitutional freedom—not only were the nobles protected against the crown, but important privileges were granted to every order of freemen. The passive manner in which John yielded to these restrictions of his power, indicated a secret intention of freeing himself from his obligations. In order to lull the barons into security, he dismissed his foreign forces, but, in the mean time, was secretly employed in raising fresh mercenaries, and in seeking the concurrence of the pope, who issued a bull, annihilating the charter, as extracted from his vassal, contrary to the interests of the holy see. He even forbade John to pay any regard to its conditions, and pronounced a sentence of excommunication on all who should attempt to enforce it. Thus furnished with spiritual and temporal arms, the

king left his retreat, and carried war and devastation through the kingdom. His barons, taken by surprise, could make no effectual resistance, and, despairing of mercy from John, sent a deputation to France, in which they offered the crown of England to the dauphin Louis. Philip gladly accepted the proposal, and Louis, with a fleet of 600 vessels, landed at Sandwich, and proceeded to London, where he was received as lawful sovereign. John was immediately deserted by all his foreign troops, and most of his English adherents; but the report of a scheme of Louis for the extermination of the English nobility, arrested his progress, and induced many to return to their allegiance. While the king's affairs were beginning to assume a better aspect, he had the misfortune, in a march from Lynn across the sands into Lincolnshire, to lose, by the sudden flow of the tide, all his carriages and baggage. Being already in a bad state of health, this event so aggravated his disorder, that he died at Newark, in October, 1216, in the forty-ninth year of his age, and seventeenth of his reign. No prince in English history has been handed down to posterity in blacker colours than John, to whom ingratitude, perfidy, and cruelty were habitual.—Apparent gleams of vigour and energy were, indeed, occasionally manifest; but they always proved mere explosions of rage, and soon subsided into meanness and pusillanimity. His private life was stained with extreme licentiousness, and the best part of his conduct as a ruler, was the attention he paid to commerce and maritime affairs. More charters of boroughs and incorporations for mercantile pursuits date from him than from any other of the early kings, and the popular constitution of the city of London was his gift. He left, by his second wife, a family of two sons and three daughters, and had many illegitimate children.

JOHN SCOTUS. See *Erigena*.

JOHN THE PARRICIDE, or JOHN OF SUABIA, was the murderer of his uncle, the emperor Albert I. (See *Albert I.*) Himself of a mild, peaceful disposition, he would, perhaps, have endured the injustice of his uncle, who withheld from him his hereditary dominions and fief, had not his anger been fanned into a flame by the enemies of the emperor. After the perpetration of the bloody deed (in the neighbourhood of Hapsburg, May 1, 1308), the murderers took to flight; among them was John, who wandered in the monastic habit through Italy, and finally sank into such obscurity, that nothing was known with certainty of him. Rodolph of Wart was apprehended and punished by the rack on the spot where the deed was committed; the other murderers escaped, with the exception of three boys, who confessed nothing, though threatened with a cruel death, which they actually suffered. But a sanguinary revenge was taken on the relations of the murderers by Leopold, the second son of the emperor, and by Agnes, his sister, the widowed queen of Hungary. They were executed with the most terrible torments, their castles demolished, and the inhabitants slain by hundreds. More than a thousand innocent men, women, and children perished. The history of John of Suabia has given rise to the tragedy of that name, which, for more than twenty years, has been performed on the German stage.

JOHN OF PIESOLE. See *Fiesole*.

JOHN OF LEYDEN. See *Anabaptists*.

JOHN SOBIESKI, or JOHN III., king of Poland, one of the greatest warriors of the seventeenth century, was born 1629. His father, James Sobieski, equally distinguished for his virtues in peace and his courage in war, took great care to nourish the same qualities in his sons, Mark and John. The Poles had just been defeated at Pilawicz, when

these youths returned from their travels. This misfortune only served to excite their courage. Mark fell in a second engagement with the Cossacks, on the banks of the Bog; but John, more fortunate than his brother, became successively grand marshal and general of the kingdom. Full of courage, he exposed himself, like the meanest soldier, to the greatest dangers, and when urged to take care of his person, replied, "If I follow your advice, you will despise me." He became the terror of the Tartars and Cossacks, over whom he was perpetually gaining new victories. November 11, 1673, he won the celebrated battle at Chocim against the Turks, who lost there 28,000 men. The following year, he was elected king of Poland. When the Turks had laid siege to Vienna, in 1683, he hastened thither with a Polish army, and rescued the imperial city. His cavalry was splendid, but his infantry poorly equipped. To conceal the condition of the latter, he was advised to send one of the worst clothed regiments of infantry over the river by night, to save them from the gaze of spectators. Sobieski was of a different opinion. When the regiment was on the bridge, he said to those who surrounded him, "Behold them—they are invincible; they have sworn never to wear any dress but that of enemies: in the last war, they were all clothed in the garb of Turks." On his arrival, he chose the most advantageous position, ascended an elevation to observe the disposition of the grand visier, and remarked—"He has selected a bad position. I understand him; he is ignorant, and persuaded of his own genius. We shall gain no honour from this victory." Sobieski was not deceived. The next day the Turks were driven from their camp in terror, leaving behind the holy standard of Mohammed, which the conqueror sent to the pope with the following letter: "I came, I saw, and God has conquered." On his entrance into Vienna, at the head of his victorious Poles, the inhabitants received him with indescribable enthusiasm. They pressed around to embrace his feet, to touch his garments or his horse, and proclaimed him their saviour and deliverer. He was moved even to tears, and, under the strong impulse of his feelings, called this the happiest day of his life. In 1693, he was attacked by a dangerous sickness, and was doomed to witness that dissension which usually attends the election of a king in Poland. Foreign enemies united with domestic factions. Sobieski was no longer in a condition to quiet the disturbances, and the moment was fast approaching which was to deprive him at once of his life and his throne. The queen wished him to make a will, and communicated her wishes through one of the bishops. He refused, asserting that, in a nation like his, party rage would prevail over all his influence. He died 1696, in the twenty-third year of his reign. Scarcely had he closed his eyes, when jealousy and envy united to stain his memory. Some reproached him with having purchased lands contrary to the laws, which forbade the king to hold any private property. Others maintained that the Christian league which he had joined against the Turks, had cost his country more than 200,000 men. Others still asserted that he was too fond of money and expensive journeys. Certainly no court was ever less stationary than his. He performed the tour of Poland every year with his queen, and visited all his estates, like a nobleman. This fault, however, if it may be called a fault, should not cast a veil over the virtues of Sobieski. He was fond of the sciences, spoke several languages, and deserved to be loved for his gentleness and affability. His three sons died without leaving any male descendants. The character of Sobieski is displayed in the *Lettres du*

*Roi de Pologne Jean Sobieski à la Reine Marie Casimire, pendant la Campagne de Vienne, trad. par le Comte Plater, et publ. par N. A. de Salcandy (Paris, 1826).*

JOHN VI., emperor and king of Portugal, Brazil, and Algarve, born May 13, 1767. On account of the mental derangement of the queen Francisca, his mother, he was proclaimed director of the government in Portugal, February 10, 1792. In 1807, he embarked for Brazil with his family, and landed at Rio de Janeiro, January 6, 1808. December 18, 1815, he raised Brazil to the rank of a kingdom, and united all his states into one monarchy. After the death of his mother, March 20, 1816, he became king. In 1790, he married the Infanta Charlotte, daughter of Charles IV. of Spain. (Respecting his son Pedro, and the revolution in Brazil, see *Pedro*.) His second daughter, Maria, first wife of King Ferdinand VII. of Spain, died in 1818; a third is the wife of Don Carlos, brother of Ferdinand. On account of the old commercial relations between Portugal and Britain, John was not in a condition to maintain a strict neutrality towards France. In 1793, he had sent the Spanish government a small body of soldiers to aid in the defence of the Pyrenees; but, after Spain had made peace (1795), and concluded an alliance (1796) with France, Portugal was treated as an enemy by both. John looked to Britain, therefore, for protection. Bonaparte at length induced the Spanish court to make an attack in earnest upon Portugal, which ended in the peace of Badajoz (January 6, 1801); Olivença was ceded to Spain, and a part of Guiana to France. After the peace of Tilsit, Napoleon, not content with the vast sum of money by which John had purchased his neutrality, required him also to close his ports against the British, to arrest all of that nation in Portugal, and to confiscate their estates. As the regent complied with the first only of these requisitions (in consequence of which a British fleet blockaded his harbours), the *Moniteur* declared that the house of Braganza had ceased to reign (see *Spain since 1808*), and an army composed of French and Spanish soldiers marched into Portugal. The prince-regent now resolved to transfer his court to Brazil, as he had been advised to do in 1800. The British ambassador, Viscount Strangford, and the British admiral, Sir Sidney Smith, facilitated the accomplishment of his design. November 26, the prince-regent appointed a junta for administering the government, and, on the 27th, the royal family embarked, passed the mouth of the Tagus on the 29th, with a fleet of eight ships of the line, four frigates, four brigs, and twenty other vessels, in sight of the advance-guard of Junot's army, which entered Lisbon the next day. December 1, the anniversary of the elevation of the house of Braganza, the ensigns of Braganza were succeeded by the French eagle. An earthquake and a storm, which the Portuguese fleet encountered in the view of the city and the enemy, completed the submission of the Portuguese. From Rio de Janeiro, May 1, 1808, the prince-regent declared all treaties with France and Spain null, and formed a closer union with Britain, which, powerfully supported by the bravery of the Portuguese army and the ardour of the people, recovered for him the possession of his European kingdom. Marshal Beresford continued to exercise an important influence on the affairs of Portugal, till August, 1820, when, by the convocation of the cortes, a new political system was established. In America, the Portuguese also recovered the portion of Guiana which they had lost, and occupied French Guiana; the latter, however, was restored to France in 1817. Meantime, the enlightened ministry of the prince regent carefully attended to the improvement of Brazil. The in-

quisition was abolished, religious freedom introduced, the evils of slavery diminished, and European artists, manufacturers, merchants, and agriculturists, encouraged to settle in the country. A large Swan colony, New Freyberg, was founded in 1819. John took part in the transactions of the congress of Vienna. The revolution of the Spanish colonies in South America (perhaps the refusal of Spain to restore Olivença) led the court of Rio de Janeiro to occupy Monte-Video, and the left bank of the La Plata. Spain had recourse to the intervention of Austria, Russia, Prussia, and Great Britain, whose declaration, directed to the marquis of Aguiar, Portuguese secretary of state for foreign affairs (Paris, March 26, 1817), induced the court of Brazil to evacuate Monte-Video, on condition that Brazil should be restored. A treaty was then concluded with Buenos Ayres, and the quarrel with Arago (q. v.) continued till 1820. A conspiracy against the existing government was discovered at Lisbon in 1817, and suppressed by the execution of those engaged in it. After this, the freemasons were persecuted more severely than ever. In consequence of the Portuguese revolution and the convocation of the cortes, 1820, which the monarch recognised as lawful, he returned, in 1821, to Portugal; the prince remained in Brazil. This vast country separated itself entirely from the mother country, where an absolute government was, in the mean time, established. John was incompetent to unite the constitutionalists and royalists. He was himself in danger of falling a victim to the intrigues of the latter, when he was rescued by a British vessel at the Tagus. Portugal and Brazil also assumed a hostile attitude; but, August 29, 1825, by the mediation of Britain, John VI. concluded a treaty with his son, the emperor Pedro I. of Brazil, in which he acknowledged that country as an independent kingdom, wholly separate from Portugal, and he was an emperor, reserving for himself, personally, the use of emperor of Brazil. This good-natured monarch, who was incompetent to struggle with the wishes of his age, and the political degeneracy of his nation, died March 10, 1826, having previously appointed his daughter Isabella regent of Portugal. See *Portugal* and the *Portuguese Revolution*.

JOHN'S, Sr, or PRINCE EDWARD'S ISLAND, an island in the gulf of St Lawrence, near the north coast of Nova Scotia, to which government it was once annexed, but it now has a separate government. Lon. 44° 22' to 46° 32' W.; lat. 45° 46' to 47° 11' N. It is 117 miles long, from north east to south-west, about twenty in average breadth; population, about 5000; chief towns, Charlotte's Town (the capital), George Town, Prince's Town, &c. The north and south coasts are much indented with bays. It is well watered, the soil generally fertile, and the river abundant with fish, as salmon, trout, and eels. It was taken from the French by the British, in 1745, when it had 10,000 head of black cattle, and several of the farmers raised 12,000 bushels of corn annually. When possessed by the French, it was so much improved as to be called the *granary of Canada*.

JOHN'S, Sr, a river of New Brunswick, which rises in Canada and the northern part of Maine, waters the north-east part of Maine, flows south-west through New Brunswick, and runs into the bay of Fundy, on the west side of the city of St John's. It is 350 miles long; the tide flows up about 100 miles; it is navigable for boats 200 miles, and for sloops of fifty tons eighty miles. This river and its branches water a large tract of excellent country, much of which is settled. About thirty miles from its mouth commences a fine level country of meadow lands, well clothed with timber and well

pine, beech, elm, maple, and walnut. The river furnishes a great quantity of salmon, bass, and sturgeon; and it is the common route to Quebec. About a mile above the city of St John's, is the only entrance into this river. It is about eighty or 100 yards wide, 400 yards long, called the *falls* of the river. It being narrow, and a ridge of rocks running across the bottom of the channel, on which there are not above seventeen feet of water, it is not sufficiently spacious to discharge the fresh waters of the river above. The common tides here rising about twenty feet, the waters of the river, at low water, are about twelve feet higher than the waters of the sea. At high water, the waters of the sea are about five feet higher than those of the river; so that, at every tide, there are two falls—one outwards and one inwards. The only time of passing with safety, is when the waters of the river and of the sea are level, which is twice in a tide, and continues only about twenty minutes each time.

JOHN'S, Sr, in New Brunswick. See *New Brunswick*.

JOHN'S, Sr, in Newfoundland. See *Newfoundland*.

JOHN, ST, CHRISTIANS OF. See *Subiana*.

JOHN, ST, KNIGHTS OF. The knights of St John, or hospitalers of St John, afterwards called *knights of Rhodes*, and, finally, *knights of Malta*, were a celebrated order of military religious, established at the commencement of the crusades to the Holy Land. As early as 1048, some merchants from Amalfi, in Naples, established a church at Jerusalem, and built a monastery, which they dedicated to John the Baptist. It was the duty of the monks, who were called *brothers of St John*, or *hospitalers*, to take care of the poor and sick, and, in general, to assist pilgrims. This order, which gradually obtained important possessions, at the beginning of the twelfth century, was regularly instituted as a military order by the principal, Raymund du Puy, retaining all their former laws. Besides the performance of their vows of chastity, obedience, and poverty, it was their duty to aid in defending the church against infidels. Raymund also divided the order into three classes—knights (who should bear arms), chaplains (regular ecclesiastics) and servants (*serventi d'armi*), whose duty it was to take care of the sick and accompany pilgrims. This order long maintained itself against the arms of the Turks and Saracens by union and courage; but, in 1191, it was driven from Palestine. Upon this, the knights conquered Cyprus, but soon lost it again, and established themselves, in 1309, on the island of Rhodes, where they remained upwards of 200 years. This island was vigorously defended against Mohammed II., by Pierre d'Aubusson (grand master, who died 1503). Driven thence by the sultan Soliman II. (1522), the knights went to Candia, then to Venice, Rome, and Viterbo, and especially to Nice, Villa Frasca, and Syracuse, till Charles V. (1530) granted them the islands Malta, Gozzo, and Comino, on condition of perpetual war against the infidels and pirates, and the restoration of these islands to Naples, if the order should succeed in recovering Rhodes. From this period, they were commonly called *knights of Malta*. In 1565, under the command of Lavalette (who died 1568), they repelled a violent attack from Soliman II. with great loss. After this, they continued their naval battles with the Turks till modern times, and saved themselves from ruin, in various wars with the Porte, only by their unyielding courage. In 1760, however, they would doubtless have been overpowered but for the interposition of the French. After that, their naval expeditions were seldom any thing more than mere show. The chief of this order,

which had great possessions in almost every part of Europe, was called *grand master of the holy hospital of St John of Jerusalem*, and *guardian of the army of Jesus Christ*. He was chosen by vote, and lived at La Vulette, in the island of Malta. He was addressed by foreign powers with the title of *altesse éminentissime*, and received annually 6000 crowns from the treasury of the order, together with all the revenues from the three islands, so that his annual income may be estimated at nearly a million guilders. The secular power was principally in his hands, but even here he was limited by the *governors of the various languages*, so called, who gave laws, fixed taxes, &c. The spiritual power (that is, the immediate affairs of the order) was exercised by the chapter, which consisted of eight *ballivi conventuali*, and in which the grand master presided. The principal offices in the order were held by the pillars (*piliers*) of the eight languages, into which the knights were divided, according to their respective nations. The languages were those of Provence, Auvergne, France, Italy, Arragon, Germany, Castile, and England. From these languages, the *ballivi conventuali* above-mentioned were chosen, and their lands were divided into priories, these into *bailliages*, and these again into *commanderies*. Of the priories, the German had the preference, and was called the *grand priory*. It was filled by the grand prior of Germany, or the master of the knights of St John throughout Germany, who was a prince of the empire, and resided at Heitersheim, a city and castle in Brisgau, now in the circle of Treisam, in Baden. The master of the knights of St John was subject to the grand master at Malta. He himself had the jurisdiction over Brandenburg, Hungary, and Bohemia. Austria, Bohemia, and Moravia formed, besides, a separate grand priory of the German language. The last master of the knights of St John in Germany, or grand prior of Heitersheim, a count of Reichenbach-Fouxmaigne (or the baron Rink of Balenstein), by the peace of Presburg and the formation of the confederacy of the Rhine, lost all his possessions in West Suabia, which fell into the hands of the grand duke of Baden. Of the eight languages above-mentioned, the English became extinct in the sixteenth century; the three French languages perished during the revolution; those of Castile and Arragon were separated from Malta at the peace of Amiens, and the Italian and German languages have since been abolished. Thus the order of St John is to be regarded as extinct, and its restoration is the less to be looked for as the island of Malta has been formally ceded to Britain. The Prussian order of knights of St John, founded by Frederic William III., and which is a royal order, can be considered only as a memorial of an order venerable for its antiquity and its services. (See *Prussia*.) The knights of St John observed the rules of the order of St Augustine. The Protestants, however, were not bound to celibacy. Every member was required to be of good family. The knights who could bring indubitable evidence of noble ancestry were called *cavalieri di giustizia* (knights by right). Those, on the contrary, who could not prove their nobility, but were, nevertheless, received on account of their merits, were called *cavalieri di grazia* (knights by favour). The duty of each knight—to take the field at least three times against the infidels, or the pirates of Barbary—was rarely performed in recent times, and, by the peace of Amiens, all hostilities against the Turks were forbidden. In peace, these knights wore a long black mantle; a gold cross of eight points, enamelled white: in war, they wore a red jacket or tabard, charged with a full white cross. Only in spiritual concerns was the order subject to the pope: in all temporal ones, they enjoyed unlimited

sovereignty. Their naval force, in 1770, consisted of four galleys, three galiots, four ships of sixty, and two frigates of thirty-six guns, with various smaller vessels. When Malta was unexpectedly attacked by Bonaparte, June 8, 1798, the island capitulated without resistance. (See *Hampesch*, and *Malta*). In 1800, the British reduced it by famine, and it has been, ever since, in our hands. At the peace of Amiens (1802), it was stipulated that the island should be restored to the knights, under the guarantee of a neutral power; but as our government continued to entertain apprehensions lest the French would retake Malta, and thus destroy our superiority in the Mediterranean, we continued in possession of it. Dec. 16, 1798, the order had chosen for their grand master the Russian emperor, Paul I., who declared the capitulation of 1798 an act of treachery, and took the knights of St John under his protection. This choice met with much opposition, even from the pope himself. After the death of Paul I. (Feb. 9, 1805), the pope appointed an Italian (Tommasi) grand master, and, on his decease, the grand chapter chose Caracciolo. The chief seat of the order had been, hitherto, Catania in Sicily. In 1826, the pope permitted the chapter and the government to remove their seat to Ferrara. Before the French revolution, the number of knights of this order was estimated at 3000. For further information, see *Malta*.

**JOHN BULL**, the sportive, collective name of the English people, was first used by dean Swift.—*Jonathan*, or *brother Jonathan*, is applied, in the same way, to the people of the United States.—The *Irish Paddy* (from *Patrick*), the *Scotch Sawney* (from *Saunders*, which comes from *Alexander*), are more particularly applied to individuals than to the Irish and Scotch people collectively.—*Yankee* (q. v.), also, signifies a single American, particularly a native of the Eastern States; whilst *Uncle Sam*—a colloquial and rather low expression, derived from *U. S.* the abbreviation of *United States*—is used to denote the government of the United States collectively.—*John Bull* is used by the British themselves to convey the idea of an honest, blunt, but in the main good-natured, character. With foreigners, it is used to express the insular peculiarities and prejudices of the nation, and their inability to accommodate themselves to the circumstances of foreign countries.

**JOHN DORY**. See *Dory*.

**JOHN'S FIRE**. Among the Romans, the festival of Vesta was celebrated by kindling a fire, with dancing and rejoicings. In the early periods of Christianity, the ancient pagan rite was perpetuated of setting fire to consecrated herbs, or laying them upon the coals. This ceremony was called *John's fire*, or the *Aerb fire*. Superstitious people believed that the smoke of these herbs would keep off the devil, storms, and witches, or preserve from those evils the houses where they were burnt, for the succeeding year.

**JOHNES, THOMAS**; an English gentleman, who distinguished himself by the cultivation of literature. He was born in 1748, studied at Oxford, made the tour of Europe, and collected a noble library, to which he added a typographical establishment, whence proceeded the works on which his literary reputation is founded. They consist of splendid editions of the chronicles of Froissart and Monstrelet; Joinville's memoirs of St Louis; the travels of Bertrand de la Brocquiere in Palestine; and Stephen Palaye's life of Froissart; all translated by himself from the French. He died in April, 1816.

**JOHNSON, SAMUEL**, a clergyman distinguished for his zeal in the cause of civil liberty, was born in 1649. During the time that lord Russell, with his confidants, was promoting the bill for excluding the duke of York, he published a tract entitled *Julian the*

*Apostate*, meant as a refutation of the doctrine of passive obedience by doctor Hicke. For this book he was prosecuted in the court of king's bench, and sentenced to fine and imprisonment. Inability to pay the fine caused him to be confined in the rules of the prison, where he was privately assisted by the benefactions of his political friends, and continued to disperse several pieces against popery. In 1686, when the army was encamped upon Hounslow Heath, he wrote An humble and hearty Address to all the English Protestants in the present Army. For this production he was committed to close custody, tried before the king's bench, and condemned to stand in the pillory in three places, to pay a fine of 500 marks, and to be publicly whipped from Newgate to Tyburn. Before the execution of this disgraceful sentence, he was deprived of his orders. He bore all these indignities, including the whipping, which was inflicted with great severity, with the firmness and alacrity of a martyr, which he was deridingly called; and, happily, some informality in the process of degradation preserved to him his living. With unbroken spirit he continued to employ his pen in the same cause, until the revolution changed his situation. He received a present of £1000, and a pension of £300 per annum, for the life of himself and his son. He continued to write in favour of king William with much strength of reason, but with a degree of acrimony which produced some personal annoyance from opposing partisans, which had little effect upon a man of undetermined a spirit. Notwithstanding his attachment to the new government, he freely censured many of its acts, and even contended for annual parliaments. He died in 1703. His works were published in 1779, 1 vol., folio, and re-edited in 1713.

**JOHNSON, SAMUEL, LL. D.**; one of the most distinguished English writers of the eighteenth century. He was born at Lichfield, in Staffordshire, in 1709, of which city his father was a small bookseller. He was the elder of two sons, the younger of whom died in his infancy; and he inherited from his father a robust body and active mind, together with a scrofulous taint, which impaired his sight and hearing, and a strong disposition to morbid melancholy. He also derived from the same source a marked attachment to high church principles, and a decided predilection for the family of Stuart. He received his early education, partly at the free-school of Lichfield, and partly at Stourbridge, in Worcestershire; and, on returning from school, he remained two years at home. Having acquired reputation from his exercises, particularly of the poetical class, a neighbouring gentleman of the name of Corbet offered to maintain him at Oxford as companion to his son. He was accordingly entered of Pembroke college in 1728, being then in his nineteenth year; but he exhibited no marked attention to his studies in the first instance, and the state of indigence into which he fell by the neglect of the promised assistance, on the part of the family by whose advice he was sent to Oxford, produced a degree of mental anxiety, which he is said to have attempted to conceal by affected frolic and turbulence. Still he acquired credit by occasional poetical compositions in the Latin language; but, after all, left Oxford, after a residence of three years, without taking a degree. About this time, according to his own account, he received a strong religious impression from the perusal of Law's Serious Call to a devout and holy Life. Soon after his return to Lichfield, his father dying in very narrow circumstances, he was constrained to accept the situation of usher at the grammar-school of Market Bosworth. This situation his impatience under the haughty treatment of the principal soon induced him to quit; and he passed some time as a guest with a medical school-

fellow, settled at Birmingham. Here he wrote essays for one of the journals, and translated from the French father Lobo's Travels in Abyssinia. Returning to Lichfield, he published proposals for the republication of the poems of Politian, with a life, and a history of modern Latin poetry, which prospectus was but little attended to. Disappointed in this scheme, he offered his services to Cave, as a contributor to the *Gentleman's Magazine*, which, however, was but a slight step towards a maintenance; and, in 1735, he sought to improve his condition by a marriage with Mrs Porter, the widow of a mercer. Her fortune of £800 was a dowry of some moment to a suitor in the station of Johnson; and the fact of her being twice his own age, and possessed of no pretension to personal attraction, renders his subsequent description of this union as a "love match on both sides" the more extraordinary. He now took a large house at Edial, with a view to take pupils and boarders, but the plan did not succeed; and, after a year's trial, he resolved to seek his fortune in London, in company with one of his few pupils, the celebrated David Garrick. In March, 1737, the two adventurers accordingly arrived in the metropolis, Johnson with his unfinished tragedy of *Irene* in his pocket, and with little to depend upon but his slender engagement with Cave. At this time he became acquainted with the reckless and unfortunate Savage, and in some respects his personal conduct was unfavourably affected by the intimacy; but from irregularity of this nature he was soon recovered by his deeply-grounded religious and moral principles. His first literary production, which attracted notice in the metropolis, was his *London*, a Poem, in imitation of the third satire of Juvenal. He soon after made an attempt to obtain a Dublin degree of M.A., through a recommendation to Swift, in order to obtain the mastership of a free grammar-school in Leicestershire, but could not succeed. Failing in this attempt, his engagement in the *Gentleman's Magazine* led to a new exercise of his powers in the composition of parliamentary debates, which, being then deemed a breach of privilege, were published under the fiction of *Debates in the Senate of Lilliput*. The extraordinary eloquence displayed in these productions was almost exclusively the product of his own invention; but it is probable that he adhered more faithfully to the tenor of the arguments of the real speakers than to their language. He however confesses himself, that he "took care the Whig dogs should not have the best of it." His attachment to the Jacobites was also further manifested by the composition of a humorous pamphlet, in 1739, entitled the *Marmor Norfolciense*, consisting of a supposed ancient prophecy, in Latin monkish rhymes. For some years longer, the *Gentleman's Magazine* received the chief of his attention. For this miscellany, he composed several excellent biographical articles, and, in 1744, published his celebrated *Life of Savage* separately. In 1747, after a number of abortive projects, he sent out his plans for an English Dictionary, in an admirably composed pamphlet, addressed to the earl of Chesterfield, who, however, concerned himself very little in the success of the undertaking. The time that he could spare from this compilation, which has been justly accounted a wonderful exertion of industry, was allotted to various literary avocations. In the same year, he furnished Garrick with his admirable prologue, on the opening of Drury-lane theatre; and, in 1749, published another admired imitation of Juvenal, which he entitled the *Amity of Human Wishes*. In the same year, his tragedy of *Irene* was produced at Drury-lane theatre, under the auspices of Garrick. It was performed thirteen nights with but moderate applause, and Johnson, satisfied that he was not formed to excel in

the drama, wisely gave up the endeavour. In March, 1750, appeared the first paper of the *Rambler*, the gravity of the tone of which, notwithstanding its acuteness of observation, richness of illustration, and dignity of expression, prevented it from obtaining a wide circulation as a periodical paper, although, when collected into volumes, the author himself lived to see it reach a tenth edition. A short time before the appearance of the *Rambler*, half deluded by his political dislike of Milton, he hastily adopted the imposture of Lauder, in his attempt to fix the charge of plagiarism on that great poet. When undeceived, however, he insisted upon Lauder's signing a formal recantation, and, possibly as some atonement, wrote a prologue to *Comus*, when acted for the benefit of Milton's grand-daughter. In the year 1755 was published his long expected Dictionary, to which his name appeared with the degree of M.A., obtained from the university of Oxford, by the good offices of Mr Warton. The approaching publication of this work Lord Chesterfield had favourably announced, some months before, in two papers of the *World*; but Johnson, conscious of having received no sort of support or encouragement from that nobleman during its progress, addressed to him a well-known letter, replete with pointed sarcasm and manly disdain. The Dictionary was received by the public with very general applause; and although its neglect of the northern etymologies, and the defects rendered apparent by more recent research, have somewhat lessened its original reputation, it still remains the leading work of the kind in the English language. In its progress, however, this great work had done nothing beyond merely supporting him; and it appears, from an arrest for a very trifling sum, in the year subsequent to its publication, that his necessities continued undiminished. An edition of Shakspeare, the *Idler*, with occasional contributions for a literary magazine, formed the desultory occupation of several succeeding years. In 1759, he wrote his celebrated romance of *Rasselas, Prince of Abyssinia*, which fine performance he composed in the evenings of one week, in order to defray the funeral expenses of his aged mother. At length, in 1762, the Bute administration granted him a pension of £300 per annum, which he accepted, after a short struggle against the reception of a favour from the house of Hanover. His own sarcastic definition of the word *pensioner*, in the Dictionary, was naturally enough quoted upon this occasion; but the sterling and acknowledged merits of the man formed a satisfactory apology. His advanced reputation and amended circumstances now considerably enlarged his acquaintance, and he became member of a weekly club, in Gerrard-street, Soho, composed of the most eminent men of talents of the day, and also commenced that intercourse with the Thrale family which produced him so much social enjoyment. In 1765 appeared his long-promised edition of Shakspeare, which was ushered in by an admirable preface; but the work itself did not altogether answer public expectation, owing principally to the superficial acquaintance of the commentator with the writings of the age in which Shakspeare flourished. In 1770, although his pension was given without conditions, his attachment to the monarchical side in general politics, led him to compose a pamphlet, entitled the *False Alarm*, in favour of the resolution of the house of commons in the affair of Wilkes—that expulsion implied incapacity of re-election. This production was followed by *Thoughts on the late Transactions in Falkland's Island*, against the conduct of Spain in regard to that unprofitable possession; the *Patriot*, written on the era of the general election, in 1774, and *Taxation no Tyranny*, a more considerable effort, which made its appearance in 1775, against

the arguments of the American colonists, relative to the power claimed by the mother country to tax them at pleasure. This pamphlet, although vigorously composed, was more dictatorial than argumentative, and abounding, as it did, with irritating sarcasm, did little service to the cause thus espoused. At this time, Johnson was encouraged in a view of obtaining a seat in parliament, but, meeting with no encouragement from the ministry, the scheme was dropped. In 1773, he made a tour to the Western Isles of Scotland, in company with his friend Boswell, of which he gives a highly instructive account in his *Journey to the Western Isles of Scotland*. In this production, he pronounced decidedly against the authenticity of Ossian, which sentence involved him in a broil with Macpherson. In 1775, he received the diploma of LL. D. from the university of Oxford, and soon after visited France, in company with the Thirlles and Baretti. His last literary undertaking was his *Lives of the Poets*, which was completed in 1781; they were written to prefix to an edition of the works of the principal English poets, and, in a separate form, comprise 4 vols., 8vo. With an occasional exhibition of political bias, and strong prejudices, a conspicuous instance of which is supplied by the life of Milton, they form a valuable addition to English biography and criticism. The concluding portion of the life of this eminent man was saddened by the loss of many old friends, and by declining health, rendered doubly distressing in his case by a morbid apprehension of death, which neither his religion nor philosophy could enable him to bear with decent composure. In 1783, he was greatly alarmed by a paralytic stroke, and his health never wholly recovered the shock, although he lived to the 13th December, 1784. For some days previously, he retained all his horror of dissolution; but he finally died with devotional composure. This event took place in his seventy-fifth year, and his remains were interred in Westminster abbey, with great solemnity, being attended by a respectable body of eminent characters, and his statue has been placed in St Paul's cathedral.

From the numerous and copious biographical tributes to the memory of doctor Johnson, and especially that of Boswell, few persons have been made so well known to the public, either as authors or men. In the former capacity, he is more to be admired for vigour and strength, than for novelty of conception. No writer delivers moral maxims and dictatorial sentences with more force, or lays down definitions with more grave precision. He also excels in giving point to sarcasm, and magnificence to imagery and abstraction. His critical acumen, setting aside personal and political prejudices, was likewise very great; but he is utterly averse to the easy and familiar, both in his style and sentiment; the former of which made an era in English composition. The admiration of its exuberance of words of Latin etymology, and its sonorous rotundity of phrase, after having betrayed some able writers into injudicious imitation, has subsided, and the share of influence which remains has indisputably improved the general language.

As a man, doctor Johnson was, in mind as in person, powerful and rugged, but he was capable of acts of benevolence and of substantial generosity, which do honour to human nature. His strong prejudices have been already mentioned, and it is to be regretted that his admirable conversational and argumentative powers were sullied by dictatorial arrogance, and the most offensive impatience of contradiction—qualities that were unhappily heightened by the extreme deference and lavish admiration with which he was treated on arriving at the summit of his reputation.

The effect was more injurious to himself than to his hearers, as it evidently fostered the seeds of bigotry and intolerance, with which he set out in life. Upon the whole, however, both the moral and intellectual character of doctor Johnson stands very high, and he may be regarded, without hesitation, as one of the most eminent of the distinguished writers of the eighteenth century. His works were published collectively, in 11 vols., with a life of the author, by Sir John Hawkins, 1787, and in 12 vols., by Murphy, in 1792. See his life by Boswell, Hawkins, Murphy, &c.

JOHNSON, SAMUEL, first president of King's college, New York, was born at Guilford, Connecticut. He entered the college at Saybrook at about fourteen years of age, and was graduated in 1714. In 1716, a college was established, by the general court of the colony, at New Haven, and Mr Johnson was appointed tutor, though not more than twenty years old. In 1720, he became a preacher at West Haven. A short time afterwards, he became an Episcopalian, and, in 1722, went to England to obtain ordination. Here he received the degree of master of arts at Oxford and Cambridge. In 1723, he returned, and settled at Stratford, where he preached to about thirty Episcopal families in the place, and about forty in the neighbouring towns. He was treated, by the people at large, as a schismatic and apostate, and continually thwarted, the object being to drive him from the country. This treatment he endured with patience and firmness. In 1743, the university of Oxford made him a doctor of divinity. In 1754, he was chosen president of the college just established at New York, and filled the office, with much credit, until 1763, when he resigned and returned to Stratford, where he resumed his pastoral functions, and continued them till his death, January, 1772, at the seventy-sixth year of his age. He was a man of great learning, quickness of perception, soundness of judgment, and benevolence. While bishop Berkeley was residing in Rhode Island, which he did two years and a half from the time of his arrival, in 1759, doctor Johnson became acquainted with him, and embraced his theory of Idealism. Doctor Johnson's publications were chiefly controversial. He also published a Hebrew and an English Grammar.

JOHNSON, SIR WILLIAM; a British military officer, who served with distinction in North America, in the middle of the last century. He was a native of Ireland, and was descended from a good family long settled in that country. Early in life, he came to America, under the care of his uncle, Sir Peter Warren, K. B., and, entering into the army, he gradually rose to the rank of colonel. In 1755, he was appointed to the command of an expedition sent out against the French fort of Crown Point, where, though the main object of the undertaking was not effected, the colonel defeated a body of Indian Canadian and French troops, commanded by Baron DuRoi, who was taken prisoner. The British general was rewarded for his conduct on this occasion by a baronetcy, and a gratuity from parliament of £4000. He had settled on the Mohawk river, acquired a considerable estate, and ingratiated himself both with the American settlers and the neighbouring Indians. His ability as a negotiator was displayed in his intercourse with the latter, with whose manners and customs he was intimately acquainted. He made a treaty with the Senecas, which was concluded at his house at Johnson's hall, where he appeared April 1, 1764, as British agent and superintendent of Indian affairs for the northern parts of America, and commander of the six united nations. He died at the same place in 1774, much regretted for his private worth as well as for his abilities, which had been so usefully exerted.

in the cause of his country. He was the author of a paper on the Customs and Manners and Languages of the Northern Indians of America, published in the 63d volume of the Philosophical Transactions.

JOHNSTONE, a thriving town in Renfrewshire, situated within the abbey parish of Paisley, about three miles west from that town, and eleven from Glasgow. Fifty years ago it consisted only of one or two cottages, built near the bridge over the Black Cart river, and was hence popularly called the 'Brig of Johnstone.' It is now a considerable and flourishing town, with a population of about 7,000. It owes its rapid strides to the introduction of cotton-spinning, its situation being highly favourable for that manufacture, whether as regards the supply of water or of coal. In Johnstone and the neighbourhood, there are now upwards of twenty cotton-mills, some propelled by water, others by steam. There are also several machine manufactories, brass and iron foundries, and a public gas work. The inhabitants enjoy the benefit of a subscription library, a mechanics' institution, news-rooms, &c. The Ardsrossan canal from Glasgow terminates in a basin at the east end of the town. (See article *Canal*, vol. ii. p. 7.) The census of Johnstone is taken with that of Paisley, and its population cannot therefore be accurately given.

JOHNSTONE, or JOHNSON, CHARLES, an ingenious writer, was a native of Ireland. He was born in the early part of the last century, was called to the bar, and went over to England to practise, but, being afflicted with deafness, confined himself to the employment of a chamber counsel. His success not being great in this way, he turned his attention to literature, and his first literary attempt was the celebrated *Chrysal*, or the *Adventures of a Guinea* (two volumes, 12mo), a work which attracted much attention. The secret springs of some political intrigues on the continent were unfolded in this production, which, together with smart and piquant sketches of many distinguished characters and persons claiming a share of public notice, rendered it exceedingly popular. As usual in such works, however, some truth is blended with much fiction, and although, in regard to known personages, little is absolutely without foundation, much exaggeration prevails. His exposure of the orgies of a club of fashionable profligates, held at the seat of a dissipated nobleman in Buckinghamshire, produced no small sensation at the time. He wrote other works of a similar class, in which much knowledge of life and manners is united to a considerable talent for spirited caricature. In 1782, he went to India, and became concerned in editing a Bengal newspaper. He died in Calcutta, about 1800.

JOINT, in general, denotes the juncture of two or more things. The joints of the human body are called, by anatomists, *articulations*. The suppleness to which the joints may be brought, by long practice, from the time of infancy, is very surprising. Every common posture-master shows us a great deal of this; but one of the most wonderful instances of it was in a person of the name of Clark, and famous for it in London, where he was commonly known by the name of *Clark the posture-master*. This man had found the way, by long practice, to distort many of the bones, of which nobody before had ever thought it possible to alter the position. He had such an absolute command of his muscles and joints, that he could almost disjoint his whole body; so that he once imposed on the famous Mullens, by his distortions, in such a manner, that he refused to undertake his cure; but, to the amusement of the physician, no sooner had he given over his patient, than he saw him restore himself to the figure and condition of a proper man, with no distortion about him.

JOINT-STOCK COMPANIES. Where any branch of business requires a greater capital to prosecute it with advantage than can ordinarily be furnished by an individual, or by a number of individuals actually engaged in conducting it, or where the business is attended with great risks, and may, as events turn out, be very profitable, or result in great losses, as in the case of insurance, it is desirable that the laws should give facility to the combination of the contributions of numerous persons, in great or small amounts, to make up the requisite capital. The first and most obvious combination for purposes of business, is that of copartnerships, whereby each of the members renders himself answerable, *in solido*, or absolutely, and to the full extent, on all contracts made by the company. This is a sort of association, existing in all places; but if the business to be conducted be of the descriptions above-mentioned, the copartnership is not a convenient mode of association, since the capital contributed by many must necessarily be managed by few; and, therefore, if each member is liable, *in solido*, on the contracts of the company, the fortune of each is put in jeopardy, by ever so small a contribution to the joint-stock. This must operate, of course, to discourage useful undertakings on a large scale, and even if it did not, it might still be very important to provide for associations, with a limited liability of the individual members, since the ruin of any individual will necessarily affect others to a greater or less extent. The shocks, and individual derangements and reverses, which are necessarily incident to enterprises of industry and trade, make it very desirable to secure, by some modes of association, an apportionment of risks, losses, and gains among a great number. This is done by means of private corporations, joint-stock companies, and limited copartnerships. In regard to the two first descriptions of association, it is not always the purpose of their institution to limit the responsibility of the members. In the case of towns, for instance, and so in regard to some other local corporations, an execution, issuing on a judgment recovered against the corporation, may be levied upon the property of any member. So, in some of the United States of America, the individual members of banking or manufacturing corporations are liable absolutely, and without limit, for the debts of the company; but, in general, in both corporations and joint-stock companies, only the capital stock is liable for the contracts of the company. Each member pays in his amount of this stock, which he knows to be subject to the risks of the business to be pursued. He can estimate precisely, therefore, the extent, the utmost limit, of his hazard in the most unfavourable event. With this limitation, many will be ready to embark their capital in enterprises attended with the chances of great gain, or losses, according to the event, who would be quite unwilling to take the hazard of being individually liable for the whole amount of the losses of the whole concern, or of guaranteeing the responsibility of the other members of the company as copartners. In this way, enterprises conducive to the general prosperity are promoted, which individuals would not otherwise engage in. Formerly, when the pursuits of commerce were less systematically conducted, and its risks and its profits more uncertain, commercial joint-stock companies were much more frequent than at present. These companies were favoured by governments, in the first place, as promoting trade; in the second, as the means of raising a revenue. The government granted to a certain company, or to certain persons, the exclusive right to carry on a certain branch of trade or production, for a certain time, or within certain limits. The

company paid the government for this privilege, intending, of course, to indemnify themselves by their profits. They paid a tax with the intention of reimbursing themselves, just as an importer pays duties on his goods, intending to charge the amount, with a profit, in the price to the consumer. It was in opposition to these monopolies that the doctrines of free trade, as they are called, originated; and, considered in reference to such monopolies, these doctrines are undoubtedly just, and so universally held to be; but they are extended by many much beyond these limits. Where only the fund is liable, and not the individuals who contribute it, no injustice is done to the creditors of the company, provided the law secures the actual payment of the fund; for if a person gives credit to a certain fund, knowing the risks to which it is exposed by the kind of business in which it is embarked, he has no ground of dissatisfaction with the members of the company, or the laws, though this fund should prove to be insolvent. This is the most limited responsibility of the contributors to a joint-stock. In other associations of this kind, the contributors are liable to a certain amount for the debts of the concern; as, for instance, to an additional amount equal to that of their respective shares of stock; or each is liable for his proportion of the debts, according to that of his stock. There are also, in the different associations of this description, under the laws of different countries, various conditions on which the liability depends; and also various conditions, which must be complied with, in managing the concerns of the company, in order to keep within the limit of the modified responsibility. Still another description of joint-stock companies is that of limited copartnerships, or companies in which one or more of the members are liable *in solido*, and the others no otherwise liable than for the loss of the proportion of capital which they have put into the concern. This is uniting in the same company the characteristics of a corporation with the most limited responsibility of individual members, and those of a copartnership with an unlimited individual liability. The evident advantages of limited copartnerships, by giving encouragement to persons depending on income, and not devoting themselves personally to the prosecution of active business, to devote their capital to production and trade, without subjecting them to unlimited responsibility, recommend them to adoption in every code of laws. Joint-stock companies, whatever their form, and however extensive or limited the liability of the members, are subject to one abuse, which grows out of their very nature and constitution, and cannot, therefore be wholly prevented. They are liable to be used, by fraudulent or over sanguine people, as bubbles. The fact of their being subject to such perversion, produces a strong and unjust prejudice against them, in the minds of many persons. There is no institution or form of association that is free from abuses and perversions. The engines of greatest power act the most destructively when their powers are wrongly directed, or when they are deranged in their action; but this is no ground of argument against making use of them. It is only a reason for precautions and regulations.

JOINT TENANTS are those that hold lands or tenements by one title, without partition. The creation of an estate in joint tenancy depends on the wording of the deed or devise by which the tenant claims title, and cannot arise by act of law. If any estate be given to a plurality of persons, without adding any restrictive, exclusive, or explanatory words, this makes them immediately joint tenants in fee of the lands. If there be two joint tenants, and one release the other, this passes a fee without

the word *heirs*. Joint tenants may make partition. The one party may compel the other to make partition, which must be by deed; that is to say, all the parties must, by deed, actually convey and assure to each other the several estates which they are to take and enjoy severally and separately. Joint tenants must jointly implead and be jointly impleaded with others. If one joint tenant refuse to join in an action, he may be summoned and severed; but if the person severed die, the writ abates in real actions, but not in personal and mixed actions.

JOLIBA, or DJOLIBA. See *Niger*.

JOLLY BOAT. See *Boat*.

JOMELLI, Niccolò; a musical composer, born 1714, at Aversa, in the kingdom of Naples. He first studied at Naples, under Feo, and afterwards under Martini at Bologna. At first, he composed ballets—a sort of music then so little esteemed in Italy, that he did not own himself the author of his first comic opera (*L'Errore Amorofo*), but gave it to the world under the name of Valentino, a master of not much reputation. This opera, which he composed at the age of twenty-three, probably for the new theatre at Naples, was crowned with great applause, by which he was encouraged to continue his compositions. In 1738, he wrote his *Osireis* for the theatre of Florence, with still greater success, which induced him, in 1740, to go to Rome. He now wrote, from 1740 to 1748, fourteen operas for Rome, of which the *Artanotte*, *Idemina*, and *Caro Mario*, are particularly worthy of mention, in the latter of which, the beautiful air *Spesso, so rado a morir*, was received with the highest admiration. Besides these, he composed several operas for Venice and other cities. He now received the place of chapel-master in St Peter's, and composed, besides several *moettes*, the psalm *Benedictus Dominus Deus Israel* (Blessed Lord God of Israel), the music of which is a masterpiece. The duke of Wurttemberg then engaged him in his service, and Jomelli went to Stuttgart, where he remained from 1748 to 1763, enjoying the highest distinction, and exercising great influence on German music. When he returned to Italy, John V., king of Portugal, invited him to his court. Although he declined this invitation, he composed a considerable number of operas for the king, and sent him copies of all his subsequent works. He afterwards composed two operas in Rome, both of which were unsuccessful. He then removed to Naples, where he met with no better success; and, August 28, 1774, he died of apoplexy, produced, as is supposed, by chagrin at the success of the German Schuster, and the ill reception of his own opera. His *Requiem* and *Miserere* are particularly celebrated.

JONAH (*Hebrew*, signifying *dove*, and also *the powerful*), one of the minor prophets, son of Amittai, and according to 2 *Kings*, xiv, 25, a contemporary of Jeroboam II., was born at Gath-Hepher, in Galilee. In the book which bears his name, it is related that he received a command from God, to go and prophesy against Nineveh; but he fled to Joppa, and embarked for Tarshish. The vessel being tossed by a storm, it was concluded to draw lots, in order to determine who was the cause of the tempest. The lot fell upon Jonah, who was thrown overboard by his own request, because he had been disobedient to God, but was swallowed by a large fish (according to the ancient commentators, a whale; according to moderns, a shark). After he had remained three days and nights in the belly of the fish, the Lord spake unto the fish, and it vomited out Jonah on dry land. He now went to Nineveh, and prophesied destruction; but, the king and people having repented, Nineveh was spared. Jonah, angry at this, went

out of the city, and God made a gourd grow up over him, which was a shade to him. He then sent a worm, which smote the gourd so that it died in one night. Jonah was angry at this also; but God showed him the foolishness of being angry at the destruction of a gourd, and yet demanding the destruction of a city in which were 120,000 innocent children. Jonah's grave is shown at Mosul, the ancient Nineveh, and also at Gath. Some critics maintain that the book was not written by Jonah himself, but is a collection of traditions, made after the destruction of Nineveh. Some writers consider it merely as an allegorical poem. The story of Jonah is also known to the Mohammedans, according to whom, he embarked after his prophecy at Nineveh, and remained forty days in the belly of the fish. The prayer of the prophet in this situation, is considered one of the most efficacious in the Koran.

JONATHAN, or BROTHER JONATHAN; the nickname given to the Americans of the United States collectively, by the British, probably on account of the frequency of this name among the early Americans. See *John Bull* and *Yankee*.

JONES, Inigo; the reviver of classical architecture in England, in the beginning of the seventeenth century. He was a native of London, where his father was a cloth-worker, and was born about 1572. Destined for a mechanical employment, his talents attracted the notice of the earl of Arundel, and of William, earl of Pembroke, the latter of whom supplied him with the means of visiting Italy, for the purpose of studying landscape painting. He went to Venice, where the works of Palladio inspired him with a taste for the art of architecture, in which he rose to great eminence. His reputation procured him the post of first architect to Christiern IV., king of Denmark, who, visiting his brother-in-law, James I., in 1606, brought Jones with him to England. He was induced to remain, and was appointed architect to the queen, and subsequently to Henry, prince of Wales. After the death of the prince, he again visited Italy, and remained there some years. During this interval, he extended his knowledge, and improved his taste, from the examination of the models of ancient and modern art. The banqueting house at Whitehall (intended as an adjunct to a magnificent palace) is a monument of his skill and science. At Winchester cathedral, a Gothic building, he erected a screen in the style of classic antiquity. Like his successor, Wren, he seems not to have duly appreciated the peculiar character and distinctive beauties of the pointed style of building, of which so many fine specimens remain in the ecclesiastical structures of the middle ages, in Britain, France, and Germany. He built the front of Wilton-house, in Wiltshire, for Philip, earl of Pembroke, and was much employed by the court and by many of the nobility and gentry, so that he realized a handsome fortune. His talents were often put in requisition for the purpose of designing the scenery and decorations for masques—a species of dramatic entertainment, fashionable in the early part of the seventeenth century. In these pieces, the dialogues and songs were composed by Ben Jonson, who quarrelled with Jones, and abused him in epigrams and satires. The enmity the poet was not the only misfortune to which the architect was exposed. Being a Roman Catholic, and a partisan of royalty, he suffered in the civil war, and in 1646, was forced to pay a fine of £545, as a delinquent or cavalier. The ruin of the royal cause, and the death of the king, distressed him greatly; and, at length, worn down by sorrow and suffering, he died, July 21, 1652. As an author, he is known for a work relative to that curious monument of earlier ages, Stonehenge, on Salisbury plain, pub-

lished after his death, by his son-in-law, Mr Webb. The object of this treatise, composed by the command of king James I. is to prove that Stonehenge was erected by the Romans, and was a hypæthral temple, dedicated to the god Cælus. A collection of the architectural designs of Inigo Jones was published by Kent, in 1727 and 1744, and others more recently, by Ware and by Leoni.

JONES, SIR WILLIAM, an eminent lawyer and accomplished scholar, was born in London, September 20, 1746. He lost his father when only three years of age, and the care of his education fell on his mother, a lady of uncommon endowments. At the close of his seventh year, he was placed at Harrow, and, in 1764, he entered University college, Oxford. Here his desire to acquire the Oriental languages induced him to support, at his own expense, a native of Aleppo, to instruct him in the pronunciation of the Arabic language; and as it was soon perceived that he would not mispend his time, the college tutors allowed him to follow his own plans unmolested. His great object was to attain a fellowship, to spare his mother the expense of his education; but, not succeeding in his wish, he accepted, in 1765, the office of tutor to lord Althorp, afterwards earl Spencer; and, some time after, he obtained a fellowship also. He availed himself of a residence at the German Spa, with his pupil, in 1767, to acquire the German language; and, on his return, translated into French a Persian life of Nadir Shah, brought over in MS. by the king of Denmark, at the request of the under secretary of the duke of Grafton. Another tour to the continent, with his pupil and family, followed, which occupied his time until 1770, when, his tutorship ceasing, he entered himself as a law student in the Temple. He did not, however, wholly sacrifice literature to his professional pursuits; but, on the appearance of the life and works of Zoroaster, by Anquetil du Perron, he vindicated the university of Oxford, which had been attacked by that writer, in an able pamphlet in the French language, which he wrote with great elegance. He also published, in 1772, a small collection of poems, chiefly from the poets of Asia, and was the same year elected a fellow of the royal society. In 1774 appeared his work *De Poesi Asiatica*, containing commentaries on Asiatic poetry in general, with metrical specimens in Latin and English. He was soon after called to the bar, and, in 1776, made a commissioner of bankrupts. About this time, his correspondence with his pupil evinced the manly spirit of constitutional freedom by which he was actuated; and to his feelings on the American contest he gave vent in a spirited Latin ode to liberty. In 1778 appeared his translation of the Orations of Isæus, with a prefatory discourse, notes, and commentary, which, for elegance of style, and profound critical and historical research, excited much admiration. In the mean time, he rapidly advanced in professional reputation, although his opinion of the American contest stood in the way of his progress to legal honours. The tumults of 1780 induced him to write a pamphlet on the Legal Mode of suppressing Riots; and, in the following winter, he completed a translation from the Arabic of seven poems, of the highest repute. He also wrote the much admired ode, commencing "What constitutes a state?" These pursuits did not prevent a professional Essay on the Law of Bailments. He distinguished himself, in 1782, among the friends to a reform in parliament, and also became a member of the Society for Constitutional Information. The same year, he drew up a Dialogue between a Farmer and a Country Gentleman, on the Principles of Government; for the publication of which, the dean of St Asaph, afterwards his brother-in-law, had a bill of indictment

preferred against him for sedition. Upon this event, he sent a letter to lord Kenyon, then chief-justice of Chester, owning himself the author, and defending his positions. On the accession of the Shelburne administration, through the influence of lord Ashburton, he obtained, what had long been the object of his ambition, the appointment of judge in the supreme court of judicature, Bengal, to which he was nominated in March, 1783, and knighted. He arrived at Calcutta in September, 1783. Here a new field of action opened to him, and he planned a society in that capital, similar to the royal society in London, of which new institution he was chosen the first president. He then applied himself with ardour to the study of the Sanscrit, and, his health soon suffering from the climate, he took a journey through the district of Benares, during which cessation of public duties, he composed a tale in verse called the *Enchanted Fruit*, or the *Hindoo Wife*, and a *Treatise on the Gods of Greece, Italy, and India*. In 1785, a periodical work, entitled the *Asiatic Miscellany*, was begun at Calcutta, to which he communicated several poetical compositions of the minor kind; among which were nine hymns, addressed to as many Hindoo deities. He next employed his active mind in planning the compilation of a complete digest of the Hindoo and Mohammedan laws, with a view to the better administration of justice among the natives. This work he did not live to finish, but its subsequent accomplishment was entirely owing to his recommendation and primary labours. His object in this instance was, to secure a due attention to the rights of the natives; and he showed himself equally jealous of those of the British inhabitants, by opposing an attempt to supersede the trial by jury. The publication of the *Asiatic Researches*, or memoirs of the society to which he had given birth, also engrossed much of his attention; and he enriched them himself with a number of curious and interesting papers. In 1789, he gave to the world the translation of an ancient Indian drama, entitled *Sacountala*, or the *Fatal Ring*. His translation of the Ordinances of Menu, the famous Indian legislator, appeared early in 1794, and is very interesting to the student of ancient manners and opinions. Unhappily, he was seized, in April, 1794, at Calcutta, with an inflammation of the liver, which terminated his life on the 27th of the same month, in the forty-eighth year of his age. Few men have died more respected and regretted than this amiable man and eminent scholar, who, as a linguist, has scarcely ever been surpassed. His acquaintance with the history, philosophy, laws, religion, science, and manners of nations, was most extensive and profound. As a poet, too, he would probably have risen to great eminence, if his ardour to transplant foreign beauties, and his professional and multifarious pursuits, had allowed him to cultivate his own invention with sufficient intensity. His private character was estimable in all the domestic relations, and he was equally liberal and spirited in public life. The memory of Sir William Jones received many testimonies of respect, both in England and India. The directors of the East India company voted him a monument in St Paul's cathedral, and a statue in Bengal; but the most effectual monument of his fame was raised by his widow, who published a splendid edition of his works, in 6 vols. 4to, 1799, and also, at her own expense, placed a fine marble statue of him, executed by Flaxman, in the anti-chamber of University college, Oxford.

JONES, JOHN PAUL, a distinguished commander in the American naval service, was born at Arbigland, Kircudbright, in Scotland, July 6, 1747. His father was a gardener whose name was *John Paul*; but the

son assumed that of *Paul Jones* in subsequent life, for what reason is not known. He early evinced a predilection for the sea, and, at the age of twelve, was bound apprentice to a respectable merchant of Whitehaven, in the American trade. His first voyage was to America, where his elder brother was established as a planter. He was then engaged for some time in the slave-trade, but quitted it in disgust, and returned to Scotland, in 1768, as passenger in a vessel, the captain and mate of which died on the passage. Jones assumed the command, at the request of those on board, and brought the vessel safe into port. For this service, he was appointed by the owners master and supercargo. While in command of this vessel, he punished a sailor who afterwards died of a fever at the island of Tobago—a circumstance which gave rise to an accusation against Jones, of having caused his death, by the severity of the punishment upon him; but this has been completely refuted. Jones was afterwards in command of the *Betsy*, of London, and remained some time in the West Indies, engaged in commercial pursuits and speculations, by which it is said he realised a handsome fortune. In 1773, he was residing in Virginia, arranging the affairs of his brother, who had died intestate and childless, and about this time took the name of *Jones*. In Virginia he continued to live until the commencement of the struggle between the colonies and mother country. He offered his services to the former, and was appointed first of the first lieutenants, and designated to the *Alfred*, on board of which ship, to use his own language in one of his letters, “he had the honour to hoist, with his own hands, the flag of freedom, the first time it was displayed on the Delaware.” Soon after this, we find Jones in command of the *Providence*, mounting twelve four-pounders, with a complement of seventy men, cruising from the Bermuda to the Gut of Canso, and making sixteen prizes in little more than six weeks. In May, 1777, he was ordered to proceed to France, where the American commissioners, Franklin, Deane, and Lee, were directed to invest him with the command of a fine ship, as a reward of his signal services. On his arrival in France, he was immediately summoned to Paris by the commissioners. The object of the summons was to concert a plan of operations for the force preparing to act against the British on the West Indies, and on the coast of America. The plan, which certainly did great honour to the projector, though untoward delays and accidents prevented its immediate success, was afterwards openly claimed by Jones as his own, without acknowledging the assistance or participation of the American commissioners or the French ministry. The *Ranger* was then placed under his orders, with discretion to cruise where he pleased, with the restriction, however, that he was not to return to France immediately after making attempts upon the coast of Britain, as the French government had as yet declared itself openly as the ally of the United States. April 10, 1778, he sailed on a cruise during which he laid open the weakness of the British coast. With a single ship, he kept the whole coast of Scotland, and part of that of England for some time, in a state of alarm, and made a descent at Whitehaven, where he surprised and took the forts, with thirty pieces of cannon, and set fire to the shipping. In this attack upon Whitehaven, the house of the earl of Selkirk, in whose service the father of Jones had been gardener, was plundered and the family plate carried off. But the next was committed without his knowledge, and he afterwards made the best atonement in his power. After his return to Brest with 200 prisoners of war, he became

involved in a variety of troubles, for want of means to support them, pay his crew, and refit his ship. After many delays and vexations, Jones sailed from the road of St Croix, August 14, 1779, with a squadron of seven sail, designing to annoy the coasts of England and Scotland. The principal occurrence of this cruise was the capture of the British ship of war *Serapis*, after a bloody and desperate engagement, off Flamborough head, September 23, 1779. The *Serapis* was a vessel much superior in force to Jones' vessel, the *Bon Homme Richard*, which sank not long after the termination of the engagement. The sensation produced by this battle was unexampled, and raised the fame of Jones to its acme. In a letter to him, Franklin says, "For some days after the arrival of your express, scarce any thing was talked of at Paris and Versailles, but your cool conduct and persevering bravery during that terrible conflict. You may believe that the impression on my mind was not less strong than on that of the others. But I do not choose to say, in a letter to yourself, all I think on such an occasion." His reception at Paris, whether he went on the invitation of Franklin, was of the most flattering kind. He was every where caressed; the king presented him with a gold sword, bearing the inscription, *Fiduciatu maris Ludovicus XVI. remuneratur strenuo vindici*, and requested permission of congress to invest him with the military order of merit—an honour never conferred on any one before who had not borne arms under the commission of France. In 1781, Jones sailed for the United States, and arrived in Philadelphia, February 18 of that year, after a variety of escapes and encounters, where he underwent a sort of examination before the board of admiralty, which resulted greatly to his honour. The board gave it as their opinion, "that the conduct of Paul Jones merits particular attention, and some distinguished mark of approbation from congress." Congress passed a resolution, highly complimentary to his "zeal, prudence, and intrepidity." General Washington wrote him a letter of congratulation, and he was afterwards voted a gold medal by congress. From Philadelphia he went to Portsmouth, New Hampshire, to superintend the building of a ship of war, and, while there, drew up some admirable observations on the subject of the American navy. By permission of congress, he subsequently went on board the French fleet, where he remained until the conclusion of peace, which put a period to his naval career in the service of the United States. He then went to Paris, as agent for prize-money, and, while there, joined in a plan to establish a fur trade between the north-west coast of America and China, in conjunction with a kindred spirit, the celebrated John Ledyard. In Paris, he continued to be treated with the greatest distinction. He afterwards was invited into the Russian service, with the rank of rear-admiral, where he was disappointed in not receiving the command of the fleet acting against the Turks in the Black sea. He found fault with the conduct of the prince of Nassau, the admiral; became restless and impatient; was intrigued against at court, and calumniated by his enemies; and had permission, from the empress Catharine, to retire from the service with a pension, which was never paid. He returned to Paris, where he gradually sunk into poverty, neglect, and ill health, until his death, which was occasioned by jaundice and dropsy, July 18, 1792. His last public act was heading a deputation of Americans, who appeared before the national assembly to offer their congratulations on the glorious and salutary reform of their government. This was before the flight of the king.

Jones was a man of signal talent and courage; he conducted all his operations with the most daring

boldness, combined with the keenest sagacity in calculating the chances of success and the consequences of defeat. He was, however, of an irritable, impetuous disposition, which rendered him impatient of the authority of his superiors, while he was, at the same time, harsh in the exercise of his own; and he was deficient in that modesty which adorns great qualities and distinguished actions, while it disarms envy and conciliates jealousy. His early education was of a very limited kind. It terminated when he went to sea, at the age of twelve; but he supplied its defects by subsequent study, so as to enable himself to write with fluency, strength, and clearness, and to sustain his part respectably in the polished society into which he was thrown. In his letters, he inculcates the necessity of knowledge for naval officers, and intimates that he had devoted "midnight studies" to the attainment of that information which he deemed requisite in his situation. His memorials, correspondence, &c., are quite voluminous. He also wrote poetry, and, in Paris, was a great pretender to *ton*, as a man of fashion, especially after his victory over the *Serapis*, which, of course, gave him great *eclat* amongst the ladies of the French capital. At this period, he is described by an English lady then resident at Paris, as "a smart little man of thirty-six; speaks but little French, and appears to be an extraordinary genius, a poet as well as a hero." An account of his life has been written by J. H. Sherburne (Washington, 1828). A memoir of him was also recently published by Messrs Oliver and Boyd, Edinburgh; and Mr Allan Cunningham has made him the subject of a romance.

JONES, JOHN, an American physician, was born at Jamaica, Long Island, in 1729. After receiving his education at a private school in the city of New York, he commenced the study of medicine, under doctor Thomas Cadwalader, and afterwards visited Europe, to improve his professional knowledge. He obtained the degree of doctor of medicine from the university of Rheims, and, having subsequently spent some time at Leyden, concluded his medical tour by a visit to Edinburgh. Returning to America, Doctor Jones settled in New York, where he was speedily introduced to an extensive practice, and acquired particular reputation as an operator. When medical schools were instituted in the college of New York, Doctor Jones was appointed professor of surgery, upon which branch he delivered several courses of lectures, diffusing a taste for it among the students, and explaining improvements as practised in Europe, of which the American faculty were hitherto ignorant. Having for a considerable time been afflicted with asthma, he embarked for London, where he experienced some alleviation of his complaint. He returned to his native country at a crisis when she required the exertions of all her citizens. In the year 1775, he published his *Plain Remarks upon Wounds and Fractures*—a work particularly useful to the country at that period. Many persons had been of necessity chosen to act as surgeons in the continental army, who were ignorant of the recent improvements in the profession, and found in this work a valuable assistant. When the British troops took possession of New York, doctor Jones, notwithstanding the assurances of protection from the royal commander, retired into the country, relinquishing his lucrative practice in the city. He was soon after chosen to a seat in the senate of New York, and subsequently entered the medical department of the army. The hardships of a military life injured his delicate health, and obliged him to abandon the service, for his private practice. Having fixed his permanent residence at Philadelphia, he was elected, in 1780, one of the physicians of the Pennsylvania

hospital. Upon the institution of the college of physicians of Philadelphia, in 1787, doctor Jones was elected vice-president, and contributed to the first volume of its transactions an interesting paper on *Anthrax*. He was the intimate friend and physician of doctor Franklin, whom he attended in his last illness, and published a brief account of his death. In 1790, he attended general Washington, then president of the United States, when very ill at New York. When the seat of the federal government was removed to Philadelphia, the president appointed doctor Jones physician to his family. In June, 1791, he contracted a fever, which, added to his previous disorder, put a period to his life on the 23d of that month, in the sixty-third year of his age.

**JONGLEURS.** See *Jugglers*.

**JONSON, BENJAMIN**, a celebrated English poet, the contemporary and friend of Shakspeare, whom he has been accused by some, but on insufficient grounds, of regarding with envious and malignant feelings. He was the posthumous son of a clergyman, who had suffered considerable privations for his religious opinions, and was born, June 11, 1574, at Westminster; at the grammar-school of which city he was placed, under Camden, at an early age; till his mother marrying again to a person who held the humble occupation of a bricklayer, young Ben, as he was familiarly called, was taken home abruptly by his father-in-law, and employed by him as an assistant in his trade. The ardent spirit of the future poet revolted against his condition; he fled from home, and entered the army as a private soldier, in which capacity he served with much commendation from his officers on the score of personal courage, during a campaign in Holland. Returning to England, he quitted the service, and, although his straitened circumstances threw in his way obstacles of no common magnitude, he determined to apply himself to literary pursuits. With this view, he contrived to enter himself of St John's college, Cambridge; but his failing resources prohibited him from continuing long at the university. He went to London, and commenced at once author and actor by profession—two callings then frequently combined. His progress as a performer was not rapid, and, before he could make any great impression in his favour, a quarrel with a brother actor seemed to close every avenue against this method of gaining a reputation. He had made his *début* at the Curtain, an obscure theatre on the skirts of the town, and, a difference arising between him and another member of the company, a duel ensued, which terminated in the death of his antagonist, while he himself received a wound in the sword-arm. He was seized and imprisoned, and narrowly escaped with life, in consequence of this rencounter. During his confinement, he is reported to have become, through the intervention of a Roman Catholic priest, a convert to that communion, and to have remained so during a space of twelve years, when he resumed his former opinions. His first attempt at dramatic composition, in the prosecution of which he is said to have been much encouraged, if not actually prompted, by Shakspeare, was in 1598, when his *Every Man in his Humour*, still considered a standard piece, was printed; and from this period, he seems to have produced a play annually for several years, besides writing, occasionally, masks and interludes, for the entertainment of the court. The favour he had enjoyed there, was not, however, sufficient to protect him from the consequences of a severe and imprudent satire on the Scottish nation, in a dramatic piece, which he wrote in conjunction with Marston and Chapman, entitled *Eastward Ho*. The anger of the court favourites was so much drawn upon his head by this unfortunate

satire; he was a second time committed to prison, and only a timely submission saved his nose and ears, which he was condemned to lose in the pillory as a libeller. By his address, however, he soon contrived to reinstate himself in the favour of a monarch to whose pleasures the effusions of his muse had become necessary; and for the remainder of that reign he continued in high favour as a kind of superintendent of the court revels, enjoying, at the same time, the friendship of all the wits and literati of the age. After a tour through France, in 1613, in the progress of which, with his usual carelessness, he affronted cardinal Du Perron, he returned to England, and afterwards obtained the honorary degree of A. M. from the university of Oxford. On the death of the poet laureate, Jonson was appointed his successor, and the salary of 100 marks, attached to that post, was, on his petition, raised to the sum of £100 by Charles I. But neither this addition to his income, nor a subsequent gratuity from the same royal master, could save him from the consequences of pecuniary improvidence. An attack of palsy at length carried him off, Aug. 16, 1637. Jonson's best dramas are his *Alchymist*, *Epicene*, and *Volpone*, which, besides being admirable as to plot and development, exhibit traits of pungent humour, strong conception, and powerful discrimination. The remainder of his dramas are inferior. His tragedies of *Sejanus* and *Catiline* are too learned and declamatory either for the closet or the stage, and a great portion of his comedy is low, forced, and unnatural. Contrary to Shakspeare, he deals rather in passing manners and eccentricities than in general nature, but supports a good notion of the follies of his times. His poetry is occasionally illuminated by vigorous and pleasing passages, and a few of his short pieces, poems, and, especially, the Hymn from *Cynthia's Revels*, his epitaph on the countess of Pembroke, and some of his songs and *Underwoods* are excellent. Besides his dramatic and poetical productions, he was the author of a variety of miscellaneous works, among which are an English Grammar, *Discoveries*, &c. Several editions of his works have been published, the last and most complete of which is that by Mr Gifford. A curious tradition prevailed with respect to the deposition of his remains in Westminster abbey, where a handsome tablet has been erected to his memory, in Poet's corner, inscribed *O rare Ben Jonson!* The same words are found on several square stones in the floor of the abbey, under one of which it was generally believed his corpse was buried in a perpendicular position. This was ascertained a few years since to be the fact, his coffin being discovered so situated in one of the stairs during the preparations making for a recent monument.

**JOPPA.** See *Jaffa*.

**JORDAN.** This river, celebrated in Scripture history, rises at the foot of the Anti-Libanus in Syria (in the pachalic of Damascus), forms the lake Timsareth or Tiberias, traverses Palestine, of which it is the only important river, from north to south, receives the Kedron, and, after a course of about 135 miles, empties into the Dead sea. The banks are steep, and about fifteen feet high. Its borders are cultivated and inhabited, are now deserted, and its yellow water rolls slowly in the sand. The Hebrews called it *Jordan* (river of judgment); the Arabs call it *Nahar-el-Chirra* (river of the ford). They ascribe to bathing in its waters the power of healing.—On the countries near the Jordan and eastward, see J. S. Buckingham's *Travels among the Arab Tribes inhabiting the Countries east of Syria and Palestine* (London, 1825, 4to.).

**JORDAN, DOROTIKA**; an English actress of

eminence in various departments of the drama. Her father, captain Bland, of a respectable Irish family, eloped with her mother, who was a native of Wales, by whom he had a numerous offspring. The subject of this article adopted the theatrical profession, for the support of herself and her mother, and made her first appearance at Dublin, in the character of Phebe, in *As You Like it*; but her talents first attracted particular attention in tragedy. At the theatre of York, she assumed the name of *Mrs Jordan*, by which, though never married, she was subsequently known. In this situation, she continued three years. She made her first appearance before a London audience, as Peggy, in the *Country Girl*; and, in that character, in *Nell*, in the *Devil to Pay*, and others of a similar cast, she displayed unrivalled excellence. She appeared to almost equal advantage as a tragic actress, where tender rather than violent and lofty feelings were to be portrayed. Her long theatrical career was terminated by her retirement to France, where she resided in obscurity, and died (1816) without a relative or friend near her, to soothe the hours of sickness, or bestow on her remains the decent rites of sepulture. She was, for a long time, the mistress of the duke of Clarence, now William IV., who had several children by her. Since his accession, the king has ordered Chantry to prepare a statue, to be placed over her remains, in the cemetery of St Cloud.

JORDANO. See *Giordano*.

JORNANDES (properly *Jordanes*), by birth an Alan, lived under the emperor Justinian, was at first a notary, and afterwards took the monastic vows, but is erroneously styled *bishop of Ravenna*. His *De Guborum Origine et Rebus Gestis*, and his chronicle *De Regnorum et Temporum Successione*, which came down to the year 552, are of much value, though written in barbarous Latin. They are contained in *Muntori's Script. Rerum Italicarum*.

JORTIN, JOHN, D. D., an eminent scholar and divine, was born in London, in 1698, and was educated at Cambridge. Here, under the instruction of Doctor Thirby, he acquired so high a character for learning and acuteness, that he was recommended by his tutor to Pope, to extract the notes from Eustathius, to print with his translation of the *Iliad*. He took orders in 1724, and he served a chapel of ease to the parish of St Giles in the Fields. In 1731, in conjunction with some learned coadjutors, he gave to the world *Miscellaneous Observations upon Authors, Ancient and Modern* (two volumes, 8vo.); and, in 1731, appeared the first volume of his *Remarks upon Ecclesiastical History*, of which four volumes more were published in 1752 and 1754, and two more after his death in 1773. In 1755, he published *Six Dissertations upon various Subjects*. In 1758, he published his *Life of Erasmus* (4to.); in 1760, another 4to. volume, entitled *Remarks upon the Works of Erasmus*. In 1762, he received the living of Kensington, the duties of which he performed for the remainder of his life. In 1764, he was made arch-deacon of London, and died Aug. 20, 1770. Besides the works already mentioned, doctor Jortin was the author of *Remarks upon Spencer* (1734, 8vo.); *Remarks on Seneca*; *Letters on the Music of the Ancients*; and other miscellaneous productions, which appear in two volumes of *Tracts, Philological, Critical and Miscellaneous*. Seven volumes of his *Sermons and Charges* were also published after his death, in 1771 and 1772.

JORULLO, JURULLO, or JURUYO, or XURULLO; a volcano of Mexico, in Mechoacan, thirty miles south Pasquaro, sixty-five south-south-west Valladolid; lon. 103° 52' W.; lat. 19° 9' N. This volcano was formed on St Michael's day, in 1759 in

the middle of a beautiful, fertile, and pleasant valley, which extends three leagues from east to west, and more than eight from north to south. By the skirt of this mountain passes a stream, which before fertilized the valley, and which is called *del Salto*. The waters are so hot that men or horses passing through it are in danger of being scalded.

JOSEPH, Sr; husband of the virgin Mary, the mother of Jesus, a Jew of the tribe of Judah, whose genealogy from Abraham and David is given by St Matthew and St Luke. He is represented in the New Testament as an humble mechanic, and a just man; but little is known, with certainty, of his history.

JOSEPH, the son of the favourite Rachel, was tenderly beloved by his father Jacob. Stung with envy and with the arrogance which they thought was displayed in his innocent dreams, his brothers sold him to some Ishmaelitic slave-dealers, by whom he was sold to Potiphar, a distinguished officer in Egypt. The prudence and fidelity which he displayed in the service of his master ameliorated his condition; but his refusal to comply with the unlawful desires of Potiphar's wife caused him to be thrown into prison, at her instigation. Yet, even here, Joseph was able to gain the confidence of the keeper; and the interpretation which he gave to a dream of the king's butler, who was likewise in prison, opened for him the way to a better fortune; for, after the butler had been restored to favour, Pharaoh and his whole court were troubled by a dream. The butler remembered the Hebrew boy, who had given so happy an interpretation to his own dream when in prison. Joseph was brought to court, and explained the king's dream of seven fat and seven lean kine. The monarch now released him from confinement, and raised him to the second place in the empire. He suggested wise measures for preserving the people from famine, during the unproductive years which he had predicted, and Pharaoh committed to him the charge of carrying them into execution. Married to the daughter of an Egyptian nobleman, in possession of the highest power next to the royal, Joseph saw all his wishes gratified, except his yearning after his relations. In the years of famine, his brothers came to buy corn from the stores which he had collected in Egypt. Without making himself known to them, he endeavoured, by some harsh treatment, to discover their thoughts, and to make them repent of the wrong they had done him. His feelings at length overcame him. He disclosed himself to his brethren, and provided them and his father with lands in Egypt. He was now their benefactor, and therefore Jacob, in his last blessing, gave to his two sons equal rights with the other brothers, and the two tribes of Manasseh and Ephraim preserved the memory of Joseph among the Hebrews.

JOSEPH I., emperor of Germany, son of Leopold I., born at Vienna, July 26, 1678, received the crown of Hungary in 1689, and was soon after crowned as Roman king. In 1705, he began his reign, which, though short, was troubled by wars in the Netherlands, Hungary, Germany, Italy, and Spain. He was well disposed, but weak and indolent. He revived the imperial chamber. The Protestants enjoyed toleration and some privileges under his reign. He died April 17, 1711.

JOSEPH II., German emperor, son of Francis I. and Maria Theresa, was born March 13, 1741, at a time when Frederic the Great had already conquered half of Silesia, and the Bavarian army was approaching the Austrian frontiers, when the peace of Aix-la-Chapelle restored the sinking state. Joseph was inferior to his brother (Leopold II.) in learning, but he displayed an active and penetrating mind, and made much progress,

particularly in the languages, mathematics and music. His lively temperament often brought him into collision with his mother, whom he obeyed from respect, but without conviction, and with secret reluctance. He observed how much her devotional spirit was abused, and he imbibed an invincible aversion to the clergy. She set a great value on birth, and he early acquired a dislike for undeserved privileges. In the mean time, the seven years' war having broken out, every preparation was made for the young prince joining the army, when Maria Theresa recalled her order. In 1760, he married Elizabeth of Parma, who died on her second confinement. He also lost his second wife, a Bavarian princess. He was elected king of the Romans in 1764, and, on the death of his father, 1765, German emperor. His mother declared him co-regent in the hereditary states of the house of Austria, and gave him the command of the army; but the real authority remained in her hands. During the war, Joseph had had cause to admire the great enemy of his house. Animated by this example, he entered on his elevated career; but, as he had but little real power, excepting in military affairs, in which, with the aid of Lascy, he introduced some improvements, he employed his time in travelling, and becoming acquainted with his states. On one of these journeys, under the title of *count Falkenstein*, he visited Frederic the Great in his camp at Neisse, August 25, 1768. The two monarchs, dispensing with ceremonies, met on terms of familiarity, like friends. In the following year, the emperor, in his camp, received a visit from Frederic. In 1777, Joseph made a journey to Paris, where he spent six weeks. Every body was charmed with him. At the end of this year, the elector of Bavaria died, and the war of the Bavarian succession broke out between Prussia and Austria, to which Maria Theresa put an end, without the knowledge, and contrary to the wishes of her son, who was desirous of measuring himself in the field with his great adversary. In 1780, Joseph came into the possession of full dominion over his hereditary states, at the age of forty years, and was thus the sovereign of more than twenty-two millions of men, with a fine army. His people adored him; the nobility and clergy alone had reason to fear him. Joseph had drawn on himself their hatred, by ordinances, which were, in many respects, very excellent. He allowed a greater freedom of the press, put an end to the connexion between Rome and the religious orders, diminished the pensions, placed the Jews on a better footing, abolished bondage, suppressed all nunneries and many monasteries, particularly those in which there were no schools, or the sick were not taken care of, or the monks did not preach. In the spring of 1782, pope Pius VI. made a visit to Vienna. Joseph afterwards returned his visit at Rome, still continuing to suppress monasteries, so that in eight years, the number belonging to the different orders had sunk from 63,000 to 27,000. All branches of the government, public education, the police, the state of the clergy, and the peasantry, were reformed. By a new code of laws, capital punishments were abolished. His attempts at reform in Hungary, which he wished to render uniform with his German states, caused a rebellion of the Wallachians, which he could quell only by the execution of its leaders, Horia and Gloska. Then followed, 1784, the dispute with Holland, concerning the free navigation of the Scheldt, and the negotiations for the exchange of the Netherlands for Bavaria, against which the confederacy of the German princes was formed, in 1785. In 1797, under the title of *count Falkenstein*, Joseph made a journey into the Crimea, where Catharine gave him a most splendid reception

at Cherson. After his return, he experienced a series of misfortunes. Disturbances having broken out in the Netherlands, Joseph discontinued his reforms, and quiet seemed to be restored. February 9, 1788, he declared war against the Turks. By the defeat at Lugos (September 20, 1788), the army was obliged to retreat, and suffered dreadfully in consequence of the heat and the unhealthiness of the country. Joseph himself, exhausted and charmed by the misfortune of his army, returned sick to Vienna in December. In the following year, fortune favoured the Austrian arms; Belgrade was surrendered to Laudohn, and the Russians made great progress. The principal cause of the difficulties which Joseph next had to encounter, was the tax law, introduced in November, 1789. The nobility and peasantry showed themselves equally dissatisfied, and the signal was given for general disorder and open rebellion. The Netherlands declared themselves independent, and expelled the imperial forces from all the provinces, and Luxemburg only remained in the possession of the imperial troops. Joseph showed himself ready to make concessions; but all his proposals were scornfully rejected. The Hungarians, also, whose general dissatisfaction had been only slumbering, rebelled, and demanded the restoration of their ancient rights and constitution. To the astonishment of all Europe, Joseph, in January, 1790, declared all the acts of his government in that country revoked, even to the edict of toleration (June 17, 1781). Tyrul showed signs of dissatisfaction, and Joseph hastened to put every thing on its former footing. His health sunk under these accumulated mortifications, and the consequences soon became apparent. February, 1790, he was sensible that death was rapidly approaching, and, on the 20th, he died of a pulmonary consumption.—Joseph was of the middle size; of a lively disposition, sickly, and fond of action, of ruling, of destroying and building up. Courage in danger was a striking trait in his character. He had a strong and lively sense of the dignity of man, and respected it in all. He caused the Augarten, hitherto closed, to be made public, and placed over the entrance the inscription, "Dedicated to all men, by one who values them." When requested to permit only certain classes to walk in the Prater, in order that they might enjoy themselves there with their equals only, he refused, and added, "If I would live only with my equals, I must go to the tomb of the emperors, at the capuchin chapel, and there spend my days." To Schmidt, the historian of Germany, he said, "Spare no one, not even myself, if you come down so far with your history. Posterity must judge of my faults, and those of my predecessors." Frederic the Great wrote to Voltaire concerning him—"Joseph is an emperor such as Germany has not had for a long time. Educated in splendour, his habits are simple; grown up amidst flattery, he is still modest; inflamed with a love of glory, he yet sacrifices his ambition to his duty." Joseph's favourite object was to be sovereign in a peculiar sense, and to manage the great machine of the state entirely himself. Whatever his own relations, or his knowledge of other countries, showed to be useful, he wished to introduce. But he did not sufficiently consider that he had to do with other men, with other relations, and that long habit rendered it difficult to change, at once, usage sanctified by time; that other men did not possess his knowledge and experience. (See *Anecdotes of the Emperor Joseph II.*, and Pami's *Charakteristik*, Vienna, 1790.) Dohm's Memoirs also contain important information on Joseph's system of government and reform. The Letters of Joseph II. (Leipac, second edition, 1822) are valuable.

JOSEPHINE (*Rose Tascher de la Pagerie*), empress of the French, queen of Italy, was born in Martinique, June 24, 1763. While very young, her father took her to France, to marry her to the viscount Beauharnais (q. v.),—a marriage arranged by the two families, when the marquis Beauharnais was governor-general of the Antilles. Madame De Beauharnais, in the prime of her beauty, and still more adorned by that peculiar grace which distinguished her throughout her life, had what was then called great success at court. She bore the viscount two children, Eugène (q. v.) and Hortense; but neither the brilliant life of the court, nor her love for her children, had been able to lessen her filial attachment to her mother, to attend whom, in her sickness, she went to Martinique, in 1787. She took her daughter with her, and passed three years in the island. The troubles which then broke out very suddenly, obliged her to flee without taking leave of her mother, and to return to France, where she arrived after narrowly escaping great perils. A singular prophecy had been made to her when a child, which she used to mention when it was apparently fulfilled in her high destiny. She is said frequently to have indulged in this play of divination. Her husband was known, in the beginning of the revolution, as an advocate of constitutional principles, and his standing, as well as the benevolence of his wife, naturally made their house a kind of asylum for the unfortunate. Mlle. De Béthisy, condemned by the revolutionary tribunal, owed her life to the courageous intercession of Mad. De Beauharnais. But the fury of terrorism increased, and her husband, who had valiantly defended France at the head of its armies, was thrown into prison, and executed. She was also included in the list of proscription; but the death of her husband reduced her to such a state that she could not be removed, and to this circumstance she owed her escape from execution. Robespierre at length perished, and the viscountess was delivered from prison by Tallien, who was never forgotten by her, nor by Eugène, from whom he received a considerable pension till his death. Joséphine was indebted to Barras for the restoration of a part of the property of her husband, and at his house, after the 13th Vendémiaire, she met general Bonaparte, who had previously taken an interest in her for the following reason: The disarming of the citizens having been decreed, a boy of fifteen years presented himself to Bonaparte, and with great earnestness demanded the sword of his father. The boy was Eugene; and Bonaparte, touched by his filial zeal, was desirous to become acquainted with his mother, to whom he immediately became attached. He married her in 1796, and never ceased to have the greatest esteem for her. She followed the hero of Italy, and her whole life was now intimately connected with that of Napoleon, at whose side she stood, like a good genius. She had considerable influence over him, and his letters to her are proofs of her amiable character, and of his warm attachment to her. She was always benevolent, and accessible to any who sought protection or mercy from Napoleon through her. The comparison which Napoleon drew, at St Helena, between the two empresses, as recorded in Las Cases' Memorial, is honourable to both. Bourrienne tells us, that some shameful calumnies rendered general Bonaparte jealous while in Egypt, but that, soon after his return, every thing was adjusted. Joséphine used her influence in favour of many emigrants, encouraged arts and industry, and protected the humblest artists whom she found worthy. "If I," said Napoleon, "win battles, you win hearts;" and it certainly seems as if Napoleon could not have found a woman

who united all the qualities of heart and mind, which would fit her for the companion of his career, in a greater degree than Joséphine. Polignac and Riviere owed their lives to her. Her court was no less admired in France than she herself was beloved. She loved pomp. When Napoleon ascended the throne, a divorce was proposed, but the emperor rejected the proposition. Joséphine was crowned at Paris and at Milan. When Napoleon became desirous of marrying a princess, she felt it deeply, yet she had firmness enough to consent to what he thought best for France and for himself. She retired to her beautiful seat of Malmaison, with the title *imperatrice-reine-douairière* (empress-queen-dowager), where the respect and the love of all the French followed her, who was called *l'étoile de Napoleon*. She was doomed to see the destruction of that throne on which she had once sat. The emperor Alexander and the king of Prussia, but particularly the former, showed their respect for her virtues by repeated visits to Malmaison; but the fate of Napoleon undermined her strength, and, having exposed herself while in a feeble state of health, by walking with Alexander, she took a cold, and died in the arms of her children, May 29, 1814. Her last words were *L'île d'Elbe!—Napoleon!* Her body was deposited in the church of Ruel, and was followed by a numerous procession, in which the emperor Alexander was represented by general Sacken. Seven years afterwards, her children received permission to erect a monument to her, who had so long been called the guardian angel of France. Joséphine was handsome; her figure was elegant and majestic; but her greatest charms were her grace and goodness of heart. The *Mémoires Historiques et Secrets de l'Impératrice Joséphine* (2 vols., published in November, 1820, by the famous Parisian sibyl, Mlle. Le Normand) contain many interesting, though unauthenticated anecdotes, respecting the life of this remarkable woman.

JOSEPHUS, FLAVIUS, born thirty-seven years after Christ, at Jerusalem, of the order of the priesthood, was an ornament to the sect of the Pharisees, to which he belonged, and for a long while governed Galilee. He afterwards obtained the command of the Jewish army, and supported with courage, with wisdom, and resolution, a siege of seven weeks, in the fortified town of Jotapha, where he was attacked by Vespasian and Titus. The town was betrayed to the enemy: 40,000 of the inhabitants were cut to pieces, and 1200 were made prisoners. Josephus was discovered in a cave, where he had concealed himself, and was given up to the Roman general, who was about to send him to Nero, when, as it is related, he predicted that Vespasian would one day enjoy the imperial dignity, and thereupon had the good fortune to obtain both freedom and favour. This induced him, when he went with Titus to Jerusalem, to advise his countrymen to submission. After the conquest of Jerusalem, he went with Titus to Rome, and wrote the history of the Jewish war, of which he had been an eye-witness, in seven books, both in the Hebrew and Greek languages—a work which resembles the writings of Livy more than any other history. His Jewish antiquities (in twenty books) is likewise an excellent work. It contains the history of the Jews, from the earliest times till near the end of the reign of Nero; but it is censured, as giving an incorrect account of the miracles of Christ, and as suppressing or altering every thing which might have given offence to the heathen. As a wise politician, he made the predictions of a Messiah refer to Vespasian. His two books on the Antiquity of the Jewish People contain valuable extracts from old historians, and are aimed at Apion, an Alexandrian grammarian, and an open adversary of the Jews. The best edition

of his works is that of Havercamp (Amsterdam, 1729, in two volumes, folio, Greek and Latin.) The last edition is by Oberthur (Leipsic, 1781—85).

JOSQUIN DE PREZ, ADRIAN, JOSQUINUS, or JODOCUS DE PRATO; one of the greatest musical masters of the Netherlands, who received the surname *Prato* from his residence during several years at Prato in Tuscany. He was a pupil of John Okenheim, called the *Sebastian Buch* of his time. After having studied with Okenheim, Josquin went to Italy, received an appointment, in 1475, in the papal chapel, and acquired so much reputation by his *motettes*, masses, and other church compositions, that he was invited to Cambray, made chapel-master to Louis XII., and Francis I., and then to the German emperor Maximilian I. He died at Brussels, where his tomb is shown in the church of St Gudala. He was justly admired as a contrapuntist, a hundred years before Palestrina and Orlando. "Josquin," said Luther, after having heard one of his masses, "is master of the notes: they must do as he chooses: other composers must do as the notes choose." The celebrated Senfel and Nicolas Gombert were his pupils. See Burney's *History of Music*, or the article *Josquin*, in Rees's Cyclopaedia.

JOUIJOU (French, which, if literally translated, would be *play-play*); a plaything, consisting of two thin circular plates of wood, about two inches in diameter, united in the centre by a cylinder one-sixth of an inch long. Fixed to the cylinder is a cord about a yard long or more, which is fastened with a noose to the finger. If the cord is wound round the cylinder, and the *joujou* is let fall, you can, by a pull before the whole cord is wound off, make the *joujou* wind itself up entirely. In this the whole play consists, and yet, from 1790 to 1794, the *joujou* was so fashionable in France, that the highest persons were seen playing with it on their walks, and in society. The fashion also extended to Germany.

JOURNAL. Every one has found, with surprise, how quickly impressions, even of important events, vanish; how quickly we confound dates and forget names. "It is singular," says Byron, "how soon we lose the impression of what ceases to be constantly before us: a year impairs: a lustre obliterates. There is little distinct left without an effort of memory," &c. For him, then, who wishes to live beyond the passing moment, and retain vividly the memory of his past life, it is of great importance to keep a journal. The practice, indeed, is somewhat in disrepute, owing to the frivolous details of some journals, and the sentimental folly of others. Experience leads us to advise the keeping of a brief journal, to retain the vestiges of the passing time. A date, a name, a jest, a grave observation, interspersed now and then with a whole day's proceeding, given in as condensed a form as possible, a slight drawing, &c., may afford valuable reminiscences. A simple rule is to put every thing in your journal which you expect will be interesting to you after a series of years. Young persons especially should avoid loading their journals with sentiment. In addition to the pleasure which we derive from a faithful picture of our former lives, it is very useful for a hundred purposes, to have the means of finding exact dates, descriptions, and names.

*Journal*, in navigation; a sort of diary or daily register of the ship's course and distance, the winds and weather, together with a general account of whatever is material to be remarked in the period of a sea voyage, such as the shifting, reducing, or enlarging the quantity of sail, the condition of the ship and her crew, the discovery of other ships or fleets, lands, shoals, breakers, soundings, &c.

*Journal* is also the name given to newspapers and

some other publications which appear at regular intervals. See *Newspapers* and *Periodicals*.

JOURNEYMAN, formed from the French *journeur* (a day's work), anciently signified a person who wrought with another by the day; but it is now used to designate any mechanic who works for another in his employment, whether by the month, year, or any other term. It is applied only to mechanics in their own occupations.

JOVELLANOS, GASPAR MELCHIOR DE, one of the most distinguished Spaniards of modern times, was born in Gijon, in Asturia, Jan. 5, 1744, of an ancient and noble family, and studied at Ovada, Avila, and Alcala de Henares. As soon as he left college, according to the custom of the country, to raise lawyers of noble birth immediately to the bench. Jovellanos was made *alcalde del crimen*, or a member of the criminal branch of the *audiencia* in Seville. Count Aranda, then president of the council, becoming acquainted with him, seems to have marked him out for one of his new school of administration, in his attempts to improve the state of the country.\* He advanced rapidly in his professional career, in the complicated system of the Spanish judiciary, and was finally appointed to the quiet and dignified station of member of the council of the military orders at Madrid. Here he became a useful member of various learned societies, particularly of the *Real Sociedad economica Matritense de Amigos del Pais*—an institution intended for the promotion of agriculture, manufactures, and trade. In the meetings of this society, he read his *Elogios* of the celebrated architect don Ventura Rodriguez, and of king Charles III., and it was by the command of the same body that he wrote his celebrated *Informe sobre las Propuestas de Ley Agraria*, to which he mainly owes his fame. It is not true that he was prosecuted for the free principles expressed in this work. Jovellanos formed an intimate friendship with a brilliant French adventurer, Cabarrus, which proved fatal to him; for the latter became entangled in a prosecution, instituted by count Lerma, minister of finances, which led to his disgrace at court, and he was banished to his native place. Here he remained from 1790 to 1797, entirely devoted to his various studies and useful projects, including, among other things, the working of coal mines. He also founded the royal Asturian institution—his darling project up to the last moments of his life.

Meanwhile don Manuel Godoy, afterwards Prince of Peace, had risen, or rather leaped, from the barracks to the station of prime minister. Godoy was an ignorant man, who happened to adopt the idea of being a "philosophical minister." Cabarrus became his favourite, and Jovellanos was again invited to office, which he accepted with great reluctance. On his arrival at Madrid, he dined with Godoy and his mistress; and we learn from one of his letters how repugnant this and the whole affair were to his stern virtue. Still, the thought that he might do some good in the wretched state of the public administration, kept him in public life. Jovellanos was made minister, and a colleague of Francisco de Saavedra, with whom he soon formed a close friendship. They were both sensible of the miserable character of the government of Godoy, and prevailed on the king to dismiss him. Saavedra was appointed, in his place, minister of foreign affairs. But this administration was soon dissolved, and both lost their places. Jovellanos was not so much regretted as might have been expected from his noble character, for he was not a

\* Jovellanos was the first judge in Spain who had the courage to abandon the wig; and it required all the support of the prime minister, count Aranda, to counterbalance this step.

very practical head of a department. The revenge of the Prince of Peace was slow, but deep. Marquis Caballero, than whom a baser instrument could hardly be found, even in that court, and in those times, was chosen to persecute him. A Spanish translation of Rousseau's *Contrat Social*, in one of the notes of which Jovellanos was mentioned favourably, gave the pretext. He was arrested, carried from one place to another, and, at last, put in a Carthusian monastery in the island of Majorca. His addresses to the king from this place are bold and vigorous, and were read by the whole nation, because the hatred against the Prince of Peace was then at its height. Intestine commotions and foreign power at last put an end to the wretched government. Charles IV. was compelled to abdicate in favour of his son Ferdinand, with whom Caballero, betraying his friends, had sided, so that the mob, who had forced Charles IV. to abdicate, shouted, *Viva el pícaro Caballero!* (the knave Caballero for ever!) Jovellanos was now recalled by the same person who had shamefully persecuted him. He demanded a trial; but Napoleon's stroke at Bayonne changed the face of Spanish affairs. Joseph, his brother, anxiously engaged all men in his administration, who stood high in the esteem of the people, and offered Jovellanos the portfolio of the interior, advised to do so by Urquijo, D'Azanza, Massaredo, O'Farill, and Cabarrus, the intimate friends of Jovellanos, who said they had a positive assurance of his willingness to accept it. If this was actually the case, either the loss sustained by Joseph's party at Baylen, or the insurrection of the Spaniards soon after this event, made him change his mind. Jovellanos, on the other hand, assures us that his friends urged him to accept the ministry, but that he never thought of doing so, thus forming one of the few well informed and liberal men who did not join Joseph. Jovellanos embraced the cause of the insurgents, and became a member of the central junta, where it was chiefly owing to him, that the council—precisely the same in Spain as the parliaments in France, in *esprit-de-corps*, aristocratic feeling, sale of offices, &c.—was revived. No sooner had the council met, than it opposed the central junta, which was finally dissolved, and Jovellanos was shamefully treated. To expose the council, and defend himself and the junta, was the last of his labours as a writer. He died November 27, 1811, sixty-seven years old.

The cortes, though Jovellanos objected to the principle upon which they were founded, declared him *benemérito de la patria*, a distinction afterwards often bestowed injudiciously. His Spanish prose is considered the finest of modern times. His *Elogios*, though possessed of some faults inherent in all compositions of that kind, are redeemed by great beauty of language and depth of thought. He also wrote an Essay upon Dramatic Exhibitions and Public Diversions, some poems, and a tragedy, *El Pelayo* (the brave Goth who defended the independence of Spain against the Moors), which was prevented by the clergy from being played before 1790, and a translation of the first book of Milton; but his poetry will not procure immortality for his name. The *Pan y Toros* (Bread and Bulls), an essay against bull-fights, has been generally ascribed to him, but without reason. In an excellent address at the distribution of prizes in the academy (of fine arts) de St Fernando, in 1781, he depicted the course of the fine arts to his time, from which Cumberland derived his opinions on Spanish artists. According to Jovellanos, Lope de Vega and Jordanes were the promoters of bad taste, the former in poetry and the latter in painting.

See *Memorias para la Vida del Excmo. Don Gaspar Melchior de Jovellanos*, y *Noticias analíticas de*

*sus obras por Don Juan Agustín Cean Bermúdez* (Madrid, 1814), extracts of which are given in the Letters from Spain, by Leucadio Doblado (Blanco White), London; and *Noticias Historicas de Don G. M. Jovellanos, consagradas a sus respetables Cenizas. I. M. de A. M.* (Palma, 1812, 4to.) The wretched state of the Spanish book-trade does not allow a complete collection of his works to appear.

JOVIUS, PAUL (or *Paolo Giovio*), a celebrated Italian historian, was born at Como, in 1483, studied medicine at Pavia, but took orders, and was bishop of Nocera at the time of his death, in 1552. In his youth he read the classics under the direction of his brother at Rome, and was inspired with the desire of becoming the historian of his time. His first attempt was read by pope Leo, to an assembly of cardinals, and the pontiff exclaimed, that—"after Titus Livy—there is no writer more elegant and eloquent."—Tiraboschi shows that he has often been represented as a liar and flatterer, and two letters of Jovius himself appear to furnish ground for objections against him. He there asserts that an author has the privilege of dressing some in soft silk, and others in linen; and that he would not write without being paid. "*So in otio, quia nemo nos conduxit.*" Ranke, in his valuable work *Zur Kritik neuerer Geschichtschreiber* (Berlin, 1824), justly observes that a letter may be written in a moment of ill humour, but his works must be examined to determine whether he actually praised his friends and patrons immoderately. He openly censures the popes, his masters, in expressions which Catholics would blame in a Protestant writer; and we ought not to forget the passages in which he speaks of the fidelity due from a historian. As to the money which he wanted for his writings, it is easily explained. In his time, authors received no remuneration from publishers, but from princes or other eminent individuals. But we have no reason to suppose that this affected his statements. Ranke observes, that he has not found any misrepresentation of facts, in order to please, in Jovius's works, as far as he had accurately examined them, which was down to the year 1530. As Jovius lived at the court of the pope, then still, to a certain degree, the capital of Christendom, he became personally acquainted with many individuals of the first importance in history, or other eye-witnesses, from whom he gathered information. His style is not unfrequently too florid or diffuse, and his statements may, perhaps, be coloured by his partialities. His Latin is very excellent, but the deep views of a Machiavelli are wanting. His works are, *Historia sui Temporis* (1494—1547), lib. xlv. (2 vols., Florence, 1548—1552, fol.); *Elogia Virorum erudit.* (Florence, 1549, fol.); *Elogia Virorum bellica Virtute illustrium* (ib. 1551, fol.); *Comment. de Rebus Turcicis* (Wittenberg, 1537); *Descriptio Britanniae, Scotiae, Hiberniae, et Orcadum* (Bale, 1578, fol.)

JOYEUSE ENTREE; the name given to the important privileges of the estates of Brabant and Limburg, with Antwerp, which the dukes were obliged to swear to maintain, before they were allowed to enter the ducal residence, from which circumstance the name was taken. The most important of these privileges was, that the people were released from all allegiance, whenever the duke should attempt to violate their rights. So important were these privileges considered, that many women went to Brabant to be confined there, that their children might enjoy the rights of a citizen of Brabant.

JUAN (pronounced *Juan*, with a very aspirated *h*). *Juan* is the Spanish name for *John*, and a character named *Don Juan* is found in the literature of most of the modern nations of Europe. As far as we know, this character first appears in the *Burlador de Sevilla y Convidado de Pierra*, a comedy by Gabriel

Telles, commonly called *Tirso de Molina*. It is well known that the early French dramatical poetry was much influenced by the Spanish, and the *Convidado de Pierra* was reproduced by Molière, as *Don Juan, ou Le Festin de Pierre*, a comedy in five acts, after the Spanish piece had already met with great success in an Italian dress in Italy. This name has derived its greatest fame, however, from the opera of Mozart, called *Don Juan*, one of his most brilliant compositions. The variety of sentiments, which the grand composer was able to express in this opera, gave to his vast genius an opportunity to treat, almost in the same breath, the most ludicrous and the most sublime subjects. *Don Juan* is justly one of the most popular compositions of the German opera. In all these works, *don Juan* is a travelling rake, who practises every where the arts of seduction. He is equally successful in the higher and the lower ranks, and having invited the marble statue of a commander to sup with him, is horrified by seeing the statue actually descend from his marble steed to accept the offer. *Don Juan* is finally consumed by flames from the infernal regions. The *Don Juan* of lord Byron bears no relation to the old story, but in name, and the libertine character of the hero.

JUBA, a king of Numidia and Mauritania, favoured the cause of Pompey against Julius Cæsar, and, after the battle of Pharsalia, joined his forces to those of Scipio. He was conquered in a battle at Thapsus, and totally abandoned by his subjects. He killed himself, with Petreius, who had shared his good fortune and his adversity, A. U. C. 707. His kingdom became a Roman province, of which Sallust was the first governor.

JUBA II., a son of Juba I., was led among the captives to Rome, to adorn the triumph of Cæsar. In his captivity, he applied himself to study. He gained the hearts of the Romans by the courteousness of his manners, and Augustus rewarded his fidelity by giving him in marriage Cleopatra, the daughter of Antony, conferring upon him the title of king, and making him master of all the territories which his father once possessed, A. U. C. 723. The Mauritians rewarded his benevolence by making him one of their gods. The Athenians erected a statue in his honour, and the Æthiopians worshipped him as a deity. Juba wrote a history of Rome in Greek, which is often quoted and commended by the ancients. Only a few fragments of it remain. He also wrote on the history of Arabia, and the antiquities of Assyria, chiefly collected from Berosus. Besides these, he composed some treatises upon the drama, Roman antiquities, the nature of animals, painting, grammar, &c., now lost.

JUBILATE; the third Sunday after Easter. In the primitive church, divine service was begun with the words of the 65th Psalm, 1st verse—*Jubilate Deo, omnes terre*, Sing to the Lord, all ye lands.

JUBILEE; one of the extraordinary festivals of the Jews, which was held at the end of every fiftieth year. This festival was proclaimed by the sound of trumpets through the whole country, on the evening of the day of atonement, about the autumnal equinox. It was distinguished by many eminent privileges. All debts were to be cancelled. All slaves or captives were to be released. All estates which had been sold reverted to their original proprietors or their descendants. Houses in walled towns, however, were exempted from this provision. During this year the ground was not cultivated. The political object of it was to prevent great oppression of the poor, as well as their liability to perpetual slavery. The distinction of tribes, too, was thus preserved, in respect both to their families and their possessions; for the law rendered it necessary for them to keep

genealogies of their families, in order that they might be enabled to prove their right to the inheritance of their ancestors. The jubilee, too, probably assisted in the computation of time, like the Greek Olympiads, the Roman lustra, and the Christian centuries.

In imitation of the Jewish jubilee (or, as some later writers have endeavoured to prove, of the secular games of the Romans), the Roman Catholic church instituted a year of jubilee, during which the pope granted plenary indulgences to all who, having confessed and partaken of the Lord's supper, shall visit certain churches. The first proclamation for a jubilee was issued in 1299, by Boniface VIII. The profit which the Roman chair drew from it, and the wish that more Christians might have an opportunity of partaking in it, induced Clement VI., in 1350, to declare every fiftieth year, then Urban VI., in 1360, every thirty-third year, and Paul II., in 1470, every twenty-fifth year, a year of jubilee. The quantity of money which the jubilee brought to Rome, induced Paul to designate certain churches, in the different countries of Christendom, where votaries, who could not come to Rome, might obtain the advantages of the jubilee; but on condition that the largest part of the profits of these provincial jubilees should flow into the treasury of the holy see. The money collected by means of these general indulgences was sometimes spent in wars against the Turks, and sometimes used to advance the building of the church of St. Peter's, which, ever since the sixteenth century, had been the standing pretext under which they were issued. The reformation, to which the sale of indulgences gave the first impulse, sensibly diminished these profits, and the jubilee which Benedict XIV. proclaimed in 1750 had but little success, as was also the case with the last, in 1825, proclaimed by Leo XII. Gulielmus Ventura Atensis, who, prompted by the motives of religion, visited Rome during the jubilee in 1800, gives an account, in Latin, of the huge throng which flocked to the holy city, and the abundant harvest which the pope reaped. The following is a translation of a few sentences of his account: "Going out of Rome on the eve of the nativity of Christ, I saw a great crowd, which no man could number. It was noised among the Romans, that there were 2,000,000 of both sexes in the assembled multitude. Repeatedly I saw men and women trampled under foot in the press, and I myself was several times in danger of the same fate. The pope received from them a vast amount of money: by day and night, two priests stood at the altar of St. Peter, holding rakes in their hands, with which they raked in countless sums (*tenentes in eorum manibus rastellos, rastellantes pecuniam infusam*). The ferocious trampling of this countless throng brought to mind some of the ceremonials of Hindoo worship. The rakes, with which the money was gathered into the pontifical bank, have, in later days, been adopted as the furniture of a hazard, or *rouge et noir* table in gaming-houses.

JUDA, the tribe and kingdom. See *Hebrews*, and *Jews*.

JUDÆA. See *Palestina*.

JUDAS; surnamed *Iscaariot*, from the place of his birth; one of the twelve apostles of Jesus, whom he betrayed into the hands of the Jewish priests, under the semblance of a friendly salutation. His divine Master addressed to him the mild reproof,—Do you betray the Son of man with a kiss? Remorse for his crime led him to suicide. The Cainites, Corinthians, and some other heretics, held him in great veneration.

Judas, brother of James, according to Luke, one of the twelve disciples. Matthew and Mark call him *Thaddæus* surnamed *Lebbæus*. He is considered the author of the epistle which our translators call

the *Epistle of St Jude*, though the name in the Greek is the same in both instances.

JUDAS MACCABÆUS. See *Jews*.

JUDAS' TREE, (*cercis Canadensis*), a small tree, remarkable for the beauty of its rose-coloured flowers, which, appearing in a profusion before the development of the leaves, render it, on a distant view, very similar in appearance to a peach tree in blossom. The structure of the flowers, however, is widely different, and places it in the natural family *leguminosæ*. The leaves are large, simple and cordate. It is found only in the more southern parts of Europe and America.

JUDGES, in Hebrew history. See *Hebrews*.

JUDICA; the fifth Sunday after Lent; so called because the primitive church began the service on that day with the words *Judica me, Domine* (*Ps. xliii. 1.*).

JUDITH; widow of Manasses; a Jewish heroine of great beauty, virtue and courage, whose history is given in the book which bears her name, the author and age of which are unknown. The Catholic church admits it into the canon, but it has been generally considered apocryphal by Protestants. Judith, it is well known, is represented as going out to the tent of Holofernes, an Assyrian general, who was besieging Bethulia, charming him with her beauty, and taking advantage of the admission to his tent, thus afforded her, to cut off his head, while he slept, with his own sword. Some writers have given an allegorical interpretation to this history.

JUGERUM; a Roman measure; a piece of ground which could be ploughed in one day by a yoke of oxen; a Roman acre, 240 feet long, 120 feet broad (28,800 sq. feet). It was the unit of field-measure, and divided into  $\frac{1}{4}$  *jugerum* (*actus quadratus*) = 14,400 Roman square feet;  $\frac{1}{2}$  *jugerum* (*clima*) = 3600. *Actus minimus* was a strip four feet wide and 120 feet long = 480 Roman square feet. Two *jugera* were called *heredium*; 100 *heredia* made one *centuria*, and four *centurie* (= 800 *jugera*) one *salus*. In the time of the kings, two *jugera* were reckoned a sufficient allowance for a father of a family; at a later period, seven; 376 B. C., fifty; but, even at a still later period, it was considered dishonourable for a senator to possess more than 500 *jugera*.

JUGGERNAUT, or JAGANATH (i. e. *the lord of the world*); the most celebrated and sacred temple in Hindostan, in the district of Cuttack, on the coast of Orissa. The temple stands near the shore, not far from the Chilka lake, in a waste, sandy tract, and appears like a shapeless mass of stone. The idol is a carved block of wood, with a hideous face, painted black, and a distended, blood-red mouth. It is magnificently dressed, and the appellation of *Juggernaut* is one of the names of Vishnu, the preserver of the world. (See *Indian Mythology*.) On festival days, the throne of the image is placed on a tower sixty feet high, moving on wheels, accompanied with two other idols—his white brother, Balaram, and his yellow sister, Shubadra—who likewise sit on their separate thrones. Six long ropes are attached to the tower, by which the people draw it along. The priests and their attendants stand round the throne on the tower, and occasionally turn to the worshippers, with indecent songs and gestures. The walls of the temple and the sides of the car are also covered with obscene images, in large, durable sculpture. While the tower moves along, numbers of the devout worshippers throw themselves on the ground, in order to be crushed by the wheels, and the multitude shout in approbation of the act, as a pleasing sacrifice to the idol. In the temple, a number of prostitutes are kept for the pilgrims who come there, and also several consecrated bulls, which are commonly fed by the

pilgrims with herbs. A bone of Crishna is preserved in the temple as a precious relic, but shown only to a few. Every year, particularly at two great festivals, in March and July, the pilgrims flock in crowds to the temple. It is calculated that there are at least 1,200,000 of them annually, of whom it is said nine out of ten die on the road, of famine, hardship, and sickness; at any rate, it is a well known fact that the country, for miles round the sacred place, is covered with human bones. Many old persons undertake the pilgrimage that they may die on the holy ground. Not far from the temple is a place called *Golgotha* by the Europeans, where the corpses are thrown, and dogs and vultures are always feeding on the carrion. The contributions of the pilgrims amount to a considerable revenue (about £12,000 per annum), which falls to the government, after deducting the expenses of the temple. The English took possession of the province in 1803, and forbore to exact the contribution of the pilgrims, during the marquis of Wellesley's administration; but on his departure from India, the Bengal government passed an ordinance for the management of the pagoda, and the taxing of the pilgrims. The superintendence of the temple and priests was given, in 1809, to the rajah of Kurdah, with the charge of executing the old regulations. A road from Calcutta to the temple has been made since 1810, to which a wealthy Hindoo, rajah Sukmoy Roy, contributed £16,000 sterling, on condition of its being called by his name.

JUGGLERS; men who perform, in public, tricks of legerdemain. In the middle ages, the name of *jongleurs* was given to the instrument-players who accompanied the Troubadours. Afterwards these performers employed themselves in tricks and games, which, if Ducange's derivation of *jongleur* from *jocularis*, or *joculator*, is correct, must have been their original occupation. They accompanied with dramatic action the songs which they helped to sing; they were buffoons, and united in bands, which had many privileges. They formed in Paris a society, the members of which dwelt together in the *Rue des Jongleurs*, afterwards *St Julien des Ménestriers*. Those whom we now call jugglers, men of wonderful activity, and skilful equilibrists, were then distinguished by the name of *bateleurs*, or *batalores*. From the accounts of travellers, we know that in Hither and Farther Asia, between the old Ganges and the Orontes, where the limbs are very pliant, the arts of balancing, of tumbling, and of moving the body rapidly, and with perfect regularity, are still preserved, and have been handed down for thousands of years. Fanatical penances, and the excitement of religious orgies, in those countries where the body is capable of the most unnatural contortions, first gave rise to these tricks of jugglery, which were thought to assist in atoning for the past, or in predicting and determining the future. Thus originated there the juggling tricks, which are likewise met with among several tribes of North America. Raised to an art by the Hindoos, a people addicted to meditation, and fond of games, these tricks became a profession, which is still exercised in its highest perfection in China, on the coasts of Coromandel, and in both peninsulas, on this side, and beyond the Ganges. During the last few years, the people of Europe have been able to verify the accounts of the agility, the muscular strength, and the suppleness in the limbs of these Hindoos, by the sight of jugglers, who, from time to time, have exhibited in Britain, and the continent.

Bottiger has proved that, in ancient times, there were still more wonderful exhibitions of this kind. That which appears to be the most extraordinary trick of these jugglers—the swallowing the sword, and the catching several knives thrown quickly into

the air—was often performed before the ancients; and an inscription in Gruter (*Theat. p. dcxxxvii, p. 1.*) even states that, in the baths of Agrippa, of Titus, and of Trajan, at Rome, a bear was exhibited, dressed in a long toga, who played the same tricks with balls, that surprise us in these Indian jugglers. To such extraordinary occupations did the patience of the *mansuetarii* constrain even beasts, in order to amuse the Roman people, always greedy of what was new and strange, or the luxurious populace of the great provincial cities. Games in which balls, painted with various bright colours, were thrown round the body without interruption, exercises in equilibrium, where every false step was instant death, were exhibited by these birds of passage, the wandering children of every city, in a perfection which yet astonishes us in the accounts and descriptions of the fathers of the church. For the fathers, with Manetho (*Apotelesmat. iv. 289*), and the Latin poet Manilius, whose astronomical poem draws the horoscope for different stations of life, furnish the most satisfactory idea of this part of ancient art. Those who threw the knives the ancients called *ventilatores*, and those who threw the balls in a perpetual circle are mentioned by Quintilian under the name of *pilarii*.

One of the Hindoos, who lately exhibited in Europe, was wonderful for his power of moving every part of his body, without one part preventing the motion of another. While he held in equilibrium, on his forehead, a little building, consisting of pieces of sticks, which would fall apart if not very nicely balanced, and continually put it together and took it to pieces, with his toes he kept in rapid motion a number of rings, which alone would seem to require great skill and attention. A very difficult feat, which he also performed, was to string pearls upon a thread by means of the tongue. This feat, too, the fathers mention expressly, so that the most wonderful tricks now exhibited, were performed before the ancients, that is, before the inhabitants of the large cities of the Roman empire, such as Antioch.

Some have endeavoured to derive from the name of the old lynx sorcerers (*γυναικίς*) the modern word *juggler*, which came last from the Provincial *Langue-d'Oc*. The two arts, which are still united in India, that of divination and of exhibitions of bodily address and agility, were both practised by those ancient artists.

JUGURTHA; the son of Manastabal, a son of Masinissa by a concubine. Under the care of Micipsa, his father's brother, and king of Numidia after Masinissa, he received as good an education as the two sons of Micipsa, Adherbal, and Hiempsal. He was of a fine person, of manly strength, and endowed by nature with superior talents. He early formed himself for a soldier. Micipsa, who began to fear him, determined on his removal, and sent him with an army to assist the Romans against Numantia; but here his valour and conduct won the esteem of the army, and the friendship of Scipio. Micipsa now sought to conciliate him by favours. He adopted him, and declared him joint heir to the crown with his two sons. On his deathbed, he exhorted him to friendship and fidelity towards his two sons, united with him almost by the bonds of brotherhood; and he commanded them to honour Jugurtha, and to emulate his virtues. Jugurtha promised every thing to the dying king, although he had already resolved to become sole master of Numidia. Soon after the death of Micipsa, he caused Hiempsal to be murdered, and drove Adherbal from the country, taking possession of his whole portion of Numidia. Hearing that Adherbal had gone to Rome, he also sent ambassadors there, to counteract by bribes the effect of his representations. The greater part of the senate

declared in his favour. Ten commissioners were named to divide Numidia between Adherbal and Jugurtha, and to make an investigation on the spot, with regard to the murder of Hiempsal. These also were bribed. They declared the murder an act of self-defence, and allotted to Jugurtha the richest provinces. The commissioners had hardly departed, when, to draw Adherbal into a war, he made an attack upon his territory, and committed the most terrible devastations. All this was borne without complaint. Jugurtha now made another attack upon Adherbal, and obliged him to take up arms in self-defence. Adherbal was defeated, and his army destroyed, near the capital city of Cirta. He fled within the walls, and was immediately besieged. He found an opportunity, however, to make known his unhappy situation at Rome; but Jugurtha's friends, by their intrigues, prevented any thing being done except the sending of commissioners. As might have been expected, their mission was of no avail. In the mean while, the siege of Cirta was pressed with vigour. Adherbal was forced to surrender, and, in spite of his promise to grant him life, Jugurtha caused him to be inhumanly murdered. The Roman people now called for more vigorous measures against such a perjured villain, and the senate declared war. The chief command was given to the consul Lucius Calpurnius Piso, a man who united military talents with the most shameful avarice. At first he carried on the war with zeal, and conquered several cities; but he soon after entered into a negotiation with Jugurtha, and granted him, as he had not been sparing of his money, very favourable conditions. He was to retain Numidia, and was merely to give to the republic a certain number of horses and elephants, and a moderate sum of money. Much discontent was shown at Rome, and Jugurtha was obliged to come with a safeconduct, to stand before the tribunal of the people. In Rome, he succeeded in gaining one of the tribunes, so that, when about to answer before the people, the tribune imposed silence upon him, and the assembly dispersed without deciding any thing. Jugurtha now carried his insolence so far in Rome as to cause the assassination of Massiva, an illegitimate son of Gulusa, brother of Micipsa, to whom the Roman people were inclined to award the crown of Numidia. As a safeconduct had been promised him, he merely received orders to quit the city immediately. War was again declared against him, and carried on by the consul Posthumus Albius; but the artifices of Jugurtha caused the year to pass without any decisive measures being taken. The prince was also fortunate enough, immediately after the departure of the consul, to defeat his brother, Aulus Posthumus, and constrained him to make a shameful peace, and to suffer his army to pass under the yoke; on which account the senate refused to ratify the peace, and sent the celebrated Metellus to Numidia. This general conquered Jugurtha in a great battle, and remained firm against all his bribes. When on the point of signing a shameful peace, and surrendering to the Romans, Jugurtha, through fear that they might inflict vengeance on him for his former crimes, suddenly changed his resolution, and determined once more to abide the worst. He summoned together all his remaining power, and began operations with so much skill, that Metellus saw that his wish of ending the war would not be fulfilled. Marius, at the same time, had, by his intrigues, caused the recall of Metellus, and his own appointment in his place; but, before he left Rome, Jugurtha had narrowly escaped falling into the hands of the Romans by the treachery of one of his servants, Bomilcar. Again beaten by Metellus, he resolved to ask for the assistance of the Getaulians, and of

Bocchus, king of Mauritania. He obtained it, and, at the head of a new army, attempted to reconquer his kingdom. In the mean while, Marius had arrived in Africa to supersede Metellus. After taking the city of Capsa, and the fortress of Mulucha, he retreated towards the sea coast, but, on his way, was attacked by the joint army of Jugurtha and Bocchus, and obliged to retreat to a neighbouring mountain. Here the enemy surrounded them, and, in the expectation of complete victory, gave themselves up to immoderate joy; but, when fatigued with dancing and feasting, they yielded to sleep, the Romans rushed down upon them from the heights, and completely routed them. Four days after, Jugurtha and Bocchus made a new attack, hoping to surprise the Romans; but Marius received them so valiantly, that nearly their whole army of 90,000 men was cut to pieces, though Jugurtha himself fought with extraordinary bravery. The king of Mauritania now concluded a peace with the Romans, and abandoned his ally. Sylla persuaded him to draw Jugurtha into his power, and deliver him to the Romans. Under pretence of mediating between the contending parties, Bocchus enticed him to his court. He was here seized and delivered to Sylla, who sent him, in chains, to Marius, at Cirta. Thus the war was ended, and Numidia became a Roman province. Marius adorned his triumph with his prisoner Jugurtha and his two sons. After this prince had suffered many insults from the people on this occasion, he was thrown into a dark prison, where he was starved to death after six days. Some historians relate that he was executed in prison immediately after the triumph. His two sons remained captive at Venusium. Sallust has written an account of this war in a masterly style.

JULIA, the only daughter of Augustus and Scribonia, possessed pleasing manners, extraordinary beauty, and a cultivated mind. She was first married to the young Marcellus, the son of Octavia by her first husband. Having soon become a widow, she married Marcus Vipsanius Agrippa, to whom she bore three sons and two daughters. Even during the lifetime of her husband, she led an unprincipled life. All in Rome, except Augustus, were acquainted with her licentious conduct. After the death of Agrippa, he gave her in marriage to Tiberius, who well knew her character, but did not dare to oppose the will of the emperor. After this new marriage, Julia by no means gave up her former indulgences, so that Tiberius, unwilling to be a witness of them, or to complain to Augustus, left the court. Her shamelessness went so far that she caused to be placed on the statue of Mars, every morning, as many crowns as she had had lovers in the past night. Her excesses at last could no longer be concealed from her father. In the most violent anger, he determined at first to have her executed, but afterwards consented to banish her to Pandataria, a desolate island on the coast of Campania, where her mother, Scribonia, accompanied her. He would never forgive her, notwithstanding the earnest supplication of the people. At last, however, he was prevailed upon to permit her to leave the island for the city of Rhegium, on the continent. She never intended to return to Rome. After the death of the emperor, she suffered still more. As long as he had reigned, Tiberius had always professed much tenderness for her, and had often begged him to pardon her; but now he treated her with the greatest cruelty. Therefore, she could not leave the city of Rhegium: Tiberius now confined her to her house. He even took from her the little pension which Augustus had owed her; and she died in the fifteenth year of her exile, in poverty and distress.

JULIAN. Flavius Claudius Julianus, a Roman emperor, to whom the Christians gave the surname of the *Apostate*, son of Julius Constans (brother of Constantine the Great) and of Basilias, his second wife, daughter of the prefect Julian, was born at Constantinople, in the year 331. When hardly six years old, he saw his father and several members of his family murdered by the soldiers of the emperor Constans II., his cousin (a son of Constantine the Great). He and his younger brother Gallus narrowly escaped death. The education of the two princes was intrusted to Eusebius of Nicomedia, who gave them Mardonius for their instructor. They were brought up in the Christian religion, which was yet a new one at the court of the emperor. They were obliged also to enter the order of priests, that they might thus be removed from the throne, and they were chosen readers in their church. This education produced a very different effect on the minds of the two brothers, whose characters were very dissimilar. Gallus, the younger, never left Christianity, and thus obtained the praise of the ecclesiastical historians. Julian, being older, had felt more deeply the persecution of his family, and the constraint and fear in which he was obliged to pass his youth. He therefore sought consolation in the study of philosophy and belles-lettres. At the age of twenty-four, he went to Athens and to Nicomedia, where he enjoyed the society of several instructors, particularly that of the sophist Libanius. Here he was induced to reject the religion of those who had massacred his family, and to embrace paganism. Yet he does not appear to have had sufficient strength of mind to rise above the religious prejudices of that age. At least we find that he believed in astrology, in the science of the *haruspices*, in the art of calling up intermediate spirits to one's assistance, and learning from them the future, with several other superstitious notions. Constans, who feared an attack of the Germans upon the provinces of the Roman empire, determined at last, at the solicitation of his wife Eusebia, to give to Julian the command of an army against them. He was proclaimed Cæsar by Constans, at Milan, in 355, whose sister Helen he received in marriage. He now proceeded, with a small body of troops, to Gaul, which was laid waste by the Germans. It was hardly to be expected that a youth, who thus far had attended only to the study of philosophy and belles-lettres, would be able, especially with so small means, to conquer the formidable enemy against whom he was sent. The emperor Constans himself appears not to have calculated upon the probability of such an event. After Julian had passed the winter in preparations for the ensuing war, he marched against the Germans, took several cities, conquered them in various engagements, and, in a great battle near Strasburg, completely defeated seven of their princes, and entirely delivered Gaul. He pursued the Germans beyond the Rhine, and conquered them in their own country. As a governor also, he displayed extraordinary talents. He gave to Gaul a new constitution. He settled the finances, diminished the taxes, and assessed them more justly, put an end to the abuses which had crept into the courts of justice, administered justice himself in the most important cases, and laid the foundation of cities and castles. While he was thus providing for the happiness of a great nation, he was accused, before Constans, of aiming at independence. The jealousy of the suspicious emperor could not fail to be excited by the brilliant career of his young kinsman in Gaul. He was even base enough to stir up, secretly, the Gauls against him, and to recall his best troops, under pretence that he wanted to employ

them against the Persians. This order caused a rebellion among the soldiers, who were unwilling to go to Persia. They proclaimed their leader Julian emperor, in March, 360, in spite of his own resistance. Julian gave information of the state of things to Constans, who ordered him to renounce his title of emperor. Much as he was inclined to do this, the Gallic legions equally opposed his inclination. The emperor now sent an army against Julian, who made preparations in his defence. He left Gaul, where he had passed five years, took Sirmium, the capital of Illyria, and besieged Aquileia. Here he heard of the death of the emperor Constans. He now passed rapidly through Thrace, and reached Constantinople, December 11, 361, where he was immediately proclaimed emperor. He began by putting a stop to many abuses, and limiting the splendour of his court. Of the thousand barbers, and attendants at the baths, employed by his predecessors, he retained but a single one. The number of cooks, too, which was likewise very great, he reduced to one. The eunuchs were dismissed, as well as those called *curiosi*, who, under pretence of informing the emperor of useful things, were dangerous spies, and the bane of all social intercourse. After these retrenchments, he was able to remit to the people the fifth part of all their taxes. Julian sought to restore the heathen worship in all its splendour, and, on that account, opposed Christianity as much as was in his power, without, however, like many of his predecessors, cruelly persecuting the Christians themselves. He took from the Christian churches their riches, which were often very great, and divided them among his soldiers. He sought likewise to induce the Christians, by flattery or favour, to embrace paganism, and, failing in the attempt, he laboured to make their condition disagreeable. Thus, for example, he forbade them to plead before a court of justice, or to receive offices in the state. Indeed, the Christians were no longer allowed to profess their faith openly; for he well knew what powerful arms the Scriptures afforded for combating paganism. To render false the prophecy of Jesus, with regard to the temple at Jerusalem, he permitted the Jews to rebuild it, about 300 years after its destruction; but it is said that flames of fire arose from beneath, and consumed some of the workmen. In the meanwhile, he wished to end the war with the Persians. His first campaign against them was successful. He took several cities, and advanced as far as Ctesiphon. Want of means of subsistence obliged him to retreat. June 26, 365, he was mortally wounded, and died the following night, in the thirty-fourth year of his age.

There is hardly, either in ancient or in modern history, a prince whom historians have judged so differently. Perhaps it is because his character was full of contradictions; and some believe that he had so many good and so many bad qualities, that it is easy to blame or to praise him without violating the truth. On the one side, learned, magnanimous, moderate, temperate, circumspect, just, merciful, humane; on the other, inconsistent, fickle, eccentric, fanatical, and superstitious in the highest degree, ambitious, and full of eagerness to be at once a Plato, a Marcus Aurelius, and an Alexander, he sought chiefly for the means of distinguishing himself from all others. At the bottom of all these features in his character, there appears to lie a sarcastic, sophisticated coldness and dissimulation. Some of his works have come down to us. Several speeches, letters, and satires, among which the satires on the Cæsars, and that on the people of Antioch, called *Misopogon*, are distinguished for wit and humour. The first is particularly esteemed. A critical judgment passed upon those who had sat upon the first of the thrones of

earth, by a philosopher who had himself occupied the same seat, must indeed possess a peculiar charm. In his *Misopogon*, Julian severely lashes the Antiochians, but spares no praise when he speaks of himself. The best and most complete edition of his remaining works is that of Eusebius Spanheim (Leipzig, 1684, folio). They prove that this emperor possessed talent, wit, vivacity, ease in writing, and some fertility; but he appears to have conformed too much to the taste of his age, in which a mere rhetorical style of declamation took the place of eloquence, antithesis the place of thought, and play on words the place of wit. He wrote also a work against the Christian religion, of which we have yet some extracts that have been translated into French by the marquis D'Argens.

JULIAN CALENDAR. See *Calendar*, and *Epoch*.

JULIANA; a female who possessed great influence at the court of the Mogul emperors of Hindustan in the earlier part of the last century. She was born in Bengal, in 1658, and was the daughter of a Portuguese named Augustin Dias D'Acosta. After having suffered shipwreck, she went to the court of the great Mogul Aurengzebe, whose favour she conciliated by presenting him with some curiosities which she had preserved. Being appointed superintendent of the harem of that prince, and governess of his son Behadur Shah, she had an opportunity of rendering some important services to the latter, who succeeded to the crown in 1707, under the title of *Shah Aulum*. He was under the necessity of defending his newly-acquired authority against his brothers by force of arms; and, in a battle which took place, *Jahann*, mounted on an elephant by the side of the emperor, animated him by her advice when his troops began to give way; and to her exhortations he was indebted for the complete victory which he obtained. Her services were rewarded with the title of princess, the rank of the wife of an omrah, and a profusion of riches and honours. Shah Aulum had such an opinion of her talents, that he was accustomed to say, "If Juliana were a man, I would make him my vizier." Jehander Shah, who became emperor of Hindoostan in 1712, was equally sensible of her merit; and, though she experienced some persecution when that prince was deposed by his nephew, in 1713, she speedily recovered her influence, and retained it till her death, in 1733.

JULIERS; formerly a duchy in Westphalia, bounded north by Gueltern, east by Cologne and the Rhine, south by Blankenheim and Schlesien, and west by Liege, Guelders, and the Meuse. It now forms a part of the Prussian province of the Lower Rhine, and government of Aix-la-Chapelle. It has a fruitful soil, which produces all sorts of cereals in abundance, together with good meadow and pasture land. Much wood also is cultivated here, and *lump* manufactured.

JULIERS-CLEVES-BERG; a province in Prussia, in the German circles of Lower Rhine and Westphalia, comprehending the late archbishopric of Cologne, the duchies of Cleves and Berg, &c. Population, 908,185; square miles, 3636. It is divided into three governments—Cologne, Düsseldorf, and Cleves. It is one of the most populous territories belonging to Prussia. The Rhine passes through the whole length of it. The inhabitants are Catholics, Lutherans, and Calvinists.

JULIUS; the name of three popes, of whom we shall only mention the two last.

*Julius II.* (Giuliano della Rovere), a native of Albisola, originally a fisherman, was elevated, by his uncle Sixtus IV., to the rank of a bishop and cardinal, was appointed papal legate to France, and, in

1503, was elected pope; and although, while cardinal, the friend of the French, he now became their enemy. He excommunicated the duke of Ferrara, gave Navarre to Spain, besieged Mirandola, commanded his army in person, formed the league of Cambray against Venice, and was altogether warlike in his measures. The king of France and the emperor convened a council at Pisa, before whom he was summoned to appear and explain his conduct; but he did not obey the summons, and called another council in the Lateran. In 1512, he made open war against Louis XII. The French defeated the papal army near Ravenna, but were soon after driven out of Italy. Julius died in 1514. He is considered one of the most immoral of the popes. His conduct certainly was little befitting the head of the Christian church. To procure means for building St Peter's, he ordered the sale of indulgences, which was one of the immediate causes of the reformation, so that the Protestants may say, without paradox, that St Peter's is the great monument of Protestantism. Connected with the plan of rebuilding St Peter's by Bramante was that of embellishing the Vatican; and, on Bramante's recommendation, Julius II. invited Raphael to Rome, in 1508, where he painted a superb suite of apartments, called *La Segnatura*. In the ducal gallery, at Florence, there is a fine portrait of Julius II. by Raphael. See *Bramante*, and *Raphael*.

**Julius III.** (Giovanni Maria Giocchi), a Roman of low birth, called himself *Del Monte*, because his family originated from Monte Sabino, in the Florentine territory. He was made cardinal by Paul III., in 1536, took an active part in the council of Trent, as papal legate, and was the chief cause that it was transferred to Bologna, against the will of Charles V. Julius was elected pope in 1550. He received the fugitive Nestorian patriarch Suluca, and endeavoured to effect a union with the Nestorians. He died 1555, and is accused of the greatest licentiousness, even of unnatural intercourse with a certain innocent whom he created cardinal.

**JULIUS CÆSAR.** See *Cæsar*.

**JULIUS OF MEDICI.** See *Clement*.

**JULIUS ROMANUS.** See *Giulio Romano*.

**JULY**; the seventh month in our calendar, which, in the Roman year, bore the name of *Quintilis*, as the fifth in the computation of Romulus, even after Numa had prefixed January and February. Mark Antony effected a change in its name, in honour of Julius Cæsar, who was born iv. *Idus Quintilis*, and thenceforward, by a decree of the senate, it was called *Julius*.

**JUMNA, or YUMNA**; a celebrated river of Hindoostan, which has its source in the Himalaya mountains. It enters the province of Delhi, and, passing the cities of Delhi and Agra, falls into the Ganges at Allahabad. Its length is estimated at 780 miles.

**JUMPING MOUSE** (*meriones*, F. Cuv.). A little animal which bears a great resemblance, in the length of its hind legs, and mode of leaping, to the jerboa. It is found in America, from Canada to Maryland, and perhaps still farther south. It is about the size of the common mouse. The head, back, and upper parts of the body, are reddish-brown, darkest on the back. The under parts are cream coloured, with a yellow streak passing along the body. The tail is longer than the body. This animal frequents grain and grass fields: it breeds very fast, and occasionally commits considerable havoc. When the cold weather commences, it goes into winter quarters, and remains torpid till the warm season returns. The jumping mouse does not exclusively move on its hind feet, but is capable of running on all-fours with great speed. The leaps taken by this diminutive

creature, when pursued, are astonishing. It sometimes clears five or six feet at a single bound. There is another species found in the vicinity of Hudson's bay, which closely resembles the above, in its habits and mode of progression.

**JUNE**; the sixth month in our calendar. Vossius gives three etymologies of the name—one from *juno*; another from *jungo* (to join), referring to the union between the Romans and Sabines, under Romulus and Titus Tatius; a third from *juniores* (the young men), Romulus having been said to have assigned the month of May to the elders, and that of June to the young men, when he divided the people into these two great classes, the former to serve in counsel, the latter in war. These origins are more fully explained by Ovid. The name has also been traced to Junius Brutus, the first consul.

**JUNG, JOHN HENRY**, called *Stilling*, was born 1740, in Nassau, and died in 1817, at Carlsruhe. In his youth he was apprentice to a tailor. The desire of knowledge which always occupied him, made him afterwards attempt to become a schoolmaster. He was unsuccessful, and returned to the tailors' business, from which, however, he was called several times to become a tutor. At last he succeeded in procuring the means of studying medicine in Strasburg, and was afterwards a physician in Elberfeld. He has described, himself, the greater part of his life; and the celebrated work *Heinrich Stilling's Jugend. Junglingjahre und Wanderschaft* (Berlin, 1777, 3 vols.), in a new form, under the title *Lebensbeschreibung* (Berlin, 1806, 5 vols.), is incomparable. He relates, with modesty and simplicity, the way in which his life was passed among the classes of people less favoured by exterior gifts of fortune; and his pious and pure heart discloses itself so unaffectedly and involuntarily, and the style is at the same time so excellent, that the work is one of the most popular among the German classics. It has a charm of a very peculiar kind, and many readers will sympathize with the author, even in those passages of mystical devotion, which do not accord with the tone of their own minds. His works of devout mysticism are very numerous. Those best known are his *Theobald der Schwärmer*, *Das Heimweh*, *Der Volkslehrer*, &c. Much opposition was excited by his strange work *Theorie der Geisterkunde* (Nuremberg, 1808), and the Apology for the same (1809), which is connected with his *Scenen aus dem Geisterreiche* (Frankfort, 1803). In these works, he not only shows his full belief in apparitions, and adduces numerous cases, which he considers undeniable, but also tries, in the first, to establish a theory of the nature of spirits, and the mode in which they appear. Even those who disbelieve entirely in apparitions, will find these works of great interest, because they will show him with how much appearance of truth many of the most remarkable cases are related by several witnesses of respectable character, who had not previously believed in the reality of such appearances, and under circumstances which in ordinary cases, would be considered conclusive. Jung made himself known, also, by his numerous works on medical subjects, the veterinary art, political economy, &c. He was, moreover, one of the most successful operators for the cure of the cataract. "Already has he," says Matthison, in his Letters (Zurich, 1795), "restored sight to more than 2000 poor blind people, not only gratis, but in many cases, with the addition of pecuniary assistance." Goethe, in his *Aus Meinem Leben* second volume, pages 378 and 489, gives a fine character of Jung.

**JUNGER, JOHN FREDERIC**, born 1759, at Leipsic, was first apprentice to a merchant, afterwards studied law, and, at a later period, devoted himself entirely

to belles-lettres. He became tutor to two princes and, in 1789, was appointed poet of the court theatre at Vienna; but, in 1794, was obliged to maintain himself solely by his writings. He was extremely diligent, yet his gains were very little: this and his lonely life rendered him subject to fits of deep melancholy, in which, as has been the case with other writers, he produced his gayest works. These were comedies. He wrote a great deal, and died 1797. His comedies have been published in three collections—*Lustspiele* (in five volumes, Leipsic, 1785—1790), *Komisches Theater* (Leipsic, 1792—1795, three volumes), and *Theatralischer Nachlass* Ratisbon, 1803—1804).

**JUNGFRAU** (German, meaning *virgin*): a high mountain, in the canton of Berne, Switzerland, the highest peak of which—the Jungfrau—*horn*—is 13,720 feet high, and was first ascended in 1811. The Jungfrau is one of the most magnificent mountains of Switzerland, and is covered with enormous masses of snow and glaciers. See *Alps*.

**JUNIN, BATTLE OF.** This engagement took place, Aug. 6, 1824, on the elevated plains of Junin, near the lake of Reyes in Peru, when the royalists, under Canterac, were beaten by Bolivar and the united Peruvian and Colombian forces. The combatants fought hand to hand, with lance and sabre, those engaged being cavalry only. This affair was but a prelude to the decisive battle of Ayacucho, which soon followed, and accomplished the final overthrow of the royalist party.

**JUNIPER**; a genus of plants having imbricated, scale-like leaves, closely allied to the cedar and pine, but differing in having the scales of the cone united, and forming a little berry. The *juniperus Virginiana*, commonly called *red cedar*, is frequent throughout the United States of America, from near lat. 45° to the point of Florida, and westward as far as the Rocky mountains. It does not attain large dimensions, ordinarily not exceeding thirty feet in height, but is highly esteemed for the durability and lightness of the wood, which is employed in the upper part of the frames of vessels, for posts, &c., and is also an article of export to Britain. So little regard has been paid to the preservation of this tree, and such has been the demand for the timber, that it is now not easily obtained, and is becoming scarcer every day. As is the case with other forest-trees, the farther south and the more barren the soil in which it grows, the better is the quality of the wood. The cedar apples, frequently used in the United States as a vermifuge, are excrescences formed by insects on the branches of this tree. The red cedar, in many places, appears as the pioneer of the American forest, fixing upon dry and exposed situations, and fostering beneath its shade young trees of various species, till it is finally overtopped by them, and in its turn disappears. The *J. prostrata*, distinguished from the common European juniper (*J. communis*) by its larger and oblong berries, is a trailing shrub, covering often a considerable extent of ground, and inhabiting Canada, and those parts of the United States north of lat. 42°. The *J. Barbadensis* inhabits Florida, and other species are found on the Rocky mountains. The wood of the *J. Bermudiana* is exported from the Bermudas, and, among other uses, is employed in the manufacture of black lead pencils. The berries of the *juniperus communis* are made use of to impart their peculiar flavour to spirit, constituting *gin*. They are also used by brewers, to give pungency to the lighter kinds of beer. In some parts of Europe, they are roasted, ground, and used as a substitute for coffee. They are also used in Sweden and in Germany as a conserve, and as a culinary spice, and especially to give flavour to sour-croit.

Like all plants of the terebinthinate class, they have a decidedly diuretic property, and they are much used as diuretic medicines. The oil of juniper, if mixed with nut-oil, forms an excellent varnish for pictures, wood-work, and iron, which it preserves from rust. From the bark exudes a resinous gum, known by the name of *gum sandarach*. It is a small, yellow pieces, very brittle and inflammable, and of a pungent, aromatic taste. When finely powdered and sifted, it constitutes the substance so well known under the name of *pounce*. It is also used by painters in the preparation of varnish, especially of the kind termed *vernix*.

**JUNIUS.** The Letters of Junius first appeared in Woodfall's Public Advertiser, from which they were copied into most of the other journals of the time. The earliest under this signature bears date Jan. 21, 1769; the last, Jan. 21, 1772. After they were completed, they were collected, the collection including also those signed *Philo Junius*, with the letters of Sir William Draper, and those of Horne to Junius), and published by Woodfall, with a dedication to the English nation, and a preface by the author. Besides the letters signed *Junius*, others by the same author were published in the same paper, under the signatures of *Poplicola*, *Adrian*, *Lucius*, *Brutus*, *Nemesis*, *Veteran*, &c., relating to different subjects, but all marked with the same boldness, severity, and passion, which characterized the former. These appeared between April 25, 1767, and May 12, 1772, and are given in the *postscript* Woodfall's edition as the Miscellaneous Letters.

Although more than sixty years have elapsed since the publication of these extraordinary papers, we have as yet no positive proofs to decide the question who was the author. The most prying curiosity, and the most industrious ingenuity, have been at work to collect circumstantial evidence on this point, and volumes have been written about it; but if we may believe a statement which appeared in the *London Globe* some years ago, the author is a person who had not then been named in all the controversies respecting these letters. "Five letters, deposited in the archives of the Grenville family, at *Stowe*, establish beyond a doubt," says the *Globe*, "the real author of Junius. That individual was personally connected with Geo. Grenville, from whom these autograph proofs have descended to their present possessor. The venerable statesman (lord Grenville, son of G. Grenville), nearly allied to the duke of Buckingham (grandson of G. Grenville), has requested the discovery should not be published during his life." It will be seen that one of the recent writers on this disputed subject has suspected the author to have been lord Temple, the brother and political friend of Geo. Grenville. Butler (*Reminiscences*, first series, letter on Junius), speaking of the copy which the author ordered of his publisher "bound in vellum," also says, "Who is the possessor of this copy? The reminiscence thinks it was not unknown to the founder of a noble house, in which the public owes an edition of *Horace* which does the nation honour" (referring, doubtless, to the edition of Oxford, 1800, *impensis DD. Buckingham et Grenville*).

A writer in the *Edinburgh Review* (vol. 43, article *On the Author of Eikon Basilike*) says, "A simple test ascertains the political connexions of Junius: he supported the cause of authority against America with Mr Grenville, and maintained the highest popular principles on the Middlesex election with the same statesman: no other party but the Grenvilles combined these two opinions." Junius, we may add, was also in favour of *triennial parliaments*, and opposed to abolition of the rotten boroughs. B

is likewise evident, from his language, that he was a man of rank and fortune. this appears not only from his tone and manner, but from his express assertions: "My rank and fortune place me above a common bribe:" and to one of Woodfall's letters concerning the profits arising from the sale of the letters, he replies, "I am far above all pecuniary views." Lord Eldon declared in parliament that, if not a lawyer, he must have written in concert with the ablest lawyers; but, the great English lawyer Butler asserts that Junius commits gross inaccuracies in his legal phrases. Several incidental expressions, as well as his general tone, his intimate knowledge of persons and characters, show him to have been a man beyond middle life. He was evidently acquainted not only with the court but with the city (which was less usual in those days); with the history, private intrigues, and secret characters of the great; with the management of the public offices, with the proceedings of parliament (not then, as since, public); and also with the official underlings, through whom he sometimes condescends to lash their superiors. With this extensive information, he united a boldness, vehemence, and rancour, which, while he spared no one, stopped at nothing, and rendered him an object of terror to those whom he attacked. To use his own language, "he gathers like a tempest, and all the fury of the elements bursts upon them at once." "In rancour and venom," said Burke in the house of commons, "the North Briton is as much inferior to him as in strength, wit, and judgement. King, lords, and commons are but the sport of his fury." Grafton, Bedford, Blackstone, and Mansfield seem to be objects of personal resentment. Chatham and Camden are severely attacked in some of his earlier letters, though his tone in respect to them was changed in the latter part of his correspondence. His style is severe, concise, epigrammatic, and polished; his reasoning powerful; his invective unsparing and terrible.

Public suspicion, at the time, was fixed most strongly on Burke and Sackville; at a more recent period, the opinion that Sir Philip Francis was the author, gained many adherents. Among the many other shadows who have been raised are Charles Lloyd, a clerk of the treasury, and private secretary to Mr Grenville (doctor Parr thought him the author; but he died three days after the last letter appeared); Roberts and Dyer, who died before the letters were finished; Hamilton (single speech); Butler, bishop of Hereford (whom Wilkes suspected); the reverend Philip Rosenhagen; general Charles Lee, who, in conversation, once gave out that he was the author, and whose pretensions are supported in a work by Gillestone; Wilkes; Hugh Macauley; Boyd, a writer of some talent (see Campbell's *Life of Boyd*); Dunning (lord Ashburton), who was solicitor-general at the time; Delolme; Glover; Horne Tooke, &c. Burke was strongly suspected in his day, but he spontaneously denied it; and, apart from internal considerations drawn from his temper, style and turn of thinking, it is sufficient to observe that, on several points, Burke and Junius were in direct opposition to each other. The former was a friend of Rockingham, the latter of Grenville; on the American policy and triennial parliaments, they were at variance; and Burke knew nothing of city politics, with which Junius was so familiar.

The opinion that Sir Philip Francis (died 1818) was Junius, has found many partisans, and was indignantly supported in Taylor's work—*The Identity of Junius with a celebrated living Character established*. The arguments are drawn principally from external considerations: his absence on a journey to the continent coincides with an interruption in the letters; his departure for India with a high appointment,

with their cessation; his receiving that appointment, without any apparent cause, just after being dismissed from the war office; his station in the war office, with all the details of which Junius is so familiar; his knowledge of speeches not reported; coincidences of thought and expression between passages of the letters and of speeches of lord Chatham, reports of which had been furnished by Francis, and with his own speeches, made after his return from India; peculiar modes of spelling, and of correcting the press; resemblance of handwriting—are also brought forward to establish the identity. But the internal argument is against the supposition: Francis was but twenty-seven when the first letters were written, and he never displayed, before or after, any proofs of a capacity or knowledge equal to the compositions of Junius. These circumstances have led to an hypothesis that, although he was not the author, he might have been the amanuensis of Junius.

Another candidate, whose claims are much more powerful than any previously mentioned, is lord Sackville (at one time lord George Germaine, and father of the present duke of Dorset). Sackville was strongly suspected at the time. Sir William Draper divided his suspicions between him and Burke, but finally fixed them on the former. His rank, fortune, temper, and talents concur to render it probable; the friends and enemies of Sackville and Junius are the same, and their political principles coincide. Sackville's unmerited disgrace is well known; his hostility to the king may have arisen from having been forbidden the court; Mansfield was a crown-officer at the time of his trial; Bedford was a connexion, and on bad terms with him; Grafton was a witness against him; Granby was second in command at Minden, and concurred in effecting his disgrace; Barrington was the organ of his dismissal. This opinion has been maintained in Coventry's *Critical Inquiry* (London, 1825), and, with additional proofs, in Junius Unmasked (Boston, America, 1828); but, although many striking coincidences have been pointed out, the proof is by no means complete in favour of this hypothesis. In the *Posthumous Works of Junius* (New York, 1829), with an Inquiry respecting the Author, the letters are ascribed to Horne Tooke. A late writer has started the hypothesis that Lord Chatham was Junius (*Essay on Junius and his Letters*, by B. Waterhouse, 8vo, Boston, 1831). A still more recent writer has made an ingenious attempt to show that lord Temple, brother of George Grenville, was the author of these celebrated letters. The fact that Grenville was the favourite of Junius, has often been mentioned, and it has also been suspected, for various reasons, that lord Temple was, in some way, connected with Junius; Butler (without suspecting Temple) mentions that the letters appeared to be written in a lady's hand, and that Wilkes once received a card from old lady Temple, in her own hand, which they agreed in thinking resembled the hand-writing of the letters. We have already cited a remarkable passage from the *Edinburgh Review* on the subject of Junius's political connexions, and the statement from the *Globe* seems to point out his family. George Grenville has himself been suspected to be Junius; but it is sufficient to observe that he died in 1770, when but a small part of the letters had appeared. The authorship is ascribed to lord Temple, in the work to which we refer, by Mr Newhall, of Salem, in Massachusetts (*Letters on Junius*, Boston, 1831), on the ground of the well established facts, that his political and personal connexions were the same; that the opinions of Junius, in regard to Chatham and some other persons, differed at different times; and that this difference agrees with the changes in

lord Temple's feelings towards those individuals; that the political principles of the two coincide: he also endeavours to show that Temple's talents, age, circumstances, style of writing and thinking, of which he gives specimens, render his hypothesis probable; and we would add, that, if it is not the true one, it is certainly embarrassed with fewer difficulties than any which has come to our knowledge; but *Non nostrum tantus componere lites*. The most valuable editions of Junius are those of Heron, a pseudonym (London, 1801, of which it is strange that we find no account in the English reviews of that day), and particularly of Woodfall, with notes and illustrations. A French translation by Parisot, with a commentary, was published in Paris, in 1823.

**JUNKS**; large, flat-bottomed vessels, from 100 to 150 tons burden, used by the Chinese. They have three masts, and a short bowsprit placed on the star-board bow. The masts are supported by two or three shrouds, which, at times, are all carried on the windward side. On the fore and main-mast is a sort of lug-sail, of cane or bamboo. Similar to these junks are the Japanese barks, which are eighty or ninety feet long on one deck, but have only one mast, that carries a square-sail, and forward one or two jibs, made of cotton.

**JUNO** (with the Greeks, *Hera*), the highest and most powerful divinity of the Greeks and Romans, next to Jupiter (the Greek *Zeus*), of whom she was the sister and wife, was the daughter of Kronos (Saturn) and Rhea Arcadia. Argos and Samos claimed the honour of her birth. According to Homer, she was educated by Oceanus and Thetis; according to others, by the Hours. Her marriage with Jupiter, on the island of Crete, was honoured by the presence of all the gods. According to Homer, Jupiter embraced her without the knowledge of her parents; and others say that he subdued her by artifice, on the island of Samos, and there married her. After he had loved her for a long time without any return, he once saw her without her attendants, wandering on the mountain of Thronax, and afterwards lying down to rest. He collected a dark cloud, and threw himself at her feet in the form of a cuckoo, trembling with wet and cold. She compassionately took the poor bird under her mantle; but the god immediately assumed his true form, and, in order to enjoy her, promised her marriage. Their marriage was not fortunate. The proud, ambitious, and jealous Juno could not bear the frequent infidelities of her husband; but he treated her with all that severity which, in ancient times, the husband was accustomed to use towards his wife. The ancient poets, particularly Homer, give us many instances of this kind. When Juno had driven Hercules, the favourite of her husband, to Cos, by a storm, Jupiter was so angry that he bound her hands and feet, loaded her with two anvils, and suspended her from Olympus. No one of the other gods could help her. During the Trojan war, having lulled Jupiter to sleep, in order to give the victory to the Greeks during his slumbers, she escaped with difficulty from the blows which Jupiter aimed at her when he awoke. In the oldest poetry, Juno is described as a divinity hostile to Hercules, appearing unpropitious to him, even at his birth, and opposing him afterwards in all his undertakings. Homer generalized this idea, and represented her as a malicious goddess, of whom he made use whenever a plan was to be interrupted, or an enterprise defeated. He describes minutely the art which Juno used to assist the Greeks, contrary to the command of her husband. She is also the malicious persecutor of the objects of Jupiter's amours (e. g., Latona, Semele, and Alcmena), and of their children by him. Among the

latter, Hercules and Bacchus suffered most. The Thebans likewise felt the effects of her hatred, because Hercules was born among them. She persecuted Athamas and his family, because he had educated the young Bacchus. All who assumed to themselves, or attributed to others, a superiority to her, experienced her vengeance. The beauty of Juno is elevated, majestic, and calculated to inspire awe: she wanted the soft, insinuating, and heart-touching beauty of Venus. In the Trojan war, she was the protector of the Greeks. She sometimes mingled herself in the combat: thus, e. g., Jupiter once allowed her to remove Mars, the protector of the Trojans, from the battle. No one of the goddesses dared contend with her in fight. Diana attempted it, but her cheeks felt the strength of the mighty Juno. Her children were Hebe, Iphigeneia, Mars, and Vulcan. The last, however, she is said to have born without the assistance of Jupiter, a revenge for his producing Minerva from his own brain. According to some writers, she was also the mother of the monster Typhon; but others ascribe him a different origin. Four different ideas are associated with Juno. According to the Orphic doctrines, she was the symbol of the lower air, as Jupiter was of the upper air, or of the air in general. With this was joined another idea, derived from the Pelasgic religion at Samos, which represented her as the queen of the gods. To this was added the Phœnician notion; the Venus Urania, by which name the Phœnicians worshipped nature, being confounded with Greece, with Juno. As such, she was particularly worshipped at Argos. Finally, the poets gave her the character of a malicious goddess, who counteracted the projects of Jupiter and other gods, and of heroes and men. She was worshipped in all Greece; but her principal seats were at Argos, in the neighbourhood of which was her famous temple, the Heraion, and at Samos, the place of her birth and marriage; hence one of her epithets was *Samosia*. The Roman Juno was represented, on coins, with a crescent on her head, and her hands resting on two anvils. The companions of Juno were the Nymphs, Graces, and Hours. Iris was her particular servant. Among animals, the peacock, the goose, and the crane were sacred to her. Her usual attribute is the ægis, a diadem, formed like a long triangle. She also wore a veil bespangled with stars, either as a covering to her head, or hanging loosely behind her. (In a coin in the collection of Stosch, she appears to wear majesty, seated on a throne, having at her back, on each side, the sun and moon, and over her head the planets, to signify that she is the queen of heaven. She is drawn in a carriage by two peacocks. The statues of Juno, among the ancients, were not very numerous, and even during the time when sculpture was in its most perfect state, the Greeks possessed no particularly celebrated statues of her. Most of the portraits of Juno, on gems, are by the best artists at the time of the Roman emperors. Juno had the same character among the Romans as among the Greeks. They called her generally *Juno Regina*, *Pronuba Matrona* (as protectress of betrothed virgins), *Lucina* (q. v.), and *Ithyia*. She had several temples in Rome. The first days of every month, and the whole of June, were sacred to her. On the planet of this name, see *Planets*.)

**JUNTA** (Spanish, an assembly), in Spain, a legislative council of state. There were, formerly, but now only the royal junta of commerce, the mint and the *real junta general de comercio, moneda, medidas, y dependencias de estrangeros*), and the board of the tobacco monopoly (*real junta de tabaco*). The assembly of the estates of the kingdom was called the *cortes*. But in 1808, Napoleon summoned a

gether the notables of the kingdom, under the title of a *junta*, to the number of 150 members; of whom 50 were to represent the spiritual, and 100 the secular interests of the country. Only ninety members, in fact, appeared, and these without sufficient powers—a circumstance, however, which embarrassed him little. The junta was organized June 15, 1808, under the presidency of D'Aganze, minister of finance, and unanimously accepted the new constitution. But when king Joseph was obliged to leave Madrid, August 1, a new junta was assembled, composed of the principal leaders of the insurrection. It consisted at first of twenty-six members. The count Florida Blanca was its president. Its number was afterwards fixed at forty-four. The advance of the French drove this junta to Seville, whence they subsequently retired to Cadiz. Besides this central junta, there was, in every province, not subjugated by the French, a provincial junta, subordinate to it. See *Spain*.

In English, the word *junta* is used as a term of reproach, for a cabal or faction.

JUPITER (in Greek, *Zeus*); son of Saturn and Rhea. The Greek name of his father being *Kronos*, he is sometimes called *Kronion* and *Kronides*. He is the brother of Vesta, Ceres, Juno, Neptune, and Pluto. In the different periods of Grecian history, very different notions were entertained respecting this god. The Pelasgi honoured him, from the most remote times, as the symbol of nature. His oracle was at Dodona, and hence he is called the *Dodonian*, *Pelagic king*. In the Orphic religion, Jupiter was a physical symbol, and denoted the upper air, the æther; and Juno, the symbol of the lower air, was connected with him as sister and wife. Hence the following Homeric fable is explained. Juno, Neptune, and Apollo wish to bind Jupiter; but Thetis calls the hundred-armed Briareus to his assistance, who, by his mere presence, prevented the gods from carrying their plot into execution (the contest of the elements, in which the æther would have been in danger of being overcome, had it not at length gained the victory through its strength, Briareus). Thus also we may explain, symbolically, the fable, that Jupiter once boasted that he would let down a chain from heaven, upon which all the gods might hang, and still would not be able to drag him down; but he would draw them, together with the earth and sea, up to himself, and then, winding the chain around the top of Olympus, would leave them swinging in the clouds (the combined efforts of all the lower elements are not sufficient to draw down the æther from its seat). From the symbol of the æther was evolved the poetic conception of Jupiter, as ruler of the æther and the upper air. In reference to this, he has the following surnames, the *lightning-loving*, the *cloud-collecting*, the *high-seated*, the *far-seeing*, the *loud-thundering*, the *cloud-compelling*. A higher idea makes him the father of gods and men, as indeed Homer calls him. Still this is not the idea of a supreme being, the creator of the world, which first arose at a later period. The more common idea, at this time, was that of Jupiter Herceus, who, being only the governor and protector of houses, families, and their possessions, or of a whole people and a particular territory, was of course nothing more than a local deity. He is also the ruler and director of the fates of men, and holds in his hand a balance, in which he weighs out to each one his portion of good and of evil. Two urns also stand in his palace; in one of which is evil, and the other good. Sometimes he gives to mortals a lot mingled from both; sometimes drawn from one alone. But, nevertheless, he himself subject to Fate, an unknown being, rapped up in obscurity. He is the wisest of gods

and men. Minerva sits ever at his side. He forms his purposes without the assistance of any one, and to whomsoever he does not disclose them, they remain inscrutable. He aids man with his counsel, and from this is called *Mentius*, the *giver of good advice*. He is true; his promises are irrevocable and inflexible. He knows the fates of men. He hears those oaths of mortals which they swear by him, and punishes perjury in the severest manner. All injustice and cruelty is hateful to him. Whoever will not listen to a suppliant offender (*Isotrus*), and forgive him, him Jupiter (*Isotrusios*) punishes. He is kind and benevolent, and wishes men to be so likewise to each other. Hence he is called *Jupiter Sotus* (the protector of strangers).

These ideas of Jupiter, which are found in Homer and in the poets of his time, although as yet limited by local circumstances, were in after times more fully unfolded, in proportion as the intellectual cultivation of the Greeks increased, and a purer philosophy began to be diffused. With this are connected those historical traditions, according to which Jupiter was born and bred upon mount Ida, in the island of Crete; for an oracle of Uranus and Terra had counselled Rhea to bring forth her son upon that hill, lest he should be devoured by Saturn. Different traditions assign his birth to different places; some say that it occurred at Messene, others at Thebes, Olenus in Ætolia, Ægæ in Achaia, upon the hill Lycotus or Dictæ in Crete, on mount Lycæus in Arcadia (where the cavern was shown in which his mother bore him). Equally different are the accounts respecting the place where he was educated. According to Homer, Terra educated him, and concealed him during the night, in a cave of the woody mountain Argæus; doves brought ambrosia to him. The Arcadians and Messenians say that he was educated by the nymphs, who received him from the Curetes, and bathed him in the fountain Clepsydra. According to other accounts, his mother intrusted the child to the care of the Curetes, and these gave him to the nymphs Ida and Adrastea, to nurse, whilst they themselves, by a continual clashing of their shields, prevented Saturn from hearing the cries of the child. Instead of Jupiter, Saturn is said to have swallowed a stone swathed in a goat's hide and anointed with honey, which they gave him. According to others, he was educated by the daughters of the Cretan king Melissus, Amalthea, and Melissa, who nursed him with the milk of the goat Amalthea, one of whose horns Jupiter changed into the horn of plenty. He grew very rapidly. Whilst he was yet but a year old, he was already able to afford assistance in the execution of a scheme which his mother had formed against his father. From Metis (goddess of wisdom), Jupiter received an emetic which he gave to Saturn. The potion worked so well, that he threw up all the children which he had swallowed, even to the stone which he had swallowed last. This stone Jupiter deposited at the foot of Parnassus, near Pytho, for a memorial. He proceeded now to dethrone his father. The oldest sons of Uranus and Terra, the hundred-handed giants, and the Cyclops, were fast bound in Tartarus, and the monstrous Campe kept guard over the prisoners. Jupiter killed the monster by the advice of Terra, and set free the prisoners. Out of gratitude, they armed Jupiter with the lightning, which, until that time, had lain concealed in the earth; Neptune with the trident; and to Pluto they gave a helmet which rendered the wearer invisible. He then dethroned his father, and castrated him with the same weapon which the former had before used on Uranus for a similar purpose. The Titans were not contented with this change of government, and there arose a ten years' war between

them on one side, and the children of Saturn and the hundred-handed giants on the other. (See *Briareus*.) The theatre of battle was the hills of Olympus and Othrys. From the latter fought the Titans, from the former the new gods. At length the latter conquered, and the Titans were hurried down to Tartarus. Jupiter, having now obtained full possession of the sovereignty, shared his father's kingdom by lot with his brothers; he himself receiving the heaven and the earth, Neptune the kingdom of the sea, and Pluto the infernal regions. But fearful monsters threatened the new gods with destruction. Terra, angry that her children, the Titans, should be kept imprisoned in the depths of Tartarus, gave birth to the dreadful giants who rebelled against the new gods. These were conquered by the aid of Hercules. But Terra, still retaining her anger, bore to Tartarus, Typhœus (Typhaon, Typhon), the most frightful of all the monsters, whom Jupiter conquered with the greatest difficulty. According to some, Jupiter pursued him with his lightnings and sickle, until, at length, on a hill called *Cassus*, they joined battle. Typhœus wound about Jupiter with his dragon folds, flung him upon the ground, and with his own sickle cut out the tendons of his hands and feet, dragged him into the Corycæan cavern, and stationed a dragon to keep watch over him. But Mercury and Ægipan (a son of Jupiter and Æga, Pan's wife, or a foster brother of Jupiter) freed Jupiter by stealth from the dragon, cured him, and set him upon a winged chariot, from which he hurled his lightnings down upon Typhœus. At Nisus and upon Hæmus, they fought with each other; but at length Jupiter gained the victory, and crushed the bleeding monster beneath Ætina, or the island Pithecusa.

Jupiter now found himself in quiet possession of the sovereignty, which was solemnly surrendered to him by the other gods, to each one of whom he therefore gave a reward. From this time he was king of the gods—an idea which seems to have originated when Greece had as yet only her smaller kings. And even as these often chose from among themselves a universal king or governor, who should hold the first rank (as, for example, Agamemnon in the Trojan war), so, also, according to the representations of the poets, did the gods. They chose Jupiter their king and leader: he had therefore the right, on important occasions, to assemble them in his palace. In the Trojan war, he forbade the deities from taking further part in it, and threatened to hurl any transgressor of his command down to Tartarus. The king Jupiter is formed, by Homer, after the exact fashion of the Grecian kings of the period, and his whole character is painted in exact accordance with the characters of the old Greek heroes—rude, wild, and passionate. A scourge is even ascribed to him, with which, as king, he may administer chastisement. This idea was borrowed from the Egyptians, amongst whom the scourge was an emblem of kingly power. As ruler of the earth, Jupiter particularly directed his attention to the race of men, which he exterminated, because it had become corrupted and vicious, and then created another and better from the trees. He caused Prometheus, who had stolen fire from heaven for men, to be bound by Vulcan on the Colchian Caucasus, whilst his liver was to be ever preyed on by a vulture. He killed Esculapius with his lightnings, because, by his arts of healing, he had unpeopled the realm of Pluto; and when Phœbus, to avenge his son, slew the Cyclops who had forged his lightnings, he banished him a long time from heaven to earth. He punished with death Salmoneus, who imitated his thunder; Idas, who wished to slay Pollux; Capaneus, who was the first to scale the walls of Thebes; and afterwards, also, the Curetes,

who, at the persuasion of Juno, had covered the young Epaphus, and the Achaian river-god Ægeus, who had endeavoured to regain his daughter, whom Jupiter had carried off. He went through the world punishing the wicked, and rewarding the good. His peculiar servants were the Horse and Mercury. Ganymede, who took the place of Hebe, was cap-bearer to him and the other gods. His palace is on Olympus. Themis or Dike sits on a throne beside him. His first wife was Metis, a daughter of Uranus the wisest of all the deities. But when Uranus and Terra foretold to him that she would bear a child who should deprive him of his sovereignty, he devoured her during her pregnancy; and thence it came to pass that Minerva, some time after, was born from his head. His second wife was Themis, a daughter of Uranus and Terra, who bore him the Horse and Phœbe. His third wife was Juno. Among the goddesses he also loved Dione, a daughter of Æther and Terra, and was by her the father of Aphrodite. At a later period, Menosyne, daughter of Uranus and Terra, bore him the nine Muses, he having spent nine years in her embraces; Ceres, his sister, became by her the mother of Proserpine; Eurynome, daughter of Oceanus and Thetis, became mother of the three Latona, daughter of a Titan and Phœbe, mother of Apollo and Diana. Among his mortal mistresses were Danaë, daughter of Acrisius, and mother of Perseus; Niobe, daughter of Phœbus, the first among mortals whom Jupiter loved, mother of Argus the third king of Argos; Maia, daughter of Atlas and mother of Mercury; her sister Taygete, mother of Lacedæmon, and the third sister Electra, mother of Dardanus; besides these were Semele, daughter of Cadmus, and mother of Bacchus; Europa, daughter of Phoenix or Agenor, and sister of Cadmus, mother of Minos, Sarpedon, and Rhadamanthus; Calisto, daughter of Lycus or Nycteus, mother of Arcas; Io, daughter of Inachus or Argus Panoptes, mother of Epaphus; Leda, daughter of the Atolus king; Thestius or Glaucus, mother of Helen and Menelaus; Ægina, daughter of the river-god Ægeus, and mother of Æacus; Antiope, daughter of Nycteus, and mother of Amphion and Zethus; Elara, daughter of Orchomenus, and mother of the giant Tityus. The last of his mistresses was the beautiful Alcmena, the mother of Hercules. The Nymphs are also regarded as the daughters of Jupiter. At a later period, by his rape of the beautiful Ganymede, he gave the Greeks the first example of the art of boys.

Jupiter had many oracles in Greece; for instance, at Dodona, at Olympia, although the latter after a short time ceased, and one in a holy grove on Mount Ida in Crete. His most famous temple in Greece was that of Olympia or Pisa. He was also especially honoured at Dodona in Epirus, on Mount Cassius in Egypt, in the city Nemea in Argolis, on Mount Athos and Dictæ, and many other places. In this way we have many of the surnames of Jupiter explained. By the Romans he is called *Jovis*, *Elivius*, *Stator*, *Capitolinus*, and the like. His usual attribute is the thunder-bolt, which he holds in his hand, or which the eagle bears at his side. He is always attended by the eagle, and sometimes by the beautiful Ganymede. He is usually represented with a crown and sceptre. His countenance displays seriousness and majesty, mingled with benevolence and serenity. Of the statues of Jupiter we have received but a few from antiquity, and none of the first rank. By far the most beautiful representations of him are found upon coins, which represent to us the king of the gods in the different parts of his history; sometimes only the bust, sometimes the whole figure; sometimes alone, at others with

with other figures. That celebrated masterpiece of Grecian art, the statue of Jupiter Olympius, by Phidias, is indeed lost to us. But it is highly probable that in the excellent heads on gems, the principal traits of it are preserved. Upon a gem in the cabinet of Stosch, the beholder admires the deep seriousness mingled with a heavenly mildness, which is spread over his whole countenance, and the beautiful growth of hair falling down, not like the crisped locks of youths, but in gentle undulations of a ripe, manly age, closely resembling the mane of the lion, the king of beasts. Upon another gem, Jupiter is enthroned in an arm chair, as king of heaven and earth. The moon and stars are round about him, the globe is in his right hand, the sceptre in his left, and a diadem on his head, to point him out clearly as the supreme ruler. The lower part of the body is covered. The eagle at his feet sits looking up to him, awaiting his commands. When Jupiter stands, he is generally naked, because he is then occupied in a way which makes clothing an incumbrance. Bulls and eagles were usually offered to him; the oak and beech trees were sacred to him. In the second month of every fifth year, the Olympic games were celebrated in honour of him. Besides the Homeric and Orphic hymns in honour of Jupiter, we have one by Callimachus and Cleanthes. We would remark that the ancients reckoned many different Jupiters. Varro gives 300 of that name, and Cicero three, as the most distinguished—the sons of Æther, of Cælus, and of Saturn. To the last, the actions of all the rest were finally attributed.

*Jupiter Ammon.* Sufficient has been said for the limits of this work, on this great deity of the Egyptians, in *Ammon*, and in *Egyptian Mythology*. In the article *Hieroglyphics*. We will only add, that in the *Transactions of the American Philosophical society* (Vol. 4. new series, No. 1), a publication not yet out when the above-mentioned article was prepared, Mr Hodgson directs the attention of the etymologist for the origin of the word *Ammon* to the Berber word *Aman*, water (the very contrary to *amant*, sand, the word from which *Ammon* is generally derived). (See also Champollion's *Tableau Général*, prefixed to his volume of plates, No. 39, a.)

*Jupiter*, in astronomy. See *Planets*.

**JURA**; one of the Hebrides, or Western Islands of Scotland, situated to the north-east of the island of Islay, and opposite to the district of Knapdale, in Argyshire, to which county it is annexed. It extends fully twenty-six miles in length, and is on an average seven broad, containing 58,500 Scots acres, of which only 3000 are arable. It is the most rugged of the Western Isles, being composed chiefly of huge rocks, piled on one another in the utmost disorder, naked, and incapable of cultivation. The mountainous ridges terminate in three or four similar peaked mountains, called the *paps of Jura*. The only crops are oats, barley, potatoes and flax; the chief manure is the sea-weed, which is cast ashore. There is only one small village, called *Jura*. The Gaelic language is spoken in the island. Population, in 1831, 1312. See *Hebrides*.

**JURA**; a chain of mountains about sixty leagues in length, and fifteen in breadth. It is a continuation of the Savoy Alps (q. v.), extending from the Rhine, near Bale, to the Rhone, about ten miles below Geneva. By the low range of mountains in the Pays de Vaud, the Jura is connected with the lofty Alps of Berne. It stretches towards the north in several long ridges between France and Switzerland; the ridges then separate, and the eastern one, which is the principal, is continued through Neuchâtel and the canton of Soleure, and terminates on the eastern side of the Frickthal, in the canton of Aargau, on the

Rhine, where, on the German side, the Schwarzwald or Black Forest is a continuation of it. The western branch extends farther to the north, and takes the name of the Vosges. Jura has neither the pointed summits nor the perennial snows of the highest peaks of the Alps. One of the highest peaks, mount Reculet, is elevated 5310 feet above the level of the sea, and the Dole, 5185 feet. The French department of the Jura, a portion of Franche-Comté, on the Furieuse and the Doubs, furnishes silver, copper, iron, lead, marble, and salt. The chief town is Lons-le-Saulnier.

**JURGURA** (anciently, *Mons Ferratus*); a mountain of Africa, in Algiers, supposed to be the highest in Barbary; twenty-four miles S. of Dellys, sixty S. E. of Algiers. It is at least twenty-four miles long; and, if we except a pool of good water, bordered round with arable ground, that lies near the middle of it, the whole, from one end to the other, is a continued range of naked rocks and precipices. In the winter season, the ridge of this mountain is always covered with snow.

**JURY.** [Written by a civilian.\*] The right of punishing is inseparable from the executive power in a state; but, since the penal authority has to decide respecting the property, freedom and life of citizens, the executive or highest power may easily degenerate into despotism, and the relation of the citizen to the government into slavery, if it can punish at will. It consequently becomes an object to deprive the government of the will and power to punish unjustly. Now, since, in every case of punishment, a double question is to be answered—first, whether the accused committed the act with which he is charged, and, secondly, if he is guilty, what consequences do the laws attach to the deed, and what punishment must be inflicted—the executive power will be sufficiently restricted, if we leave it to answer merely the last question, and leave the decision of the first to a separate, independent authority. This can neither be limited to single individuals, nor to a permanent college. Both are too much subject to the influences of the supreme power. The mass of the people, alone, is not to be corrupted. But, since the mass of the people cannot sit in judgment, and it is also known how little impartial justice is to be expected from the multitude, when their own interest is concerned, this agency must be committed to sworn substitutes, chosen for single cases, or only for short periods, in order that the popular tribunal may not degenerate into an established office. These substitutes, as they are not determined beforehand, cannot become the object of corrupting influences, which, though they may find access with some, hardly can with all. In these views lie the foundation and essence of juries; namely, of the petty jury in England, and of the *jury de judgment*, in imitation of it, among the French. In the former country, the love of freedom proceeded still farther, and on account of the mischief that may be produced by complaints, invented the grand jury, consisting, likewise, of sworn representatives of the people, whose function it is to decide respecting the admissibility of complaints, and whether, in conformity with them, a criminal prosecution is to be instituted against any one. Its coun-

\* The first portion of this article as far as page 283 is translated from the German *Conversations Lexicon*, and was written by a German civilian accustomed to the juridical practice of countries where the civil law prevails, and where the trial by jury is imperfectly understood, and, if introduced at all, has been imperfectly administered. It has been retained, because it has been thought that the views of the continental jurists on this subject would be curious and instructive. The writer, it will be seen, considers the trial by jury almost solely with reference to criminal cases.—The remainder of the article was written by an eminent American jurist.

terpart existed in France till 1809, under the name of *jury d'accusation*. To this essential character of a jury are united several properties necessary to its perfection.

Not only must citizens sit in judgment on citizens, but the greatest possible equality of rank is to be sought, between the judges and the party to be judged, in order that the interests of different ranks may not give rise to injustice, partiality, or false decisions. In England, where all ranks, below the hereditary peers, are by law equal, and without exclusive prerogatives of rank or birth, all persons not born peers of the land (for they, as an intermediate part of the hereditary government, between king and people, have their equals, and, consequently, their jury only in the house of lords) are tried by the same jury. In the ancient German courts, which, in substance, were juries, the equality of birth between the judge and criminal was most strictly observed; not, however so much that no inferior person could be judged by a higher, as that no higher could be judged by an inferior.

The jurors cannot well be chosen otherwise than by a public officer—in England, by the sheriff. To guard against all danger of partiality and undue influence, the person arraigned has the right of rejecting a portion of the jurors empaneled. The right allowed to the prosecutor is more limited. In England, the former may [in capital cases] reject twenty, and in crimes of high treason, thirty-five. The public prosecutor cannot challenge any one without declaring cause.

A jury, which, in most cases, must consist of men of little education, cannot be guided in their conclusions by legal rules of evidence, but only by their general impressions from the whole train of circumstances; and, on this account, its verdicts are not proper subjects of revision. In England trial by jury is extended even to civil cases, especially for settling certain matters of fact; for instance, of possession, of estimating the amount of damage, &c.

All the operations, examinations, and other processes necessary in a criminal trial, are to be performed in the presence of the jury. To refer them for information to a protocol, or to the reports of an officer, would involve difficulties, and, at all events, leave them exposed to the errors which might arise from the subjection of the reporting officer to foreign influences, and thus defeat the essential object of trial by jury. With the French constitution, the trial by jury was spread on the continent, and excited, in many persons high admiration. It has been proved by Feuerbach, in his classical work on this subject (Landshut, 1813), that, in a political view, trial by jury has a value only in particular constitutions, in which its political advantages may induce us to overlook its defects, when considered merely in reference to criminal jurisdiction. Political objects make the trial by jury necessary in democracies. Intrusted to a single magistrate, or to a permanent authority, the criminal power would open an immediate avenue to sole dominion, or to aristocracy. Equally indispensable is it to a mixed constitution, like the English; for it would become either a pure monarchy, democracy or aristocracy, if the immense preponderance of the penal power should be committed solely to the monarch, or to one of the powers counteracting and restricting him, the people or the body representing the national sovereignty. On the other hand, it is apparent, that in a constitution where the monarch is absolute, the political advantage of a jury disappears. No constitution, no personal freedom of individuals can, in such case, be defended by juries, since the ruler can abolish it at any moment, or, in particular cases, render it inefficacious by a special commission. The most eloquent example is that of France in late years. The establishment,

moreover, of trial by jury in a pure monarchy, already confirmed by long permanence, is not only null, but superfluous, inasmuch as the ruler can gain nothing more by injustice, but may lose every thing. But how far does the trial by jury satisfy the demands which are made of criminal jurisdiction? How far is a certain determination of guilt or innocence to be expected of it? 1. Can we believe the jurymen, who is accustomed to move only in the circle of common intercourse, can we believe him possessed of sufficient sagacity to look through the most complicated relations, which often occur in criminal trials, permitting neither aversion nor predilection to influence his verdict? Certainly not. But to attempt to abolish the evil by means of permanent jurors, who should acquire ability by practice, would be to destroy the essential character of juries. Add to this, that in the oral proceedings in the presence of the jurors, every means is afforded for the operation of sophistry, and the excitement of the passions, and that the various grounds of defence or accusation, often infinitely numerous, can in no wise be fairly examined and compared with each other—a process possible only when the judge forms his opinion from written documents. In every case, the last impression of a jury will be the decisive one. The charge, by which, after the termination of the debates, the presiding judge, versed in the law, seeks to guide the deliberations of the jury, and aid their untaught judgment, may contribute, indeed, to remove this and the deficiencies remarked below, but the effect of it is very inconsistent with the object of jury trials; for it makes him, in most cases, master of the judgment. One may generally foretell, in England, the verdict of the jury from the charge of the judge. 2. Experience confirms it, and it lies in the nature of things, that the jury regularly hesitate, even against their convictions, to give a verdict of guilty, when it exposes the party to a punishment, in the public opinion, more severe than just. To common penetration, it is extremely difficult to separate the fact from its legal consequences. This evil is seen to be in some degree necessary, especially in England, where the criminal code has not kept pace with the times, and a very slight theft is punished with the halter. 3. The question of guilt or innocence is not one of pure fact, but also a legal question, and presupposes, in every case, a knowledge of criminal law. To be able to say whether any one has committed a violent robbery, it must first be known whether he has done the act which the accuser asserts, and, secondly, whether the act had those characteristics, which the laws require to constitute the crime. But if, to remedy this evil, the jury should be restricted to the question whether a certain act had been committed or not, its object would be destroyed, and the authority to which is committed the decision of the point of law would be left to its free will, since it might make that act any crime it pleased. In England, recourse has been had to the dangerous practice of allowing the jury, when they find the accusation in a legal view but partially founded, or regard the crime committed as less heinous than the one charged, to give a verdict partly of acquittal, partly of condemnation, such as guilty of manslaughter, but not of murder. If the jury agree on the point of fact, but cannot remove their doubts respecting its legal character, they have to leave the decision to the judge. But will not the jury trust to their penetration more than is just? Does not the presiding judge become absolute? Some might, indeed, be inclined to make it a decided advantage of juries, that the accused is tried by judges who are his equals, and from whom, it would seem, may be expected a juster decision, more conformable to his peculiar situation, than from others. But, in the first

place, the poorer class of people, who, above all others, fill the annals of criminal trials, must be excluded from the jury by reason of their want of information and comparatively small interest in the public welfare, by which means that equality is, in most cases destroyed (thus, in England, to be a juror, a person must have a certain income; the same is the case in France, where attention is also paid to particular circumstances of rank); so that, from the infinite gradations and varieties of property, education, opinions, and innumerable outward circumstances instead of full equality, the greatest inequality often subsists between the jurors and the accused. The various means by which it has been attempted, in France, to remedy the defects of the jury, and which, nevertheless, have produced no better criminal jurisdiction, satisfactorily prove their entire insufficiency in this respect. See *Assizes*, and *Appeal*.

I. *History of the Institution.* It has evidently been, from the beginning, a truly popular trial, and not, as Rogge has lately asserted (*Gerichtswesen der Germanen*, 1820), a modification of the ancient process of compurgation. These institutions—compurgation and jury—have, indeed, many external similarities, and may, in some cases, have become blended with each other; but, in their nature, they are entirely separate. This appears evident from the circumstance that, in England, juries and compurgations occur at the same time. Criminal actions against the clergy were prosecuted under the direction of the bishop, with twelve of the clergy as jurors, but were begun by the accused with twelve compurgators swearing to his innocence, and commonly ended in his acquittal, till an end was put to this disorder by law, in 1576. (See Blackstone's *Comment. on Laws of England*, vol. iv.) It has long been known in Germany, and has lately been proved by Feuerbach (*Betrachtungen über die Mündlichkeit und Öffentlichkeit der Gerichtsgeschäfte*, 1825), that the most ancient constitution of the German laws, and in Bavaria as late as the fifteenth century, consisted in the men of the communes finding judgment under the guidance and protection of an officer. As there must be some fixed number, that of twelve is as good as any other, and has been preferred from time immemorial; but the agreement of the twelve jurors consisted, at first, in many cases and places, in the circumstance, that the votes of all the men present, and capable of giving an opinion, were asked, and the matter decided as soon as a majority of twelve votes was obtained for an opinion. One person could, therefore, cancel the vote of another juror, by declaring himself of another opinion, and commanding the juror to leave his seat. Some traces of this regulation are still to be found in England. In the house of lords, the whole body of nobles vote; but a valid condemnation is obtained only when a majority of twelve votes is declared for conviction. But in the courts of assizes, the place of absent jurors is immediately supplied from the people present, and if these twelve cannot agree, according to the original constitution, the trial must be by new jurors, who are chosen from time to time till an unanimous vote of twelve is obtained. In important causes in the county courts, all the free-men of the county were, in former days, summoned, which is termed judgment *per omnes comitatus probos homines*. (Reeves' *History of the English Law*, 1814, vol. i. 84.) But it was very naturally soon found better to summon only a fixed number of men to this service, and thus arose the number of twelve, who could only unanimously give a valid decision. The oldest vestige of this change is found under Henry II., in the constitutions of Clarendon, in 1164, and of Northampton, in 1174. Contests about landed property, as well as criminal accusations, were to be

decided by the oath of twelve respectable men of the neighbourhood (*per sacramentum duodecim militum de hundredo, or liberorum legalium hominum de vicineto*). From this time, the trial by jury has remained essentially unaltered in England, and has gradually become the only form of process, partly by the abolition of the criminal courts which judged without jury, partly by the abrogation of the methods of criminal prosecution in which no trial by jury existed. Of the last, there remains only the pronouncing of punishment in the way of legislation, termed an *attainder* (*attinctura*), or *bill of pains and penalties*. There were, besides, several other ways of terminating a criminal trial without a jury, but between which, not the accuser, but the accused, was entitled to choose. In the times of the Anglo-Saxons, the ordeals of red hot iron and boiling water were in vogue, besides which there was the consecrated bread. The clergy prepared a piece of bread or cheese, an ounce in weight, which was easily swallowed by the innocent, but which stuck in the throat of the guilty, and choked him. Of such a morsel, Godwin, earl of Kent, died in the reign of Edward the Confessor; and, according as the accused was suspected or hated, it was well known how to prepare the morsel. Under the Norman dominion, this ordeal was supplanted by the wager of battle. The wager of battle (*vadiatio duelli*) was used even in civil cases, and, according to the most ancient custom, it depended on the accused, if the accuser had supported his accusation by witnesses, to choose whether he would have recourse to this means, or swear to his innocence with twice as many compurgators as the accuser had produced, though not above twelve. This was called *vadiatio legis* (wager of law). In civil causes, the wager of battle disappeared in the thirteenth century, when Henry II. introduced into the assizes a trial by jury. But in penal prosecutions, on the contrary, it continued much longer. The accused is still asked how he will be tried; and, though the answer—"by the law of the land," or "by the country" (*per legem terre, or per patriam*)—has become a mere formality, yet, as late as 1819, a singular trial for murder took place, in which it stood at the option of the accused to challenge the accuser to the wager of battle. (See Kendall's *Appeal of Murder*, London, 1819, and *Appeal*.) A court of justice, moreover, formerly, existed in England, which judged without jury, called the *star-chamber* (*camera stellata*)—a name respecting the derivation of which antiquarians are not agreed. It consisted of some lords, both temporal and spiritual, members of the privy council, and two judges of the supreme court of Westminster, and had properly jurisdiction only of some particular cases, rebellion, perjury, the official misconduct of sheriffs, &c., but extended its jurisdiction farther and farther, and became, especially under Henry VII. and Henry VIII., an instrument of the most arbitrary power. After it had long been a subject of terror and hatred, it was entirely abolished under Charles I., in 1641. The trial by jury has since been regarded in England as one of the fundamental pillars of the constitution. By the Habeas Corpus act (see *Habeas Corpus Act*) of the reign of Charles II., greater security has been provided, that the trial by jury shall be withheld from no one; it is only to be lamented, that the petition for such an order is attended with extraordinary expense.

II. *History of the Jury in France.* In the article *France*, some of the cruelties are mentioned, which are chargeable to the administration of penal justice in France before the revolution. Judicial despotism, united with ignorance and corruption, was exhibited in horrid forms. The laws were severe. The ordi-

nance of criminal procedure of 1670 was written in blood, giving up the accused to the arbitrary will of the judge, and denying him the aid of counsel, excepting in a few cases (*Tit. 14. sect. 8*); admitting a double application of the torture (*the question préalable*, to extort from the accused a confession of his own guilt, and the *question préalable* before execution, to compel him to reveal his accomplices); and allowing any judge, even the patrimonial courts, to institute a process without any statement of the ground of suspicion. The judges were even more severe than the laws. Their ignorance and carelessness occasioned mistakes and abuses, which their pride and the clannish spirit of the higher classes prevented from being rectified, and under the operation of which crowds of innocent persons lost liberty, property, reputation, and even life. Even the most atrocious criminals, Damiens, for instance, could not be legally sentenced to such cruel torments as this offender actually underwent, when torn to pieces by wild horses. All the districts, therefore, in 1789, were unanimous in desiring that the judgment in criminal cases should be made dependent on the verdict of a jury. In fact, such a provision was introduced into the constitution of September, 1791, and on this subject there was hardly any difference of opinion. The form of the English institution was followed,—a grand jury being appointed to find bills of accusation, and, after the conclusion of the process, which was to be public and oral, the question of fact was to be determined by a jury of twelve persons. There were to be, also, as at present, justices of the peace, clothed with proper judicial authority only in cases of minor importance and disputes respecting the right of possession; and likewise district courts, who should exercise a mutual appellate jurisdiction in regard to each other's decisions. The judges were to be chosen by the people, to remain six years in office, were to be re-eligible at the end of this period, and to be paid, scantily indeed, by the state, being prohibited from receiving any fees. These provisions were made by the law of Aug. 24, 1790, respecting the organization of the courts. An ordinance respecting criminal jurisdiction of Sept. 29, 1791, a penal code of Oct. 6, 1791, and the regulations for the conduct of criminal prosecutions, Oct. 21, 1791, completed this new system, which has been subsequently retained in its fundamental principles, though not without undergoing essential alterations, by which a portion of the benefits, that are ascribed to the constitution of English criminal courts, was lost again, and the influence of the officers of the government on the administration of justice (it is said) improperly enlarged. The criminal courts were at first derived from the district courts, the judges sitting alternately in the criminal courts of the department. One of the judges was director of the jury, drew up the indictment, and assembled the jurors. The jury of accusation (*d'accusation*) consisted of eight members, three voices for the accused being sufficient to reject the complaint. This jury of accusation is now entirely abolished in the new criminal ordinance of November 17, 1808. (See *Codes les Cinq*.) The criminal courts for more important causes (*cours d'assises*) are now deputations of the king's court (*cour royale* or *cour d'appel*), and the decision respecting complaints is committed to a division of the *cour royale*. The liberty of the accused to hold consultation with counsel is less restricted by the new laws than by late practice. According to a very doubtful interpretation of the article 302 of the act of 1808, to regulate criminal process, the counsel is allowed access to the accused only a few days before the beginning of the public prosecution. And, in some cases, as in libels, the definitive

decision is taken from the jury, and given to a police courts. To require the unanimous agreement of the jurors to a verdict, which, even in England, often attended with great difficulties, and leads to striking inconsistencies, was soon found entire impossible in France. The simplicity of the English process, which, at the end of the proceedings, leaves to the jury the verdict of guilty or not guilty, it was found in France impracticable to imitate. In England, only the most important witnesses are brought forward, and a day, or, in very complicated cases, three or four days are sufficient to complete a trial and consequently no uncommon powers of memory are required to retain the testimony in the memory. But, in France, even the most unimportant testimony is admitted. Hence several hundred witnesses are sometimes brought forward, and more weeks are spent in a case than there would be days employed in England. It having been found absolutely impracticable to insist on unanimity in the jury, it has been resolved to assume the simple majority of seven against five, as decisive. But in that case the court itself is obliged to deliberate on the same point and an acquittal takes place, if the majority of the judges coincide with the minority of the jurors, so to make the numbers of voices in favour of acquittal equal to those for condemnation. The courts have also the right to set aside the verdict of the jury, if it appears to them to rest entirely on error; but this must be their own free act, and cannot be proposed by any one. A simple majority of jurors decided the case of Fonk, and, at Paris, 1823, that of doctor Castaing, indicted on a charge of poisoning. Among the objections made to the new French criminal process is the excessive power committed to the president. In England, the examination of witnesses is carried on by the prosecutor and the counsel for the defendant, but in France, the president alone. And there is frequently seen very striking exercise of this privilege, as when he hostility to the defendant, which ill comports with the judicial office. But the loudest complaints at present are made, are of the selection of jurors (which belongs to the president alone), and the restriction of the right of challenging. The president draws up a list of sixty jurors, of which the president, the assizes strikes out twenty; the defendant, the defendants collectively, however many there may be of them) and the attorney-general, each, can strike out twelve, and the rest constitute the jury. In this way it is possible to collect a jury consisting of enemies of the accused, and it is asserted that this is often done in the case of prosecutions for political offences. The best French jurists (Dupin, Beranger, Paillet, Ravoux, &c.) are therefore fully aware that the French jury contributes little towards the administration of justice. Even in England, as it is very doubtful. It may seem rash to attempt to assail the general conviction, not only of the English but of the French also, and other nations that even in this popular institution, the palladium of genuine civil freedom, and place entire confidence in their trial by jury. But it is only the cases of political prosecutions, or those in which the accused have been pursued by the revenge of the government which give to the trial by jury its reputation: there is still another question, not only whether the jury always merits this reputation, but whether the desired advantage cannot be attained equally well, and even better, by a proper organization of the judicial office. But to return to what we were saying on the value of the jury: This body of land was not able to prevent the influence of Jeffreys (chief justice under James II.) from giving his private hatred, nor has the French jury

able to oppose any obstacles of importance to such an abuse of the judicial office. Algernon Sidney and Lord Russell were condemned to death by the verdict of a jury. For common criminal cases, there can hardly be any more uncertain, fluctuating form of decision than the trial by jurors, who, without imparting to others the grounds of their verdict, or even settling any just grounds in their own minds, decide on the honour, freedom and life of their fellow citizens. In the first place, the actual existence of a crime need not be proved according to fixed rules. Suppose the case of a man being missed, or of a corpse being found—the jury are persuaded that a murder must have been committed, and pronounce some suspected person guilty, when it is possible that the missing man still lives, or that the dead man perished without personal violence. Some years since, David Evans was executed in London as the murderer of his wife, because an apothecary, who had never practised as a surgeon, maintained that the woman died in consequence of a wound on her head, while a surgeon in actual practice asserted, on the contrary, that the wound had nothing to do with her death, and that this was occasioned by an inflammation of the bowels. (*Morning Chronicle*, 1818, February 24.) In the second place, the jury give their verdict on the slightest and most remote evidence, when the offence in question is an injury to property, a theft, robbery, fraud, or the like. The instances in which the innocence of persons condemned for such offences subsequently appears are therefore constantly increasing, and the explanation of this circumstance is to be found in the character of the jury, who are taken mostly from men of business in the middle classes, who feel more hostility to a thief or a swindler than to a murderer. The jury act, in fact, the part of legislators: when the penalty imposed by the law appears to them too severe,—as, for instance, the punishment of death for stealing property to the amount of forty shillings,—they settle at their own pleasure the degree of the offence, so as to avoid the strictness of the law; and it has happened that a jury has declared a man who had stolen ten guineas (210 shillings) guilty of theft to the amount of thirty-nine shillings. The personal feelings of the jury towards the accused, and the light in which they regard the offence, often determine what the verdict will be, before the trial is begun. It has been proposed, in Germany, to make juries give their reasons for their verdicts; but this only proves that the nature of this institution is not understood. An exhibition of their reasons comports as little with their nature as a further examination by a different tribunal. The verdict of the jury comes like a decree of destiny, without being capable of justification, examination, or amendment; for the whole of the decision rests on things which cannot be a second time exhibited in exactly the same modifications—the deportment of the accused and the witnesses, the individual and momentary dispositions of the jurors. Even in England, doubts of the importance of the trial by jury are by degrees excited, and there is an approximation to the fundamental views of the German criminal process, which aims at exciting the moral feelings of the criminal by solitude and examination, and producing a confession, which makes the accused his own judge. No criminal is so hardened as never to experience a state of mind when the burden of conscience is too heavy for him, and he desires to reconcile himself to the law and his inward judge. To produce this effect is the aim of the criminal judges of Germany; and certainly it is at least as conformable to the high dignity of the administration of justice as the trial by jury. The abridgment of the length of the process,

and the publicity of the administration of penal justice, are different things, and, though they are commonly united with the trial by jury, are advantages which may be embodied with any other system.

The views suggested in the previous part of this article, written, as has been already observed, by a civilian unaccustomed to the practical operation of the trial by jury, deserve the consideration of minds accustomed to a different course of jurisprudence, not only from their theoretical acuteness, but from their development of supposed practical defects in the trial by jury. It seems fit, therefore, to give another exposition of this subject, which is maintained by persons educated under the common law, and to suggest some of the reasons why it is deemed the bulwark of public liberty, and the best safeguard of private rights under our forms of free government. The remaining part of this article is to be considered as independent of the foregoing; not so much as presenting a counter view, but as presenting the true grounds on which the institution was established, and is still dear to the free inhabitants of Britain and America.

I. *The Origin of the Trial by Jury.* It has been traced back by antiquarians to a very early period in British history, and seems, indeed, in some form, if not coeval with the origin of the civil government in England, at least to have been used time out of mind in that kingdom. It is lost among the early Saxon colonies; and probably was derived from the mode of administering justice by the peers of the litigant parties in the feudal institutions of Italy, France, and Germany. Mr Justice Blackstone (3 *Comm.* 349, 350) considers that this tribunal was universally established among all the northern nations, and so interwoven with their very constitution, that the earliest accounts of the one give us also some traces of the other. Mr Wynne (*Eunomus*, *Diag.* 3, s. 50) seems to entertain a different opinion, and, after stating that its origin is obscure (*caput inter nubila condit*), he asserts, that it is the noblest form of policy that was ever invented on earth, and comes nearest the impartiality of heaven. But, whatever may be the origin of the trial, it is of very high antiquity. And *Magna Charta* (ch. 29) referred to it as an existing institution, and provided that no person should be hurt, either in his person or property, unless by the judgment of his peers or the laws of the realm (*nisi per legale iudicium parium suorum vel per legem terra*).

II. *The different Kinds of Juries.* Juries are of two sorts, viz. grand juries and petty juries. The former may consist of any number more than twelve, and less than twenty-four persons. The office of the grand jury is to accuse persons who are supposed to be guilty of an offence. It may, therefore, properly be called the *jury of accusation*. The petty or petit jury consists of twelve persons only, and may properly be called the *jury of trials*, both in civil and criminal cases.

III. We shall first consider the organization, functions, and proceedings of the grand jury. The mode of accusation is by a written statement in solemn form, describing the offence, with all the proper accompaniments of time and circumstances, and certainty of act and person, which is called an *indictment*, or by a mode less formal (which is usually the spontaneous act of the grand jury), called a *presentment*, and which is afterwards put into solemn form by some proper officer. No indictment or presentment can be made except by the concurrence of at least twelve of the jurors. The grand jury may accuse upon their own knowledge; but it is generally done upon the testimony of witnesses under oath, and other evidence produced and heard before

them.\* The proceedings of the grand jury are, in the first instance, at the instigation of the government or other prosecutor, and are *ex parte*, and in secret deliberation. The accused has no knowledge of, nor right to interfere with, their proceedings. If they find the accusation true (which is usually drawn up in form by the public prosecutor), they write upon the indictment the words "a true bill," which is signed by the foreman, or chief of the grand jury, and is presented to the court publicly, and in the presence of all the jurors. If the indictment is not proved to the satisfaction of the grand jury, the word "*ignoramus*" (we are ignorant), or "not a true bill," or "not found," is written on it by the grand jury, or by their foreman, and it is then, in common parlance, said to be *ignored*, and the accusation is dismissed, as unfounded. When the grand jury return an indictment as a true bill (*billa vera*), the indictment is said to be *found*, and the party stands indicted, and may be required to be put upon his trial. When the indictment is not found, or is declared to be not true, the accused, if he is in custody, or has been in any way required to appear at the court, and answer to any accusation against him, is entitled to be discharged, or dismissed from any further inquiry or attendance before the court. Every public offence may be properly the subject of an indictment, and taken cognizance of by the grand jury of the county within which it is committed. But there is another mode of proceeding at the common law, at the suit of the king, called an *information*, which is similar to an indictment, except that it is not found by the grand jury, and is filed, *ex officio*, by the proper officer of the government. An information cannot be filed except in cases of mere misdemeanors, or offences not capital; for, whenever any capital offence is charged against a party, he cannot be put upon his trial unless the accusation be made by the grand jury by indictment.

IV. *The Organization of the Grand Jury.* The functions being such as we have stated, it is obvious that the duties require great care in the selection of the persons who are to serve as grand jurors. A precept, commonly called a *venire facias*, issues to the sheriff of every county, some time before any court of criminal jurisdiction is held therein, requiring him to summon twenty-four good and lawful men of his county, to attend the court, to inquire into, and present all offences committed within the body of the county. At the common law, these grand jurors are required to be freeholders of the county, and in England, where the sheriff makes the selection, they are usually gentlemen of the first respectability in the county. In the United States of America, different modes prevail in different states in the selection of grand jurors. In some, the grand jurors are chosen, as in England, by the sheriffs; in others, as in the New England States, the grand jurors are drawn by the town officers, from boxes containing the names of all the persons qualified to serve, from time to time, and in such numbers as are required; and the names so drawn are returned to the sheriff, and by him to the court. But, in whatever way the grand jurors are selected, their names are returned on a piece of parch-

ment or paper, by the sheriff, which is called a *panel*, and as many of them as appear in court are sworn as the grand jury, not exceeding twenty-three, so that twelve may constitute a majority. Their oath is, in substance, that they will diligently inquire and true presentment make of all offences committed within the county; that the government's counsel, that of their fellows, and their own, they will keep secret; that they will present no man for envy or malice; neither will they leave any one unrepresented from fear, favour, affection, or hope of reward; but that they will present things truly as they come to their knowledge, according to their best understanding. Usually, the presiding judge of the court instructs them in the matters which are within their jurisdiction, by delivering to them a charge, containing a summary of the offences and other business which may come before them. They then retire to their room, and sit, as has been said, in secret, hearing evidence in favour of the prosecution only, as the main question before them is, whether the party accused ought to be put upon his trial to answer the accusation. But they are always bound to act upon legal evidence, and are instructed that they ought not to find an indictment unless upon their oaths they are persuaded, so far as the evidence goes, that the accusation is true. It has been already stated, that the grand jury is to inquire only into crimes committed in the county for which they sit. And this is necessary true at the common law, for no man was bound to answer for any crime but before his peers in the county and neighbourhood where it was committed. But, by sundry statutes, both in England and America, some offences, not committed within a county, have, to prevent a defect of justice, been made cognizable therein. To enumerate these offences would occupy too large a space. There are proper powers vested in the courts to compel the attendance of grand jurors; and if any are returned who are not qualified, they may be excluded from the panel; and if an indictment be found by persons not qualified, the accused may except to it on this account. These careful has the law been, in the original selection of grand jurors, who are supposed, and indeed required, to be men of integrity, impartiality and intelligence, and above all just objection. And thus a body of men, brought together for the occasion, and for that only, are placed between the government and the citizen, as a shield against oppression and injury, and to afford a reasonable protection to him, if he be not justly suspected of a crime.

V. *As to Petty or Petit Juries, or, as they are sometimes called, Traverse Juries.* These consist, as has been already said, of twelve persons, and no more, for the trial of all criminal offences, and of no issues of fact in civil cases at the common law. There are some peculiar modes of trial by jury in England, where a larger number than twelve is required, which may be called the *extraordinary trial* by jury; as, for instance, a grand assize for the trial of issues in writs of right, which consists of four knights and twelve other persons; and the jury of attain, to convict a former jury of a corrupt verdict, which consists of twenty-four jurors. But these modes of trial are, at present, wholly disused in America; and, in England, that of a jury of attain has fallen into neglect, since the general use of the remedy of moving for a new trial, where the verdict is unsatisfactory. And first, as to the trial by jury in civil cases. This is generally confined to issues of fact in proceedings at common law, as contra-distinguished from proceedings in equity and admiralty. When, then, the parties have, in their written pleadings, or allegations, come to a fact which is denied on one side, and affirmed on the other, in a regular mode, the cause is said to

\* There are no grand juries in Scotland, except in cases of high treason, where the law is similar to that of England. In all other criminal trials, in Scotland, a number of jury-men, not exceeding forty-five, is cited. Of this number fifteen are chosen by the judge to sit upon each trial, the prisoner being allowed to object to any of them upon good grounds. It is not necessary that the jury be unanimous, as in England, in their verdict a majority being considered sufficient. Clergymen, surgeons, and butchers, are exempted from the office of jurymen. See the article Scotland, section Law.

be at issue, and the fact in controversy is to be ascertained by a jury. For this purpose, in England, a precept issues to the sheriff of the proper county, requiring him to select and summon to the court at which the trial is to be had, a suitable number of jurors, for the trial of the cause; and he accordingly makes return of the names of the jurors, on a piece of parchment or paper (thence, as before stated, called a *panel*), who are compellable to attend at the time and place appointed. If the sheriff have any interest in the case, or is not impartial, or is related to the parties, the jurors are selected by some other proper officer, and usually by the coroner of the county. The qualifications of petty jurors do not differ, generally, from those required as to grand jurors, their duties being equally important, and requiring equal intelligence. When the cause is called for trial, if all the jurors do not appear, or any of them are justly objected to and set aside (of which we shall speak hereafter), the deficiency may be supplied from among the bystanders, having suitable qualifications, which is called taking jurors *de talibus circumstantibus*, from which circumstance the persons thus selected are denominated *talesmen*. The jury, being thus full, and above objection, are sworn (severally or together, according to the local usage in each state) well and truly to try the issue between the parties, and a true verdict to give "according to the evidence" (or "according to the law and the evidence given them," by the local usage of some states). In some cases, special juries are allowed to be selected, in a particular mode, for the purpose of trying particular causes; in other cases, the trials are by a jury chosen in the ordinary manner, and thence called a *common jury*. But these distinctions are unknown in some of the states of America, though they are very important in the practice in England. After the jury is sworn, the cause is then tried in open court, the evidence is then offered, and the witnesses publicly sworn and examined in the presence of the judges, the counsel on each side, the jury, and all other persons in attendance. The question, whether any evidence is competent to be given to the jury, is, if any objection is made, first decided by the court. If rejected, it is never heard by the jury; if admitted, it is then read, or, if given by a witness, he is then examined before the jury. The party who calls a witness first examines him, and he is then liable to be cross-examined by the other side; and if any question is asked which either party deems improper, the opinion of the court is taken on it before the witness is allowed to give his answer. So, also, it is, in respect to any written evidence or document offered at the trial. And if either party requests it, the judge who presides at the trial makes a note, in writing, of the objection, so that the party may avail himself of it afterwards, upon a motion for a new trial, or by a writ of error, in a suitable manner. Before the evidence is offered, the counsel for the party who opens the cause, on each side makes a short introduction, stating the case, the points in controversy, and the facts which he expects to prove, so that the jury may more clearly understand the bearing of the evidence, as it is produced. After all the evidence is gone through, the counsel on each side argue the case to the jury, at large, commenting upon every part of it, and each insisting upon a verdict in his favour. If any questions of law arise (as in most instances they do), the judge is requested, and is bound, publicly to state his opinion on all the points of law applicable to it. This he ordinarily does in summing up the case, after the arguments of the counsel are over; but he may do it before, if he chooses. When the arguments are finished, the presiding judge, in England, and of most of the states in America, proceeds to

address the jury, stating to them the questions, recapitulating the evidence, and commenting on it in such a manner as he deems correct, for the purpose of enabling the jury to understand it well, and to apply the law properly to it. In these addresses, he often freely expresses his opinion as to the weight of evidence, the sufficiency of the proofs, the force of particular objections, and the comments of the counsel. But, it being a principle of law, that the jury is to respond as to matters of fact, and the judges as to matters of law (*ad questiones facti respondent juratores, ad questiones legis respondent iudices*), it is always understood, that these comments on matters of fact are not binding on the jury, and that they are given solely with a view of enabling the jury to exercise their functions more perfectly, and that the jury are at liberty to disregard them if they please. But, generally speaking, they do receive great weight from the jury, who naturally place confidence in the judges, from their talents, experience, and impartiality; and therefore, unless the judge obviously exhibits some improprieties, or betrays some unjustifiable feeling, they consider him as a friend, aiding and assisting them in their duty; and, his addresses being always in public, and open to the criticism of the public, as well as of the profession, it rarely occurs that his conduct is deemed exceptionable. Still the jury have a right to form, and do form an independent judgment upon matters of fact; and their judgment is often conclusive. After the judge has finished his summary, the jury withdraw into a private room, where they are kept together for the purpose of deliberation, until they have all agreed in a verdict (*verdictum*) upon the point in controversy. They are not permitted to have any intercourse with any other persons, and are allowed, during their continuance in secret session, to have only such food and other necessities as are indispensable. Indeed, by the old law, they were to be kept without meat, drink, fire or candle, until they were agreed, unless by permission of the court, which soon, however, became almost a matter of course. When they are agreed, they come into open court, and their names being called, they deliver in their verdict, which is recorded by the proper officer, who then reads it aloud to the jury, and asks them if they agree to it as recorded, to which they publicly assent. If either party doubts it, the jurymen are severally asked if they agree, which is called *polling* the jury. Sometimes when the facts are very complicated, or involve questions of law of great difficulty, the jury instead of finding a general verdict, that the issue of fact is for the plaintiff or for the defendant, state all the facts at large, and ask the court to decide upon those facts, whether the issue ought to be found for the plaintiff or for the defendant. This is called a special verdict. It rarely occurs in criminal cases, and is not very common in civil cases. But the jury are never obliged to find a special verdict, and may, in all cases, give a general verdict, if they choose. If the jury, after being kept together a considerable time, cannot agree, they are usually brought into court by the proper officer, and the court, if their difficulty is about any matter of law, often makes additional explanations. But if, after every reasonable effort, the jury continue to disagree, they are discharged by the court, and the cause must then be tried anew. In criminal cases, and especially in capital cases, the court with great reluctance allow the discharge of a jury, after the cause is once committed to them.

Next, as to the trial by jury in *criminal cases*. Here the qualifications of jurors do not differ from those required in civil cases. But the law, with a view to prevent the undue influence of the govern-

ment in the selection of jurors, and the undue prejudices arising from public opinion, has thrown additional guards round the party accused. He is not only entitled to be tried by good and lawful men, of the neighbourhood where the crime is alleged to have been committed, but to be confronted with the witnesses, and to have, in capital cases, some privileges, which are not allowed either in civil cases or in offences of a subordinate character. And, in the first place, the right of challenge, which, though it exists for many purposes in civil trials, is of far more consequence and extent in criminal trials. A challenge is, properly speaking, an objection or exception to a juror, or to the whole jury, as incompetent to sit in a trial. It is of two sorts: the first is a challenge to the array, or an exception to the whole panel or list of jurors, as they are arrayed or set in order by the sheriff in his return. And it may be taken on account of the partiality of the sheriff, when he selects the jury, or of some default, omission, or illegality of himself or of some other officer or functionary concerned in arraying or returning the panel. This challenge may be either for a principal cause or to the favour, the former of which is founded upon positive proof or presumption of impropriety; the latter is founded upon less strong presumption or suspicion and therefore properly to be inquired into, or to be decided by the sound discretion of the triers. Secondly, the other sort of challenge (which also may be for a principal cause or to the favour) is a challenge to the polls, that is an exception to particular jurors, answering in some degree to the *recusatio judicis* of the civil and canon law. Challenges to the polls, at common law, have been reduced to four sorts:—1. Challenge *propter honorem respectum*, or in respect to nobility; as, if a lord or peer of the realm in England be empaneled on a jury, he may be challenged by either party, or may challenge himself. 2. Challenge *propter defectum*, or for want of proper qualifications; as if a person be an alien or a slave; or in cases where he is required to be a freeholder, if he is not such; or is not of a suitable age, as a minor; or is a female, for females are not allowed to be jurors; or is convicted of an infamous crime, or is otherwise disqualified. 3. Challenge *propter affectum*, for suspicion of bias or partiality. This may be a principal challenge, as has been already stated, when there is pregnant proof or presumption of partiality or of malice, as that a juror is of kindred to either party (at the common law, in the ninth degree); that he has already prejudged the cause, as an arbitrator; that he has an interest in the cause; that he has taken money for his verdict; that he has formerly, as a juror, tried the same cause; and that he is the servant, master, attorney, or counsel of one of the parties. A challenge to the polls for favour (which supposes a doubt of impartiality) is where the party has no principal cause of challenge, but has suspicion of favour, and offers circumstances in support of such suspicion. In such a case, the validity of the objection is, by the common law, left to the determination of triers, whose office it is to decide whether the juror who is objected to is favourable or unfavourable, or, rather, whether he stand indifferent between the parties. The triers, in case the first man called as a juror is challenged, are two indifferent persons, named by the court; and if they try one man, and find him indifferent, he is sworn, and then he and the two first triers try the next who is objected to; and when a second is found indifferent, those two who are sworn as jurors become the triers of all the others who are objected to, in lieu of the two triers first chosen. 4. Challenge *propter delictum*, or on account of some crime, of which the person called as

a juror has been guilty, and which imports a disability and discredit as a juror. This applies to cases of a capital nature, and other infamous crimes, such as treason, felony, perjury, conspiracy, and other species of the *crimen falsi*. A person called as a juror may be called to say the truth (where he is said to be interrogated *voir dire, veritatem dicere*) in respect to such causes of challenge as are not to be discredited or dishonour; but he cannot be called upon to acknowledge himself guilty of any crime, or other thing which renders him infamous. There are also the causes, strictly speaking, of challenge by the parties. But many persons are entitled to be excused from serving on juries, and, on this account, may plead the excuse for themselves, though the parties may not take the exception. Among these are magistrates, aged persons, and persons holding particular offices, and others having special exemptions. The challenges above mentioned equally apply to civil and criminal cases. But in favour of life, in capital trials, the accused is intitled to the privilege of challenging a certain number of persons, called as jurors, without assigning any cause; and this privilege is thence called the right of *peremptory challenge*. This is a provision founded in great humanity and tenderness towards persons capably accused. The reasons commonly assigned for it are, 1. that every person is liable to strong dislikes and prejudices, in respect to particular persons, merely from their appearance, manners, and gestures, although they are strangers to him, and that even a caprice or feeling of this kind may, in the course of the trial, embarrass the party in his defence; 2. that upon a challenge for cause shown, the reason may prove insufficient, and, if the party had no right of peremptory challenge, he might be tried by a juror who, from the very circumstance of being objected to, might conceive a prejudice against the accused. On these accounts, he is at liberty to challenge the juror peremptorily, after he has, for an insufficient reason, challenged him for cause; and, as the object of all trials is to allow a fair and full defence, he is at least, to have his wishes considered so far as to exclude those whom he distrusts in the first instance. But as it is obvious that the right of peremptory challenge, if not limited by some known boundary, might for ever prevent a trial, the law has fixed a definite number, to which the party is confined. The common law fixed this number at thirty-five, or one short of three full juries; and that still remains the rule in all trials for treason. But in other capital offences, the right is now generally restrained by statute, to twenty, both in England and America. If a person attempts to challenge beyond this number, his challenge is disregarded. If, by means of peremptory or other challenges, a sufficient number of jurors are not found, talesmen are appointed, as in civil cases. If several persons are tried at the same time, upon one indictment, each one is entitled to the full number of challenges, and one may challenge a juror not objected to by the others, and be made to be excluded altogether; for every jurymen must be above any objection by any of the persons tried. We have thus far treated of challenges by the party accused. The government has, strictly, no right to challenge, except for cause shown; but for cause shown the government may either challenge the array, or the polls, in the same manner as a private person. However, it is usual, at least in England, if a juror is objected to by the government, not to call upon the government to show cause, but the panel is gone through, and then, if sufficient jurors are not found and sworn, the cause of the challenge may be inquired into; for, if there is a fault without the persons objected to by the government.

there is no strong reason to insist upon their being sworn, although no good cause has been shown.

There are some other provisions favourable to prisoners accused of capital offences, and especially of political offences, which deserve notice. In England, in cases of treason, the prisoner is entitled to a copy of the indictment five days before his arraignment for trial, and a copy of the panel of jurors who are summoned, and their professions and places of abode, ten days before his trial, and a list of the names of the witnesses to be produced against him, the like length of time before the trial. He is also entitled, at the expense of the government, to have witnesses summoned in his behalf, to establish his defence, and to have counsel assigned to assist him in his defence. In America, in cases of treason, similar provisions in substance exist, with a difference only in respect to the length of time allowed for the copy of the indictment, and lists of jurors and witnesses. And in many of the states, an equally humane provision exists in respect to all other capital offences. By the laws of the United States of America, the prisoner is entitled to have counsel assigned to him, and to have his witnesses summoned at the expense of the government, in all capital cases. In cases of treason, a copy of the indictment is required to be delivered three days before the arraignment, and also a copy of the list of jurors and witnesses summoned by the government, three days before his trial. In other capital cases, the time is two days, instead of three. The right to employ counsel in defence, is also secured to all persons accused of any crimes in the United States. But in England, it is confined to cases of treason, and to mere misdemeanours. In capital cases, not of treason, counsel are not permitted to be employed in England, except in arguing questions of law.\* The quaint and unsatisfactory reason given for this exclusion is, that the judges are counsel for the prisoner,—a reason which, if good in any, is sufficient in all cases. But there is more of speciousness than of truth in the remark; for, though the judges ought to take care that the prisoner has a fair and impartial trial, it is impossible that they can act as counsel for the prisoner exclusively; and the importance of counsel, exclusively for the prisoner, is admitted in all cases of treason. Why not equally so in other capital cases?

Such is a very general outline of the trial by jury under the common law. It is deemed of immense value in Britain, and among the dearest rights of the people. In America, it is quite as dear, and is deemed of such high importance, that the right to a trial by jury, in all criminal cases, is secured by the constitution of every state in the Union, and is also provided for, in all civil cases at common law, where the amount in controversy is of any considerable value. This strong attachment to the trial by jury, both in Britain and America, after the experience of it for centuries, furnishes no small argument in favour of its efficacy as a security of right, and a redress of wrongs. It is perpetually spoken of as the palladium of our public rights and liberties; and in all the various fluctuations of public opinion, it has remained untouched and unsuspected. It is not surprising that those, who know it only in theory, or who at present see the administration of its powers and duties in a very imperfect state in the civil law countries, or who are accustomed to a jurisprudence foreign to its principles, should entertain doubts of its advantages, and should feel a deep sense of its

defects. The first part of this article shows how difficult it has been to transfer to France the trial by jury, and to administer it with the same beneficial effects as in Britain. The errors in France may have resulted, in part, from the imperfect knowledge of the courts, as well as of the juries, from the novelty of this mode of trial, and their want of experience in the management of it. Perhaps, too, there may be something in the other institutions of France, or in the temperament and character of the people, which may disturb its proper operation.

It may be useful for us, before concluding this article, to review some of the grounds on which the trial by jury has been hitherto vindicated, and to glance at some of the defects which it is supposed to involve, as well as at some of the objections to which it is supposed to be liable—*Fas est et ab hoste doceri*. And, in the first place, it is not necessary to contend that, as an instrument of public or private justice, it is an institution absolutely perfect; that it is incapable of abuse; or that it never occasions error. That would be to require of it what belongs to no human institution whatsoever. Every work of man is, by his very nature, imperfect. Every form of government involves some inconveniences, and errors, and abuses. Every effort to administer justice must necessarily fall short of perfect correctness, from defects of evidence, from the infirmity of judges, from the wrong biases of human opinion, from errors in reasoning, from ignorance, and passion, and prejudice, independently of all intentional wrong, or corrupt motives, or malice, or dishonesty, or deliberate baseness. The only question is, what, on the whole, is the best means of administering justice, taking human nature as it is, and human infirmity as it must ever operate. If crimes are to be tried and punished, if rights are to be enforced and wrongs redressed by judicial tribunals, what is the best structure of the institution for the purpose of trial and decision? There seems to be but a narrow circle of means, out of which the choice is to be made. Shall the tribunal be composed of executive officers of the government, or of judges appointed by the government for each case, or of judges holding their office at the pleasure of the government? Or shall the tribunal be composed of judges holding their offices permanently, and independently of the government? Or shall the tribunal be composed of jurors chosen at large, *pro hac vice*, or chosen permanently for that duty, without any previous qualifications of legal experience, learning or superior ability? And if so, by whom, and in what manner, shall they be chosen? Or shall the tribunal be of a mixed character, composed of judges learned in the law, permanent in rank and station, and of jurors selected for the occasion in an impartial manner, and the trial be had before the judges expounding the law, and the juries deciding the facts? In cases of crimes, the object is to protect the innocent and to punish the guilty. Where does the danger chiefly arise? In political accusations, the government not only is a party, but has a strong motive to produce conviction. In other cases, it may not have so strong a motive, but it may be subject to influences of an equally fatal character. If the king or other executive, or officers selected by him for that purpose, *pro hac vice*, are to decide upon the guilt or innocence of the party, according to their own discretion and such proofs as are satisfactory to themselves, there is no security whatsoever against unjust convictions. The decision will be arbitrary, and according to the will of the prince or his favourites, or according to state policy, or perhaps public prejudice, actuated by strong resentment. If the trial be by judges solely appointed by the government, and holding their offices permanently, there may be

\* The case is different in Scotland, counsel there, in all criminal cases, being not only allowed but required, and, if the prisoner be poor, furnished at the public expense.

dangers arising from other and different sources, from their political opinions, from their state interests, from their irresponsibility to public opinion, and from influences of character and profession, which insensibly warp the judgment. 1. If the trial be by permanent jurors, there will be still greater dangers from their want of the proper learning, and general weight of character, added to the other objections. So that any of the proposed substitutes does not furnish more safety or certainty, in the administration of criminal justice, than that of a trial by jury.

On the other hand, the trial by jury, as known to the common law, affords some checks upon arbitrary power, and enlists many just feelings and reasonable guards against oppression. 1. The jurors are selected from the mass of intelligent citizens, of suitable qualifications, and of the same rank, and having the same general interests, as the accused. They are not permanently employed, and have no common connexion with each other, and no habits of fixed co-operation. They are, or may be, strangers to each other, and to the accused, until the moment when they are empaneled. They are subject to no reasonable exception, either in point of character or influence, for that would exclude them, at the will of the accused. They are subject to the same laws, and liable to the same prosecution, as the party on trial, and therefore have a natural tendency to sympathize with him. 2. The trial is had in open court, before judges who hold their offices permanently, and who are bound to administer the law, and to give their opinions publicly to the jury. From the moment that they are empaneled, they are excluded from all intercourse with every person except what takes place in open court; and their subsequent deliberations are private and secret. 3. They are under oath to decide the case upon the evidence given in open court. No testimony can be heard by them, except what is admitted and delivered in open court; so that the court, the counsel, and the by-standers, have a perfect knowledge of every part of it. Thus the whole public become the ultimate judges of the sincerity and justice of their verdict. 4. If they find a verdict against the party, and there has been any error of law or fact, or any misconduct in the jury, the court will grant a new trial; but if they acquit him, there can be no new trial, for the law will not allow a man to be twice put on trial for the same offence, and thus his life, liberty, or limb be put in jeopardy. Here we see the humanity of the common law, which leans in favour of the accused, and disables the government from practising oppression upon any citizen, by successive vindictive prosecutions. 5. Again, if the evidence is doubtful, the party is entitled to an acquittal, and the court will so direct the jury; for the common law will not tolerate that any man should be punished, unless there be satisfactory proofs of guilt to the minds of twelve of his peers or equals. 6. It has been said that the facts are often complicated, and the guilt is compounded partly of facts and partly of law. This is true; but here again the wisdom of the common law has provided that the judges shall state to the jury what the law is, as applicable to the various postures of the facts, as they may find them. They are also generally assisted by the arguments of the counsel on each side, in arranging and comparing the facts; and the judge, in his summing up of the evidence, brings the whole in review, and points out to them the bearings of every part, and strips off the false glosses, if any, which have been made by counsel. But he still leaves them to decide upon it according to their own conscientious belief of it. 7. It is said that the arguments of counsel may deceive them, and blind them to the truth. But the answer is, that they have an equal oppor-

tunity to hear the opposite side, and that, generally the judges assist them, when there is any attempt to misstate the evidence, by referring to their own notes of it, as given in open court. And from long habits, and experience in human life, jurymen learn to disregard the mere efforts of eloquence, and, under a sense of their religious and social obligations, consult the real truth and justice of the case. Would there be more security if no counsel were allowed? No person will say so. 8. It is also said that the judges may have an undue influence with the jury. This is certainly possible, and has actually occurred in corrupt times. In the case of chief-justice Jeffreys, referred to in the preceding part of the article, it should be remembered that he held his office during the pleasure of the crown, and not, as the judges of England now hold, during good behaviour, or life. He was a devoted partisan of the crown, and he became infamous by his corrupt administration of the law. But it should be considered, that the jury could scarcely have been free from improper biases of some sort, otherwise they could not have found a verdict against the accused. In our day, and, indeed, at any time since the arbitrary times of King James II. and the revolution of 1688, such conduct as a judge would be sure to meet with universal reprobation, and would generally produce an acquittal of the prisoner, and a public impeachment of the judge. Nay, it is well known, that such is the jealousy of juries in this particular, that any undue interference or solicitude for conviction, exhibited on the part of a judge, would destroy his influence, and produce an opposite verdict. It is his supposed impartiality that gives weight to his opinion; and the jury know that they have a right to disregard it, if they please. 9. It is said, that juries may be influenced by improper motives, and sometimes disregard the law, and give a false verdict. This is possible, and, indeed, has probably sometimes happened. But the occasions are rare; and where there is a suspicion of that sort, it always injures the character of the jurymen, and subjects them to public scorn and censure. Generally, juries are scrupulous in respecting the law, because it is the only protection of their own rights. Where the law is very harsh, and the punishment is disproportioned to the offence, they have sometimes exhibited a repugnancy to convict; but they rarely have acquitted the party, unless there were circumstances of great doubt, or of great mitigation; and if their conduct, in such cases, is not strictly justifiable, it is generally not such as produces any reproach, either from the court or the public. These occasions, however, are rare, and constitute exceptions of a great moment in the general administration of justice. 10. It is not true, as is sometimes supposed, that juries are ready to convict on slight proofs, or insufficient evidence. Our law declares, on the contrary, that in such cases they ought to acquit the party; and it is always laid down to the jury by the court. Indeed, the judges, in this respect, always act as counsel for the prisoner, and give their advice to the jury, in respect to every reasonable doubt in the evidence. There are so many checks upon justice, in cases of this sort, that it can scarcely happen, that an unjust conviction, at least by the improper bias of the jury, can take place. If there be any error, it is usually on the side of mercy. 11. It is objected, that the jury sometimes find the party guilty of a part, and not of the whole offence, as of manslaughter when he is accused of murder. Certainly the jury do so; and for the best reason, that the law requires it. A jury ought not to find a man guilty of the whole of a charge, unless it is wholly proved. If what is proved amounts to a crime of the same nature, but of inferior enormity, or more mitigated than what is

charged, they find their verdict according to the proof, and the court inflict only the moderated punishment. And any other course would be flagrant injustice. But a jury cannot, upon a trial for one offence, find a man guilty of another offence, not of the nature of the one charged; for instance, upon a charge of murder, they cannot find him guilty of forgery; but if he is charged with stealing two watches, they may find him guilty of stealing only one. 12. It is also objected, that juries often favour criminals. But this is not generally true, except to the extent that the law favours them. There may be cases of a popular cast, or of an odious nature, where juries have occasionally shown improper biases for the accused; but this objection applies to all tribunals, and is founded on human infirmity generally. Juries do not, even in cases of this sort, often depart from their duty; and the exceptions are so few, that they are seldom felt or urged in free governments. 13. But an objection the most pressed by those who are not practically acquainted with the trial by jury, is, that unanimity is required in pronouncing a verdict of acquittal or condemnation. It is true, that no verdict can be received in England which has not the assent of all the twelve jurors; and there are no means of compelling an assent; and yet, practically speaking, few cases of disagreement occur, except where there is a solid foundation for real doubts and difficulties. Unanimity is more common than, at first view, might be suspected. In the first place, the jury reason with each other upon all doubtful points, and if they at first differ, the differences are often removed by further discussion. Pride of opinion is not enlisted on either side, and sometimes each recedes from the first limits of his own opinion. In the next place, the differences of opinion are more often upon inferences and conclusions from known facts than upon the facts themselves; and more often upon doubts as to the proper application of the law to those facts; and still more often upon mere collateral questions, where there is no common standard of measure, as in assessing damages. In criminal cases, fewer difficulties ordinarily arise than in civil cases, because doubts weigh favourably for the accused, and often produce an acquittal. But, after all, there is not probably one in twenty cases, tried by a jury, in which there is a final disagreement; and it is by no means sure, that a decision could be had more just or fair by requiring a majority, or any other number, than by requiring unanimity. The jurors might then be equally divided, or the struggles of the minority to prevent a verdict might be equally violent. Most trials give rise to differences on several points; and, in such cases, the unanimity of a majority, in a general verdict, must be produced in the same manner as unanimity in the whole jury. But the best answer to the objection is, that experience is in favour of requiring unanimity of the whole jury. No practical evil has, as yet, been felt from the rule. And it is no small recommendation of it, that it gives a satisfaction and confidence to the public mind, in England and America, that the decision of a mere majority could scarcely ever give. If unanimity is less easily obtained in France, that proves nothing as to the value of the principle elsewhere. The failure may be from the novelty of the trial in France, or from the habits and character of the people, or from the imperfect comprehension of the duties of the judges and the jury. Most of the remarks above made refer especially to juries of trial in criminal cases; but they are, in a great degree, applicable to civil cases also. It remains only to add, that the other preliminary guards, interposed by the common law in criminal cases, are of inestimable value to every citizen. He cannot be accused, nor be brought to trial, unless upon an

indictment found by a grand jury. He is thus saved from prosecutions founded in malice, hatred, political opposition, personal feeling, and popular prejudice. The government cannot touch him; the people cannot make him the victim of their jealousy or suspicion. A grand jury of incorruptible and impartial men, who are his equals, must first accuse him, upon the hearing of legal proofs and sworn witnesses, before he can be called to answer for any offence. Twelve men, good and true, (*probi et legales homines*), must concur in the indictment; and twelve more must concur upon his trial, in asserting his guilt, before he can be punished. When his guilt is ascertained, the punishment rests, not in the discretion of the king, or of the government, or any mere executive officer; it is to be declared by the judges, before whom he has been tried, or in the same court, according to laws previously passed, and regulating the nature and extent of the punishment. It is not too much, then, to affirm that the trial by jury is justly the boast of England and America; and we may hope that, by the goodness of Providence, it may be perpetual.

**JURY-MAST**; a temporary or occasional mast erected in a ship in the place of one that has been carried away by tempest, battle, &c. Jury-masts are sometimes erected in a new ship, to navigate her down a river, or to a neighbouring port, where her proper masts are prepared for her.

**JUS** (*Latin*) signifies 1. that which is right or conformable to law; also the obligation which the law imposes; 2. a body of laws, decrees, and usages; 3. a man's privileges, singly or collectively; 4. the place where justice is administered; 5. the power which originates from the law. Hence the word is of very frequent use in law.

*Jus divinum* is that which is ordered by a revelation, in contradistinction to that which is ordered by reason; but as the *right* must be one and the same, it is evident that the distinction exists only in the form, and not in the essence, because that which is ordered by our reason is to be referred to God, as its origin, equally with that which is decreed by revelation. A law may have both a human and a divine origin; for instance, "Thou shalt not kill." This rule may be adopted because it is ordered in the decalogue, or because it is the dictate of reason, and is established by most nations, unacquainted with the decalogue. The division, however, is rather antiquated, and the philosophical lawyer will refer all law to a common origin. See Thomasius, *De Jure Div.*

*Jus Italicum* signified the lowest degree of privileges enjoyed by cities under the Romans.

*Jus Latii*, or *jus Latinum*, denoted the privileges granted by the Romans to the inhabitants of Latium, according to the various significations of the word. (See *Latium*.) It held a rank between the *jus Italicum* and the *jus Romanum*.

*Jus Quiritium* (*civitas optima lege, optimo jure*); the fullest enjoyment of Roman citizenship, the privilege and obligations of Roman freeborn citizens, including in the flourishing times of the commonwealth, 1. public privileges—*libertas* (security of personal liberty, *militia* (participation in the service of the legions, *census* (registration on the list of property: see *Census*), *jus tribus* (the incorporation in a tribe), *jus suffragiorum* (the *jus Quiritium* in a narrower sense, the right of suffrage), *jus honorum* (participation in public honours), *jus sacrorum* (participation in religious celebrations, *sacra publica* and *privata*); 2. private privileges—*jus gentilitatis et agnationis* (the privilege of family and clan; e. g. *successio* and *tutela agnatorum*, *jus legitimi domini* (the privilege of lawful property), *jus connubiorum* (privilege of lawful marriage), *jus patrimonii* (unlimited power over the persons and property of real or

adopted children). Heineccius and others mention only two *jura Quiri.*, and, besides them, *jus civilis* or *civitas Romana*. Couradi *De Jure Quir.* a *Civitate Romana non diverso*. Helmstedt, 1742, 4to) is of a different opinion. Still different is the opinion of Cramer. (*De Jure Quiri. et Civitatis Discrimine*, Kiel, 1803, 4to.) At all events, the *jus civilis* was of a more limited character than the *jus Quiritium*. Thus newly admitted citizens received it.

JUSSIEU, ANTONY and BERNARD, DE; two brothers, born at Lyons, in the latter part of the seventeenth century, eminent as physicians and botanists.

Antony made a botanical tour, and brought from Spain a large collection of plants. After this he wrote upon subjects connected with natural history and medicine, and died in 1758, in the seventy-second year of his age, much lamented on account of his philanthropy.

Bernard, born in 1699, was appointed professor of botany in the royal botanical garden. We are indebted to him for a new edition, in two volumes, 12mo, of Tournfort's History of Plants in the Neighbourhood of Paris (*Histoire des Plantes qui naissent aux Environs de Paris*), published in 1725. Jussieu's scholars used to bring him flowers which they had mutilated or compounded with others, for the purpose of testing his knowledge, and he always recognised them immediately. Some of them having made the same experiment on Linnaeus, he said "God or your teacher (Jussieu) can alone answer your questions." Jussieu, after having been a long time employed upon a systematic division of the vegetable kingdom, died in 1777, aged seventy-nine. Cuvier, in a biographical memoir on Richard, calls Bernard de Jussieu "the most modest, and, perhaps, the most profound botanist of the eighteenth century, who, although he scarcely published any thing, is, nevertheless, the inspiring genius of modern botanists."

Antony Laurence Jussieu, nephew of Bernard, born at Lyons, in 1748, physician, member of the academy of sciences at Paris, and of the royal medical school, made a report, in 1804, on the results of captain Baudin's voyage to New Holland. In the anatomy of plants, he has distinguished himself by having made known the discovery of a substance enclosed in the kernel, called by him *perisperma*.

**JUSTICE OF THE PEACE.** The word *justice* is applied to judicial magistrates; as *justices* of such a court, and, in English laws, *justices of the forest*, *hundred*, *of the labourers*, &c.; and hence the appellation *justice of the peace*.—that is, a judicial magistrate intrusted with the conservation of the peace. A great part of the civil officers are, in fact, the conservators of the peace, as their duty is to prevent or punish breaches of the peace. Thus the judges, grand-jurymen, justices of the peace, mayors, and aldermen of municipal corporations, sheriffs, coroners, constables, watchmen, and all officers of the police, are instituted for the purpose of preventing, in different ways, crimes, and disturbances of the peace of the community, or for arresting, trying, and punishing the violators of the laws and good order of society. In Britain, the justice of the peace, though not high in rank, is an officer of great importance, as the first judicial proceedings are had before him in regard to arresting persons accused of grave offences; and his jurisdiction extends to trial and adjudication for small offences. In case of the commission of a crime or a breach of the peace, a complaint is made to one of these magistrates. If he is satisfied with the evidence of a commission of some offence, the cognizance of which belongs to him, either for the purpose of arresting, or for trying the party accused, he issues a warrant directed to a con-

stable, or other executive officer designated by the law for this purpose, ordering the person complained of to be brought before him, and he thereupon tries the party, if the offence be within his jurisdiction, and acquits him or awards punishment. If the offence charged be of a graver character, the adjudication upon which is not within the justice's jurisdiction, the question then is, whether the party complained of is to be imprisoned, or required to give bonds to await his trial before the tribunal having jurisdiction, or is to be discharged; and on these questions the justice decides according to his view of the law and the facts. In Britain, there are some officers, as the master of the rolls, some municipal authorities, &c., who are justices of the peace by prescription, in virtue of their other office; but, in general, the appointment is by commission; and, in Britain, when a new commission issues to justices in a certain county, this supersedes former commissions for the same county, of course. In America the office is held only by special appointment, and the tenure is different in different states, the office having been held, in one state at least, during good behaviour; but the commission is more usually for seven years, or some other specific limited period. In France, justices of the peace are in many respects different from those of Britain and America, though the national convention, in its famous decree respecting the new organisation of the judicial system (August 24, 1790), which, in its principal features, still exists, evidently contemplated a closer imitation of the British system. France, as it is well known, was then divided into departments; these into districts (at a later period called *arrondissements*), and these into cantons, in order effectually to efface the ancient division into provinces, lordships, &c. In each canton was a justice of the peace, to be elected by the citizens, with some assistants (*prud'hommes*), for two years, in lieu of the former feudal courts. His business consisted in the decision of cases where property was in dispute not above 100 livres in amount (up to fifty livres without appeal); in the settlement of disputes respecting possession and those relating to verbal injuries; in making compromises and discharging guardianships. At a later period, the jurisdiction of these officers was made to comprise the lower offences against the police regulations. The justices of the peace remained elective until the restoration, though the consular constitution of the year VIII. (December, 1799) extended the term of the office to three years; and, in 1802, it was extended to ten years. According to the *Charte Constitutionnelle* of 1814, the justices of the peace were appointed by the king for life. The average number of persons within the jurisdiction of a justice of the peace is 10,000. All processes in any way complicated (above 100 francs, all disputes respecting the genuineness of documents (*inscriptions en faux*) are to be brought before the *tribunaux de première instance*, from which an appeal lies to the *cours d'appel*. The salary of a French justice of the peace is small; his authority is not to be compared with that of the justices in Britain, yet the office is of great importance to the country.—See Biret's *Recueil général et raisonné de la Jurisprudence et des Attributions des Justices de Paix de France* (2 vols., Paris, 1819).—Justices of the peace were usually established by Napoleon where he erected new governments.

JUSTIN, surnamed the Martyr; one of the earliest and most learned writers of the Christian church. He was the son of Priscus, a Greek, and was born at Flavia Neapolis, anciently called Scythia, a city at Samaria, in Palestine, towards the close of the first century. He was educated in the pagan religion, and, after studying in Egypt, became a Platonist,

until, in the year 132, he was led, by the instructions of a zealous and able Christian, to embrace the religion of the gospel. He subsequently went to Rome, in the beginning of the reign of Antoninus Pius, and drew up his first apology for the Christians, then under a severe persecution, in which he shows the cruelty and injustice of the proceedings against them. He was also equally zealous in opposing altered heretics, and particularly Marcion, against whom he wrote, and published a book. He not long after visited the East, and, at Ephesus, had a conference with Trypho, a learned Jew, to prove that Jesus was the Messiah, an account of which conference he gives in his Dialogue with Trypho. On his return to Rome, he had frequent disputes with Crescens, a Cynic philosopher, in consequence of whose calumnies, he published his second Apology, which seems to have been presented to the emperor Marcus Aurelius, in 162. Crescens preferred against him a formal charge of impiety for neglecting the pagan rites, and he was condemned to be scourged, and then beheaded, which sentence was put into execution, in 164, in the seventy-fourth or seventy-fifth year of his age. Justin Martyr is spoken of in high terms of praise by the ancient Christian writers, and was certainly a zealous and able advocate of Christianity, but mixed up too much of his early Platonism with its doctrines. The best editions of his works are those of Maran (Paris, 1742, folio), and of Oberthur (Wurtzburg, 1777, 3 vols., 8vo.)

JUSTIN; a Latin historian, who probably lived at Rome, in the second or third century. He made an epitome of the history of Trogus Pompeius, a native of Gaul, who lived in the time of Augustus, and whose works, in forty-four books, contain a history of the world, from the earliest ages to his own time. His history of Macedonia was particularly complete. To judge from the epitome (for the original is lost), there were many errors in the work, especially in the Jewish history; but this epitome, which corresponds to the original in its title and arrangement, having compressed into a brief space so much of the important matter of the old histories, has obtained a considerable reputation, and even now is often used in schools. The style is, on the whole, elegant and agreeable, but it is destitute of that noble simplicity and classical correctness which distinguish the work of a master. The best editions are those of Grævius (*Jariorum*), Hearne (Oxford, 1705), Fischer (Leipsic, 1757), and Wetzel (Leignitz, 1806). See Heeren, *De Trogi P. Pontibus*, in *Comm. Soc. Gott.* xv.

JUSTINIAN I., surnamed the *Great*, nephew of Justin I., emperor of the East, celebrated as a law-giver, was born in 483, of an obscure family. He shared the fortunes of his uncle, who, from a common Thracian peasant, was raised to the imperial throne. While consul (521), he exhibited splendid games to the people. He likewise flattered the senate, and sought their favour; in consequence of which that body conferred on him the title of *nobilissimus*. His weak, infirm from age, and suffering from a wound, admitted him to a share of his power. Yet it was not till after his death, about August 1, 527, that Justinian was proclaimed emperor. He now married Theodora, whom he raised from the condition of an actress and a public prostitute to the throne of the empress. She acquired an absolute mastery over her husband. Under his reign, the parties of the circus contended with great animosity, and, under the names of the *Greens* and the *Blues*, occasioned many bloody scenes in Constantinople. The violent means which Justinian used to quell the tumult only served to increase it, and a conflagration, which broke out in consequence laid the greatest part of

Constantinople, and his own most beautiful buildings, in ashes. Justinian's own life was in peril. After the turbulence of these parties was extinguished by streams of blood, and a multitude of executions, Justinian finished the war with the Isaurians and his general, Belisarius, in 523 and 529, obtained three glorious victories over the Persians. This great general destroyed, in 534, the empire of the Vandals in Africa, and carried Gelimer, their king, a prisoner to Constantinople. Spain and Sicily were reconquered, and the Ostrogoths, who possessed Italy, were vanquished. In 536, Belisarius made his entry into Rome, and the eunuch Narses, another of Justinian's generals, in 553, put an end to the dominion of the Ostrogoths in Italy. These successes restored to the Roman empire a part of its former vast possessions. Justinian now turned his attention to the laws. He commissioned ten learned civilians to form a new code from his own laws and those of his predecessors. To this code Justinian added the *Pandects*, the *Institutes* and *Novels*. These compilations have since been called, collectively, the *body of civil law* (*corpus juris civilis*). (See *Corpus Juris*, and *Tribonianus*.) Justinian was also intent upon building new cities, and upon fortifying others, and adorning them with new edifices; but he was particularly desirous of establishing peace in religious matters. Amongst other churches, he rebuilt that of St Sophia at Constantinople, which had been burnt in the quarrel of the Greens and Blues. It is esteemed a masterpiece of architecture. The altar in it was made entirely of gold and silver, and adorned with a vast number and variety of precious stones. This church, a part of which is now standing, and is used by the Turks as a mosque, was so magnificent, that Justinian, when, on the day of its dedication, he beheld it for the first time, in its full splendour, cried out for joy, "To God alone be the glory! I have outdone thee, Solomon!" But it was his unhappy fortune, as it was that of the Jewish king, to outlive himself. Towards the end of his life, he became avaricious, without losing his love of splendour, suspicious, and cruel. He oppressed the people with taxes, and lent a willing ear to every accusation. (For his treatment of Belisarius, see *Belisarius*.) He suffered his own servants to commit the most flagrant crimes unpunished. He died in 565, in the eighty-third year of his age, after a reign of thirty-eight years. His love of the monks, of saints, and of theological questions, did not protect him from the censure of the divines, who esteemed him a heretic. Much that was great and glorious was accomplished during his reign, but he had little share in it.

JUSTITIA (*justice*); called, by the Greeks, *Astræa*, *Themis*, *Dikè*. With the Romans, the goddess was an abstract rather than a personal deity. She is frequently represented upon coins as a maiden, with a fillet or a diadem; sometimes with a sword and scales; sometimes with a cup in one hand and a sceptre in the other.

JUTLAND; a province in Denmark, bounded on all sides by the sea, except towards the south, where it is bounded by Sleswick. It is about 180 miles in length, and from seventy to ninety in breadth, and, of all the territories belonging to Denmark Proper, is the largest, and yields the greatest revenue. Square miles, 9500; population, 440,000. It is divided into four bishoprics—Aalborg, Wiborg, Aarhus and Ripen. The country is indented by bays and inlets, but has few rivers, and none large. The north coast is an immense range of sand-banks, dangerous to navigation. The country is generally low, having no mountains. On the east coast there are extensive forests of oak, fir, birch, &c.; on the

west are hardly any species of trees but alder and willow. The kind of grain most cultivated is rye, great quantities of which are exported to Norway. The pastures are extensive and rich; horses and cattle numerous. Iron, marble and limestone are found; also excellent turf. Most of the inhabitants speak Danish; the gentry also German. The religion is Lutheran. Agriculture and education are in rather a backward state. See *Denmark*.

The *Peninsula of Jutland*, anciently called *Cimbrica*, or *Chersonesus Cimbrica*, includes both the province of Jutland and the duchy of Sleswick in the south.

**JUVENAL**, DECIMUS JUNIUS JUVENALIS, a native of Aquinum, in the Volscian territory, flourished at Rome in the latter half of the first century. He studied rhetoric for his amusement, but afterwards devoted himself to poetry, especially satire. Having severely lashed the favourite pantomime Paris in his seventh satire, he was appointed by Domitian, under pretence of honour, prefect of a cohort (*præfectus cohortis*) in the most distant part of Egypt. Under Trajan, he returned to Rome, in the eighty-second year of his age. He was one of the most powerful and caustic of the Roman satirists. He wrote sixteen satires (the genuineness of the last, however, is doubtful), in which he chastises the follies and vices of his times. His style is not so elegant, nor his disposition so mild and humorous, as that of Horace, nor yet so gloomy and stern as that of Persius, and he often betrays the rhetorician. The best editions are those of Henninius (Utrecht, 1685, 4to.; Leyden, 1695, 4to.), and the latest by Ruperti (Leipzig, 1801, 2 vols.) Gifford's translation, with a preface and notes, is very valuable. Johnson's imitations of the third and tenth satires are deservedly celebrated.

**JUVENCUS**, CAIUS VETTIUS AQUILINUS; presbyter in Spain; a Latin poet who flourished about 325 A. D., in Spain. He translated the history of Christ, chiefly after Matthew, in hexameters (*Historia evangelica*, Lib. iv.). A. R. Gebser published a critical edition of Juvencus in Jena (1827, 2 volumes), which makes, at the same time, the beginning of a *Bibliotheca Latina Poetarum veterum Christianorum*. In this edition an enumeration of all other editions is to be found. Juvencus also turned the book of

Genesis into hexameters (in Martini's *Nova Collect. vet. Monument.* vol. iv., p. 15, seq.).

**JUVENTA** (*Juventas* with the Romans); the goddess of youth, but not to be confounded with Hebe; for she had not an individual, but only an abstract existence. She had a chapel near the capitol, and a festival established in honour of her was celebrated by the youth. She is represented upon coins holding a censer in her left hand, and with her right strewing incense upon a tripod, because the youth, when they came to consecrate the first growth of their beards, brought an offering of incense.

**JUXON**, WILLIAM, bishop of London, and subsequently archbishop of Canterbury, a prelate of distinguished mildness, learning, and piety, was born in the city of Chichester in 1582, and educated at Oxford. The law appears to have been his original destination. The friendship he contracted with his fellow collegian Laud, might have induced him to take orders. In 1621, he was made president of St John's college, Oxford, and, by the continued patronage of his friend, dean of Worcester (1627), clerk to the royal closet (1632), bishop of Hereford (1633), and that of London before the expiration of the same year. In 1635, he was appointed lord high treasurer of England. The nomination of a churchman to this dignified and responsible situation excited a strong sensation among the puritanical party, who made a the ground of severe invective against the government and primate; but, on his resignation of the office, the integrity and ability with which he had discharged its various duties, were admitted on all hands. During the whole progress of the unhappy contest which followed, he maintained an unshaken fidelity to the king, whom he attended during his imprisonment in the Isle of Wight, and on the scaffold, on which occasion he received from the hand of Charles, the moment previous to his execution, his diamond George, with directions to forward it to his son. After the king's death, the parliament threw him into confinement for contumacy in refusing to disclose the particulars of his conversation with the king; but he was soon released, and continued to live in privacy until the restoration. He was then called again into public life, and was raised to the primacy. He survived his elevation little more than two years, dying June 4, 1663.

## K

**K**; the eleventh letter of the English alphabet, representing a close articulation, produced by pressing the root of the tongue against the upper part of the mouth, with a depression of the lower jaw, and opening of the teeth, and differs, in most ancient and modern languages, from *g* hard only by a stronger pressure of the tongue, and a stronger expiration. (See *G*.) **K**, by the Greeks called *kappa*, is probably of later origin than *G*, as its most ancient form on monuments seems to be a contraction of gamma, i. e. in its first straight and its second bent form (I C). On the ancient coins of Crotona, Corinth, Syracuse, we find this sign, *Q*, from which the Roman *Q* originated. Both signs, according to Payne Knight, originated from the union of the double-bent gamma.

\* Where the reader may fail to find articles under *K*, he is referred to *C*.

In Latin, the *k* was superfluous, its place being supplied by *c*. The Greek *K* was not adopted by the Latins before the time of Sallust, and was only used in words which began with *ca*, as *Caput*, *Indicium*, *Calumniator*; hence a *K* was branded on the forehead of calumniators. As an abbreviation, in Latin, it signifies *Kass* (a name), and several other words, *Kalendar*, &c. The Greek *K* stands, on coins, for *Kassus*, *Cæsar*, *Klaudian*, *Claudius*, *Kassiana*, *Campania*, &c. It often also signifies *Carthage*. As an abbreviation, it often stands for *cas*, and *casus*, common, *colonia*, colony, *casus*, virgin, &c. The Greek *K* signifies twenty, and, with a perpendicular stroke under it, *K*, = 20,000. *K*, in Latin, is equal to 200; with a horizontal dash over *k*, *k̄*, = 250,000. In Hebrew, it answers to *kaph* or *kaph*. The Indians, Spaniards, and Portuguese, have borrowed the letter entirely from their alphabet. The French use a

only in words originally German, Breton, &c.; but, of late, it has become frequent in proper names of Oriental origin, on account of the numerous translations from Oriental languages into the French. In English, most modern writers drop it at the end of words of Latin origin, as *public*, *music*, &c., formerly *publick*, &c.; but, in monosyllables, it is retained on account of their derivatives. In Swedish, Danish, Dutch, Polish, *k* sounds as in English. *K* signifies, on French money, *Bordeaux*, and, on money coined at Crennits, *K* and *B* signify the mines of *Kermecz* and *Bánya*. *K*, before a vowel, is one of the easiest sounds children learn; but it is difficult, if it precedes another consonant. The *k*, at the beginning of a word, does not always belong to the root, but, like other aspirated letters, often a mere prefix. In German, it often originates from the reduplication *ge* and *g* (see *G*), particularly before a consonant.

**KAABA**; originally a temple at Mecca, in great esteem among the heathen Arabians, who, before they embraced Mohammedanism, called a small building of stone, in the same temple, *kaaba*, which has, in turn, become an object of the highest reverence with the Mohammedans. They say it was built by Abraham and Ishmael. On the side of it is a black stone, surrounded with silver, called *braktan*, set in the wall, about four feet from the ground. This stone has served, since the second year of the Hegira, as the *kebla*, that is, as the point towards which the Mohammedan turns his face during prayer. The pilgrims, or *hadgis*, touch and kiss this stone seven times, after which they enter the kaaba, and offer up their prayer. The Mohammedans first turned their face towards Jerusalem, until Mohammed ordered the present direction. Burckhardt (q. v.), in his *Travels in Arabia*, says "The holy kaaba is the scene of such indecencies, as cannot with propriety be more particularly noticed. They are not only practised with impunity, but it may be said publicly; and my indignation has often been excited at what drew forth only a laugh from other passengers." We find, therefore, that the Mohammedan pilgrimages produce the same disorders as those which attend Catholic pilgrimages that attract great numbers of people, and which have led to the prohibition of such pilgrimages in most Catholic countries. In some places, however, they still exist, with all their disorder and licentiousness, as, for instance, at Einsiedeln, in Switzerland. The same results take place in the numerous assemblages of other sects, of which instances might be cited from Europe; and camp-meetings have not unfrequently been charged with a like tendency. The evil is the natural consequence of assembling a multitude in a state of excitement.

**KABARDA**. See *Circassia*.

**KABBALA**. See *Cabala*.

**KABUL**. See *Afghanistan*.

**KÆMPFER**, ENGELBRECHT, a famous traveller, born at Lemgo, in 1657, and excellently educated by his father, a clergyman, studied medicine at Königsberg, performed a journey, in 1683, as secretary to a Swedish embassy, by land through Russia to Persia; after which he visited Arabia, Hindoostan, Java, Sumatra, Siam and Japan, in which last country he resided two years. In 1692, he returned, was appointed private physician of the count of Lippe, in his native city, and died in 1716. Of his writings, his *History and Description of Japan* is deserving of mention. This work was translated into English, from the manuscript in 1727, published at London in two folio volumes; and, in the German language, it appeared first at Lemgo, in 1774, edited by Dolm. The greater part of his manuscripts, rich in important observations, have not yet been printed. Sir

Hans Sloane purchased them from Kæmpfer's heirs, and they are now to be found in the British museum.

**KÆSTNER**, ABRAHAM GOTTHELF, a celebrated mathematician and epigrammist, born at Leipsic, in 1719, never attended a public school. From his tenth year, he received instructions in jurisprudence from his father, who was professor in Leipsic; and in his eleventh, he joined a debating society of several youths studying law. He applied himself to philosophy, physics, and mathematics; metaphysics in particular, according to his own statements, had peculiar attractions for him. It is remarkable, that he found addition and multiplication very difficult, even after he had made considerable progress in mathematics. He continued also the study of law. In 1739, he held disputations, and began to deliver lectures on mathematics, philosophy, logic, and jurisprudence. He also attended to belles-lettres. Having obtained a professorship extraordinary in 1746, he was, in 1756, established on advantageous terms, in Göttingen, as professor of natural philosophy and geometry. The study of mathematics was greatly promoted by his means. Among his numerous writings, which fill nine pages in Meusel's *Gelehrte Deutschland, his Geschichte der Mathematik* (1795) is the best. In general, his acute mind seems to have been too much directed to single points to allow him to grasp, and exhibit happily, the whole of the mathematical and physical sciences. He was not less celebrated for his wit than for the cultivation of the severer sciences. His epigrams, however, involved him in many quarrels. He died in 1800.

**KAFFRARIA**, and **KAFFRES**. See *Caffraria*, and *Caffres*.

**KAIN**, LE. See *Le Kain*.

**KAISERSLAUTERN**; a town on the river Lauter, with 4550 inhabitants, a gymnasium and seminary for teachers, in Rhenish Bavaria, on the Hardegebirge, famous, in modern times, for the battle of November 28, 29, and 30, 1793, between the duke of Brunswick and a division of the French army of the Moselle, under Hoche, which attempted to relieve Landau. Another battle was fought near Kaiserslautern, May 23, 1794, and a third, September 20, 1794, in both of which the French were unsuccessful. The passes leading from the Vosges to Landau and Metz, both of which are German frontier fortresses, are situated here.

**KALAH** (*Arabic*, a fort); a word which enters into the compositions of many geographical names of the East. *Kelat* has the same meaning.

**KALAMATA**. See *Greece*.

**KALAND** (probably from *Kalends*; a lay fraternity, which originated in Germany in the thirteenth century. The members assembled on the first of each month, to pray for their deceased friends, after which they took a repast in common. In the course of time, the religious purpose of the assembly was forgotten, and the meeting became one of mere festivity, so that, at last, the fraternity was abolished on account of its excesses. The word *kaland* exists to this day in proverbs, &c.

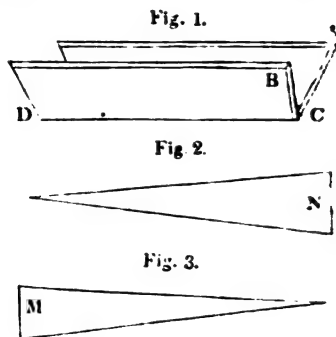
**KALB**, BARON DE, a major-general in the American army, was born in Germany, about the year 1717. When young, he entered into the service of France, in which he continued for forty-two years, and obtained the rank of brigadier-general. In 1757, during the war between Britain and France, he was sent, by the French government, to the American colonies, in order to learn the points in which they were most vulnerable, and how far the seeds of discontent might be sown in them towards the mother country. He was seized, while in the performance of this commission, as a suspected person, but

escaped detection. He then went to Canada, where he remained until its conquest by the British, after which he returned to France. In 1777, during the war of the revolution, he came a second time to the United States, and offered his services to congress. They were accepted, and he was soon after made a major-general. At first he was placed in the northern army, but when the danger which threatened Charleston from the formidable expedition under Sir Henry Clinton, in 1778, rendered it necessary to reinforce the American troops in the south, a detachment was sent to them, consisting of the Maryland and Delaware lines, which were put under his command. Before he could arrive, however, at the scene of action, general Lincoln had been made prisoner, and the direction of the whole southern army in consequence devolved upon the baron, until the appointment of general Gates. Aug. 15, Gates was defeated near Camden by lord Rawdon, and, in the battle, baron de Kalb, who commanded the right wing, fell, covered with wounds, while gallantly fighting on foot. A tomb was erected to his memory, by order of congress, in the cemetery of Camden.

KALCKREUTH, FREDERIC ADOLPHUS, count of, Prussian field-marshal, born at Eisleben, in 1737, entered the army in 1751. In the seven years' war, he served with distinction as aid of prince Henry, ascended, step by step, to the office of general, and was made a count in 1788. In the war with France, he manifested equal courage and ability. In 1793, he took Mayence. He contributed essentially to the victory of Mollendorf at Kaiserslautern, May 23, 1794. He soon after drove the French from Deux Ponts, and pressed forward to Saar Louis. Towards the end of 1795, he received the chief command of the troops in Pomerania, and, in May, 1806, was appointed governor of Thorn and Dantzig, and inspector-general of the cavalry. In the autumn, he joined the main army in Thuringia, but took no part in the battle of Jena and Auerstadt, being stationed in the rear. June 25, 1807, he concluded with Berthier, at Tilsit, the truce between Prussia and France, after which, in conjunction with Goltz, he concluded a peace with Talleyrand. He was immediately after appointed field-marshal. In January, 1810, the king appointed him governor of Berlin. In the last war, count Kalckreuth was governor of Breslau, and returned to Berlin in 1814, where he entered anew upon the government, and died in 1818. He was a man of rare qualities of mind and heart.

KALEIDOSCOPE; an instrument for creating and exhibiting an infinite variety of beautiful forms, pleasing the eye by an ever-varying succession of splendid tints and symmetrical forms, and enabling the observer to render permanent such as may appear appropriate for any branch of the ornamental arts. This instrument the invention of doctor Brewster, in its most common form, consists of a tin tube, containing two reflecting surfaces inclined to each other, at any angle which is an aliquot part of  $360^\circ$ . The reflecting surfaces may be two plates of glass, plain or quicksilvered, or two metallic surfaces, from which the light suffers total reflection. The plates should vary in length, according to the focal distance of the eye: five, six, seven, eight, nine and ten inches, will, in general, be most convenient; or they may be made only one, two, three or four inches long, provided distinct vision is obtained at one end, by placing at the other an eye-glass, whose focal length is equal to the length of the reflecting planes. The inclination of the reflector that is in general most pleasing is  $18^\circ$ ,  $20^\circ$ , or  $22\frac{1}{2}^\circ$ , or the 20th, 18th and 16th part of a circle; but the planes may be set at any required angle, either by a metallic, a paper, or cloth joint, or any other simple contrivance. When the two planes are

put together, with their straightest and smoothest edge in contact, they will have the form shown in figure 1, where A B C is the aperture or angle formed by the plates. In this figure the plates are rectangular; but it may often be more convenient to give them the triangular form, shown at N figure 2, or M figure 3:



When the instrument is thus constructed, it may be either covered up with paper or leather, or placed in a cylindrical, or any other tube, so that the aperture A B C may be left completely open, and also a small aperture at the angular point D. If the eye is now placed at D, and looks through the aperture A B C, it will perceive a brilliant circle of light, divided into as many sectors as the number of times that the angle of the reflectors is contained in  $360^\circ$ . If the angle is  $18^\circ$ , the number of sectors will be 20; and whatever be the form of the aperture A B C, the luminous space seen through the instrument will be a figure produced by the arrangement of 20 of these apertures round C as a centre, in consequence of the successive reflections between the polished surfaces. Hence it follows, that, if any object, however ugly or irregular in itself, is placed before the aperture A B C, the part of it that can be seen through the aperture will be seen also in every sector, and every image of the object will coalesce into a form mathematically symmetrical, and highly pleasing to the eye. If the object be put in motion, the combination of images will likewise be put in motion, and new forms, perfectly different, but equally symmetrical, will successively present themselves, sometimes vanishing in the centre, sometimes emerging from it, and sometimes playing around in double and opposite oscillations. When the object is tinged with different colours, the most beautiful tints are developed in succession, and the whole figure delights the eye by the perfection of its forms and the brilliancy of its colouring. The eye-glass placed immediately against the end of the mirrors, as well as another glass similarly situated at the other end, are of common transparent glass. The tube is continued a little beyond this second glass, and, at its termination, is closed by a ground glass, which can be put on and off. In the vacant space thus formed, books, pieces of coloured glass, and other small, bright objects, are put. The changes produced in this position by turning the tube, give rise to the different figures.

Such is the construction of the single kaleidoscope, but various other forms have been given to it by the inventor. The polycentric kaleidoscope, consists of three or more mirrors, introduced into the tube, so as to form a prism of three or more sides. But there is a limit to the number of sides, for symmetrical images cannot be formed, if the mirrors be inclined to each other, at a greater angle than  $90^\circ$ . Hence, no

polygonal prism, having more than four sides, can be used in this instrument. Among four sided prisms, the square and the rectangular parallelogram, are the only ones that can be introduced, and among triangles only such as have for their angles the quotients obtained by dividing  $360^\circ$ , by 4, 6, 8 or 12, so that we may have a triangle having its angles

First,	60°, 60°, 60°, or
Second,	90°, 45°, 45°, or
Third,	90°, 60°, 30°.

The square polycentral kaleidoscope is the least pleasing of any, for it exhibits the same set of images in longitudinal stripes; and the same holds with the rectangular, excepting that the stripes are longer in one direction than another. The equiangular triangle form gives a very pleasing set of images, arranged symmetrically in three different directions, for which reason it has been called the *Triscope*. When the section of the prism is an isosceles right angled triangle, the resulting images are exceedingly beautiful, being arranged symmetrically by fours at a time in squares; this form of the instrument is called the *Tetrascope*. When the angles of the triangular section are respectively  $90^\circ$ ,  $60^\circ$ , and  $30^\circ$ , the images arrange themselves in hexagons. Of all the forms above specified, the two last seem best calculated to assist the pattern-drawer in his designs.

On reflection, it is manifest that the object or objects in the case at the end of the tube, must be removed at some distance from the end of the mirrors, which will impair the effect in some degree. This may be obviated by removing the object to a considerable distance from the ends of the mirrors, and placing a convex lens, so that the image of the objects may be formed just at the ends of the reflectors. The spectra of the kaleidoscope may be thrown upon a wall or screen in the manner of the magic lantern, or solar microscope, and sketched by the draughtsman; but the light must be very strong to produce a clear and vivid picture.

**KALI**; a genus of marine plants, which are burnt to procure alkali. See *Alkali*, and *Kelp*.

**KALLIPYGOS**. See *Venus*.

**KALMIA**; a beautiful North America genus of shrubs, having coriaceous, ever-green and cup-shaped flowers, of a fine rose or purple colour, disposed in large corymbs. The corolla is provided with ten little pits, prominent externally, and in which the anthers are confined. It is naturally allied to *rhododendrum*. The *K. latifolia*, commonly called *mountain laurel*, or *calico bush*, is a large shrub, growing most abundantly on and about the Alleghany mountains, but sometimes in the vicinity of the ocean, in the Middle and Eastern States, as far north as lat.  $43^\circ$ . The trunk is sometimes three inches in diameter, and the wood is very hard, susceptible of a fine polish, and more nearly resembles box than any other North American wood. This shrub is in great request in the European gardens, from the beauty of its flowers and foliage. The other species of *kalmia*, four in number, are much inferior in stature and the size of the flowers, though still highly ornamental.

**KALUGA**; an extensive government of European Russia, bounded by those of Moscow, Smolensko, Tula and Orel, lying between  $35^\circ 48'$  and  $37^\circ 22'$  E. lon., and  $51^\circ$  and  $54^\circ 30'$  N. lat. Its territorial extent is 8500 square miles. Its population was, in 1796, 853,000, and is now about 1,176,000. The chief products are corn, hemp, and flax. The chief rivers are the Oka, the Upa, and the Schisdra. This province contains iron mines.

**KALUGA**; capital of the above government, on the Oka. It has some very good public buildings, such as the high church, government house, &c.; but in other respects, it is irregular, most of the

houses being of wood, and ill built. Population, 25,000; 107 miles south-west of Moscow; lon.  $36^\circ 3'$  E.; lat.  $54^\circ 3'$  N.

**KAMEN**, or **KAMIEN**; a Slavonic word signifying *rock*, *stone*, and found in many geographical names, as *Kamin*, *Kamientz*, *Kaminietz*, &c.

**KAMTSCHATKA**; a large peninsula on the north-eastern coast of Asia, forming a district. On the east, it has the North Pacific ocean, and on the west that large gulf of it called the *sea of Okhotsk*. It extends from the  $51^{\text{st}}$  to the  $62^{\text{d}}$  degree of north latitude, and from  $155^\circ 10'$  to  $173^\circ 20'$  east longitude, and is reckoned upwards of 600 miles in length, and nearly 300 in breadth; square miles, 85,000. It is remarkable for its extreme cold, which is heightened by a range of very lofty mountains, extending the whole length of the peninsula. Several of these mountains are volcanic; but the most remarkable is one situated near Nijni Kamtschatsk, the volcano of which is very active, and two years seldom elapse without some violent eruption. Kamtschatka scarcely enjoys three months of an imperfect summer, and is very deficient in vegetable productions, particularly grain. It has a great variety of animals which produce the richest and most valuable furs. The sable is more plentiful here than in Siberia, though its fur is not quite so beautiful. There are several varieties of the Arctic fox, or fire fox, in Kamtschatka. Other common animals are the beaver, the hare, the marmot, and the argali or wild sheep. The bear is the most formidable wild animal, and the hunting of it the most serious occupation of the Kamtschadales. The coasts and rivers swarm to a most extraordinary degree with fish, which form the main article of food of the inhabitants. The excellence of the salmon, herrings and different kinds of shell-fish, is particularly remarked. The air is also filled with game, particularly woodcocks, snipes, grouse, wild geese and ducks, the eggs of which last are collected by the natives, and preserved in the fat of fish. The only vegetable productions are stunted birch, and dwarf pines and cedar. Shrubs are more plentiful, such as the mountain ash, wild rose and raspberry. There is also a variety of berries. Copper and iron are worked. Sulphur abounds; and many minerals are found in the mountains. The trade of Russia with Kamtschatka is carried on from Irkoutsk by the difficult and tedious route of Okhotsk. The imports, besides brandy, are nankens and other Chinese stuffs, together with various commodities of Russian and foreign manufacture, as ribbons, handkerchiefs, stockings, caps, shoes, boots, and, in general, all articles of European consumption, but in small quantity, and bearing a very high price. The only export is furs, the amount of which is valued at from 50,000 to 100,000 roubles. The capital is Nijni Kamtschatsk, with 300 inhabitants. The inhabitants are, in general below the common height, have broad shoulders and large heads. The face, and particularly the nose, is long and flat, the eyes small and sunk, the lips thin, and they have scarcely any beard. In 1690, the Russians had some knowledge of this country. In 1696, they sent thither a detachment of Cossacks, under Morosko. The next year, part of the country was rendered tributary; but it was not till 1766, that all Kamtschatka was surveyed and occupied by the Russians. The sway which they have established is by no means severe; notwithstanding which, the Kamtschadales, like all savage nations coming in contact with civilized, have suffered deeply from the connexion. The number of inhabitants now amounts to only about 4500, of which about 1500 are Russians and Cossacks. A century since, the number was twenty or thirty times larger. This diminution is to be ascribed to their bloody struggles to shake off

the Russian yoke, to the small pox, the unnatural practices of the women to procure abortion, and to their excessive indulgence in spirituous liquors. There is besides a class of criminals banished to this inhospitable region, and a varying population of merchants, hunters, and seamen. The Kamtschadales are an ugly branch of the Mongol race, and call themselves *Helmes*. They are good natured and hospitable, but given to the grossest sensuality. They are excessive eaters, practise lascivious dances, and are very dirty. Every Kamtschadale village (*ostroshok*) consists of several summer dwellings, built on piles, rising several feet from the ground; the occupants enter by ascending notched trunks of trees. In winter, the occupants of half a dozen of these *balagans*, as they are called, collect into a *jurta*, or winter dwelling, five feet deep, covered by a cone-shaped roof, and which cannot be entered, except by ascending the roof, and going down the chimney through the smoke. The clothing of the Kamtschadales is prepared from the skins of reindeer or dogs, but much of the Russian style of dress has been introduced. The Kamtschadale women alone perform the household occupations, while the men take their ease, if necessity does not drive them to hunt, or to fish, or to prepare tools for both these occupations, or to build sledges and houses. The objects of the chase are the fur-bearing animals and the reindeer; the principal fish taken are the whale and the seal. Barley, potatoes, turnips, cabbage, hemp, cucumbers, horse-radish, are mostly cultivated only by the Russians. The chief food of the Kamtschadales consists of fish, seasoned with whale and seal fat, and a kind of paste prepared of the tender birch bark. Their favourite drink is the juice of the birch. The chief domestic animal is the dog, which serves for draught, and the skins furnish clothing. To prepare the dogs for draught, they are castrated, and four to eight are attached to a little sled, sixteen pounds in weight, and capable of carrying a man, at the rate of four or five miles an hour. These dogs require to be fed only in the winter; in the summer, they live on the fish which they pick up on the shores of the sea and the rivers. The Kamtschadale does not tame the reindeer, although all the neighbouring people do. Since 1820, swine and hens have been found here. The religion of the Kamtschadales was, and is still among the few who have not embraced Christianity, *Shamanism*. But even the Christian Kamtschadales have not relinquished their sorcerers or *shamans*. They believe in an almighty God, creator of the world, called *Kutka*, but do not worship him, because their innumerable *fetiches* absorb all their attention. They believe in the immortality of the soul, which they also ascribe to the meanest brute. They give to animals speech and reason, and believe that dogs are making inquiries of strangers when they bark at them. They relate also that, ages ago, a universal deluge covered the earth, out of which only one pair of human beings were saved.

**KANGAROO** (*macropus*, Shaw). These extraordinary animals, which are peculiar to Australasia, belonging to the marsupial order of quadrupeds (those with an abdominal pouch), from the other genera of which they differ by having but two kinds of teeth, the canine being wanting. Their incisors are six in the upper jaw, and but two in the lower; the former short, and the latter long. The molars, which are separated from the incisors by a large vacant space, are ten in number in each jaw. The limbs of the kangaroo are strangely disproportioned; the fore legs being small and short, whilst the hinder are long and powerful. The tail is very thick at its base, gradually tapering, and appears to act as a supplemental limb, when the animal assumes its usual

erect or sitting posture, in which position it is supported by the joint action of the tail and hinder legs. This conformation also enables it to take amazing leaps. The fore feet are furnished with five toes, each terminating in a moderately strong and hooked claw. The hinder feet, on the contrary, are provided with only four toes, one of which is long, of great strength and terminated by a large and powerful claw, like an elongated hoof. The head and upper parts are small and delicate, and appear disproportioned to the posterior parts of the animal, which are robust and powerful. They use their tails and hinder feet as weapons of defence. When they are pursued and overtaken by dogs, they turn, and, seizing them with their fore feet, strike them with their hinder extremities, and often tear them to such a degree as to destroy them. The kangaroos feed entirely on vegetable substances, chiefly on grass. They associate in small herds, under the guidance of the older males. The female has two mammae in the abdominal pouch, on each of which are two teats; the younger at birth are very diminutive, not exceeding an inch in length. At this time, the mouth is merely a round hole, just capable of embracing the extremity of the nipple; but gradually enlarges, till it can receive the whole of this part into its cavity, where it lies in a groove formed in the middle of the tongue. The young continues to reside in the pouch, till it has attained maturity, occasionally leaving it for exercise or amusement, but immediately seeking refuge on the least alarm. The flesh of these animals is said to be nutritious and savoury, somewhat resembling mutton. They are capable of being domesticated, in which state they are harmless and even tamed. The species of these singular animals have not hitherto been satisfactorily determined, as the differences on which the distinguishing characters of each have been founded, are merely those of size and slight modifications of colour.

**KANSAS.** See *Indians*.

**KANSAS**, or **KANZAS**, or **KANSEZ**; a river of North America, which rises in the Rocky mountains, and, after an easterly course of about 1800 miles, unites with the Missouri, 340 miles from the Mississippi, in lon. 94° 20' W.; lat. 34° 31' N.

**KANT**, **IMMANUEL**, born in Königsberg, in Prussia Proper, April 22, 1724, was the son of a business-maker, in the suburbs of his native place—a man of integrity and respectability, though of no humble station. Kant's mother was a woman of great piety, and much attached to the strict tenets and discipline of doctor Schulz, a professor of theology at the university of Königsberg a distinguished divine in his day. Though far from being in easy circumstances, his parents resolved to bestow upon their son the advantage of a liberal education. After having learned to read and to write in the charity school of the suburb, Kant was sent, in 1732, to the *Collegium Fredericianum*, at the suggestion of doctor Schulz, who, even at that early period, had the prescience to discover the talents of the boy. At this school, he contracted an intimate friendship with *Ruhnken*, afterwards so celebrated as a philologist. And were indefatigable students, and read and studied much together. It is remarkable that, at this period, Kant devoted his attention principally to philological studies, while his friend *Ruhnken* seemed to have more fondness for philosophy. In the maturer years, they exchanged pursuits. In 1746, Kant repaired to the university of his native city, and, at first, studied theology, in consequence of the necessity of depending entirely on his professors for future maintenance. But at no period did he neglect philosophy and mathematics. Hardly had he arrived at the age of manhood, when he lost both his parents.

who, indeed, had never been able to afford him much pecuniary assistance; but he was fortunate enough to meet some relations, whose aid, together with his own industry and economy, enabled him to continue his studies. His application was uncommonly great, as is proved by his bold and successful attacks on the doctrines of Leibnitz and Wolf, and his skilful use of the weapons of dialectics against the authority of the most eminent metaphysicians of the day, when he was but twenty-two years of age. After a residence of about three years at the university, he acted in the capacity of a private tutor in several families, and lived about nine years with count Hüllesien, at Arnsdorf. Kant read much in this retirement, and traced the outlines of several of those philosophical treatises, which were soon afterwards published in rapid succession. In 1755, he returned to Königsberg, took the degree of M.A., and produced on this occasion, in the form of an inaugural dissertation, his treatise, entitled *Principiorum primorum cognitionis metaphysicæ nova Dilucidatio*. In the same year, he published his celebrated work on the Universal Natural History and Theory of the Heavens, or an Essay on the Constitution and Mechanical Structure of the whole Globe, according to the Newtonian System. In this treatise, he anticipated several of the subsequent discoveries of the astronomer Herschel, particularly the planet called after his name. Kant began to lecture, as *doctor docens*, on logic, metaphysics, mathematics, and natural philosophy, to which, at subsequent periods, he added natural law, moral philosophy, natural theology, and physical geography. He soon became popular with the students; but it was long before he obtained a professorship. He had no ambition beyond that of being useful in the sphere which he had chosen, nor could his noble and strictly upright character resort to any kind of art to promote his worldly interest. In 1756, the *professor extraordinarius* of philosophy, Mr Knutzen died; but Kant solicited in vain the vacant chair. In 1758, the *professor ordinarius* of philosophy died; but Kant was not appointed in his stead, though zealously aided by doctor Schultz. In 1766, he accepted the unsolicited situation of second keeper of the royal library, to which a small salary was attached; and, at the same time, he undertook the management of a private cabinet of curiosities. But these offices he resigned in 1772, on account of the interruptions to which he was exposed by the necessity of showing the books and rarities to strangers. In 1770, he was at length advanced to the ordinary professorship of logic and metaphysics in the university, to the lustre of which he had already so long contributed. He was now placed above the fear of want, and could employ his talents in a manner satisfactory to himself. Upon this occasion, he produced his celebrated inaugural dissertation, *De Mundi sensibilis atque intelligibilis Forma et Principiis*. In 1787, Kant was made a member of the royal academy of sciences at Berlin. Having once attained independence, his wish to improve his worldly concerns seems to have aspired no higher. He declined various advantageous proposals to transfer his talents to other universities, and, at length, died by a gradual decay, Feb. 12, 1804, in the eightieth year of his age, having witnessed the great sensation which his philosophy produced among his countrymen, though his patience was exposed in this particular also to severe trials. Six years elapsed before much notice was taken of his great work, the Critique of Pure Reason; and it is even said, that the publisher of it was about to use the numerous copies of the work which remained on hand as waste paper, when the demand suddenly increased, and three editions were disposed of in quick succession.

Kant never went farther from Königsberg than to Pillau, seven German miles (about thirty-two English) distant. In the earlier part of his life, he used to dine at the ordinary of the principal tavern; to which custom he was undoubtedly indebted in part for his knowledge of mankind. Reichardt, in the *Urania* (a German souvenir) of 1812, describes Kant as an extraordinary lean, small man. "Leaner, nay, drier," he says, than his small body, none probably ever existed, and no sage probably ever passed his life in a more tranquil and self-absorbed manner. A high, serene forehead, a fine nose, and clear bright eyes, distinguished his face advantageously. But the lower part of his countenance was marked with a strong expression of sensuality, which was conspicuous in his habits at table. He loved a mirthful company at a good dinner, and was himself an agreeable companion, who never failed to entertain and enliven the company by his extensive knowledge, and an inexhaustible store of pleasing anecdotes, which he used to tell in the driest way, without ever laughing himself; and by the humour of his repartees and observations. Kant's company was sought for by the first families of Königsberg, the more so as he stood in the greatest esteem for his virtue and a noble pride, which well became the most distinguished man of the city, and one of the deepest philosophers who have ever lived. He was, in his exterior, always neat, and even highly dressed. Kant was also fond of playing at cards, and he did not like to spend an evening without a game at ombre. He considered it as the only certain means of withdrawing his mind from deep thought, and tranquillising it. He possessed a boundless memory, which added much to the interest of his lectures, as he interspersed them with many illustrations, with which his immense reading in history, biography, travels, and novels, in fact, all works which could add to the stores of his knowledge, amply supplied him. Though he had his notes before him, he seldom looked at them, and often quoted whole lines of names and dates from memory. His library was very small, but he had made a contract with a bookseller, who sent him all new publications, which, after reading, he sent back. He lectured the greater part of the forenoon, allowing himself twenty minutes' rest between each lecture. In the afternoon, he lectured seldom. He rose early, and studied then most ardently. His lectures on abstract philosophy were much easier to be understood than his works, because, in the former, he added many elucidations, examples, and explanations, which he thought unnecessary in his printed works. Besides the great merits of Kant in regard to intellectual philosophy, we owe him much for his virtue and inflexible morality, which he placed again on their true elevated basis, after they had been referred exclusively to interest by Helvetius and others.

As to the philosophy of this profound thinker, a full account cannot be expected in a work of this sort; a glance at it will be all which we can give. The inquirer into Kant's philosophy should be careful not to reject immediately what he cannot understand, and ought not to expect to understand, without deep study and strict mental discipline. To form an opinion of a whole philosophical system from the pages of a review, is more easy than satisfactory or profitable. In fact, a man can hardly hope to acquire a good idea of Kant's philosophy without reading him in the original. When Kant appeared, two philosophical systems were most in vogue—that of Locke and his followers, and that of Leibnitz, Wolf, &c. Kant saw that little aid was rendered to the cause of truth by a dogmatic philosophy, whether founded on sensualism or idealism. He wished for certainty in the field

of philosophy, and put to himself the questions—What can I know? What is it that I know originally? The acute scepticism of Hume had its influence upon him. Hume proved very satisfactorily, that our ideas of cause and effect are not derived from experience; but he rashly concluded, as Kant observes, “that they are the spurious offspring of the imagination, impregnated by custom.” Kant discovered that Hume had been led to this hasty inference in consequence of having taken too limited a view of the great problem which he had thus partially attempted to solve. He perceived that the idea of cause and effect is by no means the only one which the mind makes use of with the consciousness of its necessity, yet without having derived it from experience. This he found in his endeavours to ascertain what we can know, which led him to the fundamental laws of the mind. Having arrived at this conclusion, he strove to ascertain the exact number of these original or transcendental ideas, or imperative forms; that is, such ideas as we do not derive from experience, but by which, on the contrary, we acquire experience. In the first rank of these, are *space* and *time*. Kant shows that all our perceptions are submitted to these two forms: hence he concludes, that they are within us, and not in the objects; they are *necessary* and *pure intuitions* of the internal sense. Truths acquired by experience never carry with them that absolute certainty; for instance, experience teaches us that the sun rises every day; that all men are mortal; yet we may imagine a day when the sun does not rise, and a man who does not die; but imagination itself cannot suppose any thing unconnected with space and time. This primitive intuition must have, as its basis, the primary laws of the understanding, without which we can comprehend nothing. As far as the transcendental ideas, or, as Kant calls them, *categories*, extend, so far extends the knowledge of the understanding *a priori*. Kant was at great pains in endeavouring to ascertain the number of these categories, and he found them to be all comprehended under the four classes of quantity, quality, relation, and modality. The categories themselves are twelve in number. Under the first head are comprised *unity, multitude, totality*; under the second, *reality, negation, limitation*; under the third, *substance and accident, cause and effect, action and reaction*; under the fourth, *possibility, existence, necessity*. These categories are necessary and indispensable for our understanding, as the forms of space and time were for our perceptions; we cannot figure to ourselves any thing without the relations of cause and effect, of possibility, quantity, &c., which, with other words, is, we cannot perceive anything except by these original, necessary, unchangeable forms of thought. Hence the demonstrative certainty of mathematics, the objects of which—space, time, quantity, &c.—lie in the necessity of the forms of thought, and not in the range of error to which experience is subject. To produce results, the categories are applied to exterior objects, objects of experience, in which application they are subject to error. The three original faculties, through the medium of which we acquire knowledge, are *sense, understanding, reason*. Sense, a passive and receptive faculty, has, as has been already stated, for its forms or conditions, *space* and *time*. Understanding is an active or spontaneous faculty, and consists in the power of forming conceptions, according to the categories already given, which categories are applied to objects of experience through the medium of the two forms of perception, *space* and *time*. Reason is the third or highest degree of mental spontaneity, and consists in the power of forming ideas. As it is the province of the understanding to form the intuitions of sense into

conceptions, so it is the business of reason to form conceptions into ideas. The work in which Kant endeavoured to ascertain these categories and the province of certain human knowledge, is his *Kritik der reinen Vernunft*—Critical Inquiry into the Nature of Pure Reason (first edition, Riga, 1781; sixth edition, Leipsic, 1818). Far from rejecting experience, Kant considers the work of all our life to be the action of our innate faculties on the conceptions which come to us from without. The philosophy thus started was called *critical philosophy*—a very poor name, but which has now become settled. Kant proceeds in a similar way with morality; the idea of good and bad is a necessary condition, an original basis of morals, which is supposed in every one of our moral reflections, and not obtained by experience. He treats this part of his philosophy in his *Kritik der praktischen Vernunft*—a Critical Inquiry into Practical Reason (1788; fifth edition, Leipsic, 1845). Kant places unreservedly on two parallel bases all the arguments for and against human liberty, the immortality of the soul, the transitory or eternal duration of the world; and resorts to the feelings to make the balance incline, because the metaphysical proof on the opposite sides are equally great. Three opposite arguments on great questions are called, in the works of Kant, *antinomies*. In aesthetics, also, he pursues a similar course, and treats it in his *Beobachtungen über das Gefühl des Schönen und Erhabenen* (Riga, 1771)—Observations on the Feeling of the Beautiful and Sublime. Another important work of his is the *Kritik der Urtheilskraft*—Critical Inquiry into the Faculty of Judgment (Berlin, 1790; third edition, 1799). We must also mention *Metaphysische Anfangsgründe der Rechtslehre*—Metaphysical Elements of Legal Science (1797; second edition, 1803); *Metaphysische Elemente der Ethik*—Metaphysical Elements of Ethics (1777; second edition, 1803); *Metaphysical Elements of Natural Science* (1786; third edition, 1800); a *Pragmatical Treatise on Anthropology* (1798; third edition, 1821); *Of Perpetual Peace* (1796); *Religion considered within the Limits of Reason* (1793); the only possible Evidence for demonstrating the Existence of the Deity (1763; last edition, 1794). Most of Kant's smaller treatises, full of acute remarks, are contained in his *Kleinere Schriften*—Smaller Works (Königsberg and Leipsic, 1797, 3 vols.), and in the collection edited by Tieffrunk (Halle, 1799, 3 vols.). Half-bred the physician, published Kant's work, *Of the Power of the Mind, by mere Resolution, to control its own bid Feelings, with notes* (second edition, Leipsic, 1824). Kant, of course, met with many opponents, the most prominent among whom were Mendelssohn, Hamann, Feder, Garve, Platner, Flatt, Jacobi, Herder, and particularly G. C. Schulze, as *Ernst Schulze* (1792), and in his *Kritik der Theoretischen Philosophie* (Hamb., 1801, 2 vols.). But his adherents were the more numerous party, and his philosophy has been taught in all the German universities, excepting the Catholic ones. A very good enumeration of Kant's works, and those of his opponents, as well as of his commentators and followers, is to be found in Tennemann's *History of Philosophy*, or Corbin's *Manuel de l'Histoire de la Philosophie*, traduit de l'Allemand de Tennemann (Paris, 1820, vol. 2).

KAPNIST. See *Capnist*.

KARA, in the Tartar languages; black, as *Karmania* (black people, country of the). In opposition to another word of the same idiom which signifies *white* and *free*, *kara* has been used to signify *tributary*, e. g., *kara Kalpacks* (tributary Kalpacks).

KARAITES. See *Caraites*.

KARAMSIN, NICOLAS, imperial Russian historiographer, born in 1765, educated at Moscow, in the house of professor Schaden, entered the military ser-

vice, and travelled, from 1789 till 1791, through Middle Europe. He is esteemed by many the first original prose writer of Russia. Of his *History of the Russian Empire*, eleven volumes had appeared in 1824. It has been translated into French, both at Paris and St Petersburg. This history extends to 1613, to the house of Romanoff. His other writings are *Letters of a Russian Traveller*, *Aglaiä*, a collection of tales (Moscow, 1794, 2 vols.), &c. His songs are too sentimental. The emperor Alexander conferred on him the order of St Anne, and gave him 60,000 rubles for the publication of his great work. A free residence was also allowed him in a pleasure castle of the empress Catharine II., and all the archives opened to him. The third edition of Karschin's works appeared in 1815, in nine volumes. Of his *History of the Russian Empire*, in the original, the second edition appeared in 1818. When on the point of making a journey into foreign countries, he died, June 3, 1826. Just before his death, the emperor had granted him a pension of 50,000 rubles, which was continued to his widow and children. Dr Bowring has translated some of his poems.

**KARIKAL**; a French city on the coast of Coromandel, surrounded by the British territories, twenty-six leagues from Pondicherry, under the jurisdiction of which it is. It produces a net revenue of 300,000 francs a year. Population, 15,000; population of the territory, about as many more.

**KARL**; the German name for *Charles*, appearing in many geographical names, as *Karlstadt*, *Karlsruhe*, *Karlsbad*. *Karl* is of the same origin as *kerl*, which means, at present, a strong, sturdy fellow, formerly a valiant, powerful man. It is the same with the English *ceorl*, or *churl*.

**KARLSBAD**, **KARLSRUHE**, **KARLSTADT**, &c. See *Karlsbad*, &c.

**KARSCHIN**, ANNA LOUISA (properly *Karsch*), a German poetess, was born December 1, 1722, near Schwibus, on the frontiers of Silesia. Her father kept an alehouse. He died while she was young, and her mother, fearing that the eagerness for reading and writing which she displayed would make her neglect domestic occupations, withdrew her from the house of her uncle, who had undertaken the care of her education, and employed her three years in taking care of the cows; but she still contrived to gratify her desire of knowledge; for, having become acquainted with a shepherd boy who brought her books, mostly poor ones, she read them secretly. Her mother married her to a weaver, whom she never had seen. This union was unhappy, and, after eleven years, was terminated by a divorce. She was now utterly destitute; and, a year after, her mother married her to a drunken tailor, Karsch, whom Karschin hated. She now supported herself by selling occasional poems of her own composition, and by exhibiting as an improvisatrice about the country; but her drunken husband spent all her money. She finally attracted the attention of some influential men, and went to Berlin, where Ramler, Mendelssohn, Gleim, &c., encouraged her. Sulzer, who called her the *German Sappho*, published some of her poems in 1764, which produced her a considerable sum. She was admitted into the first society, and received several small pensions, but was not able fully to support herself, her two children, and her brother. Frederic II. took no interest in her, and did not give her the pension he had promised; but his successor, Frederic William II., ordered a convenient house to be built for her, which, however, she did not enjoy long, as her death took place in October, 1791. Her daughter published part of her poems, with her life, in 1792; new edition, 1796.

**KASAN**; an extensive province or government of

European Russia, lying between 46° 20' and 49° 40' E. longitude, and 54° and 57° N. latitude, and surrounded by the governments of Viatka, Orenburgh, Niznei-Novgorod, and Simbirsk. Its territorial extent is over 22,000 square miles; its population about 1,000,000, partly Russians, and partly Tartars, though of very mixed origin. The rivers are the Wolga, the Kama, the Sura, the Viatka, and the Kasanka, besides smaller streams, and a great number of lakes.

**KASAN**; a city of Russia, on the Kasanka, about four miles above its junction with the Wolga. Many Mohammedan Tartars still reside there, engaged in business. It is a bishop's see, and the seat of a small university, founded in 1803. It has also several other schools. Here are large soap-works and tanneries; also manufactures of woollen, cotton, lace, and earthen ware. It carries on an extensive trade. The caravans to Bucharia and China pass through Kasan. At a little distance from Kasan is a new admiralty establishment, with a navigation school, magazines, and a dock-yard, where galliots are constructed, and sent down the Wolga to the Caspian sea. Population, 25,000; 208 miles E. by S. Niznei-Novgorod; long. 49° 21' 9" E.; lat. 55° 47' 51" N.

**KATAHDIN**; a mountain in the state of Maine, North America, situated between the eastern and western branches of the Penobscot river, detached, steep on all sides, and extremely rugged. It was reputed, by the aborigines, to be the residence of supernatural beings. But few persons have visited its summit. It commands a very extensive view, embracing no less than sixty-three lakes. Its height, as ascertained by barometrical observations, is 4685 feet above the level of the west branch of the Penobscot at its base, and about 5335 feet above the ocean. It may be seen, in a clear day, from Bangor, a distance of seventy miles, and from Dixmont, eighty miles distant.

**KATT**. See *Frederic II.*

**KATZBACH**; a small river in Silesia, passing near Leignitz, famous for the victory which the Prussians and Russians under Blücher gained, August 26, 1813, over the French under Macdonald, Ney, Lauriston, and Sebastiani. It rained from August 24th to the 28th. Fire-arms could not be used, and the battle was fought hand to hand. It was short, and was terminated by a furious struggle between the Prussian cavalry under Blücher and the French under Lauriston, together 8,000 men. The French were broken, and were driven, horse and man, into the raging Neisse and Katzbach. Great numbers perished in the swollen streams. The result of the battle was more surprising, as a great part of the Prussian troops were raw militia. It is one of Blücher's greatest victories. During the battle and the following days, 103 French cannon were taken, two eagles, and 18,000 prisoners. Silesia was delivered, and the consequences were most important, particularly for Bohemia. The battle of the Katzbach took place on the same day that Napoleon repelled the attack of the allies on Dresden.

**KAUFMANN**, ANGELICA, a distinguished painter, was born at Coire, in the Grisons, in 1741, and received her first instruction in drawing and painting from her father, who, at the time of her birth, was painter to the bishop. Her admiration of the beautiful was early developed. She loved music, and made great progress in painting, under the guidance of her father, whose talents were but moderate, and whom she soon excelled. On her first journey to Italy, where she resided from her thirteenth year till 1769, in Milan, Florence, Rome, and

Naples, she acquired great skill; and her subsequent visit to London, where she painted the whole royal family, increased her reputation and improved her circumstances. Here she was elected a member of the royal academy, and here, also, she contracted an unfortunate marriage, of which the following circumstances are related. An English artist, who had paid his addresses to her, offended by her refusal, determined on vengeance. A handsome young man, chosen from the lowest class, was enabled to appear in the house of Angelica, and to become her suitor. She suffered herself to be deceived, and became his wife. The rejected artist now disclosed the deceit. Angelica obtained a divorce, but was obliged to settle an annuity on her husband. He, however, soon died. After her return to Rome in 1762, she was married a second time, more happily, to a Venetian painter, Zucchi, but she never had any children. Zucchi, likewise, died long before her. Angelica then devoted herself to painting till her death, in 1807. Her bust was placed, in 1808, in the Pantheon. She left a select library, some beautiful original paintings of old masters, and a considerable fortune, which she divided among several individuals and charitable institutions. She painted many portraits and historical pictures, the latter chiefly after antiques. She preferred ideal female figures. Her works are remarkable for grace, though the critic may discover in them incorrectness of style and sameness of plan and execution.

KAUNITZ, WENCESLAUS ANTHONY, prince of, knight of the golden fleece, fifth son of count Kaunitz, and one of nineteen children, was born in Vienna, in 1711, and was at first destined for the church, but, after the death of all his brothers, engaged in political life. His talents, aided by a favourable exterior, opened a brilliant career to him. After having studied at Vienna, Leipsic, and Leyden, he entered upon his travels, in 1732. In 1741, he was sent to pope Benedict XIV., and to Florence, on a secret mission, by Maria Theresa. In 1742, he went as Austrian ambassador to Turin, where he accomplished his mission to unite Sardinia more closely with Austria against the Bourbon courts so successfully, that, in 1744, he was appointed minister at the court of Charles, duke of Lorraine, then governor-general of the Austrian Netherlands. He conducted the most difficult affairs, in a highly critical state of the Netherlands, to the greatest satisfaction of the empress; but his feeble health obliged him to ask his dismissal, and he returned to Vienna. Soon afterwards, however, he appeared as minister plenipotentiary at the congress of Aix-la-Chapelle (q. v.), where he laid the foundation of his fame as a diplomatist. From 1750 to 1752, he was minister at Paris, and prepared the union of Austria and France, which took place in 1756. In 1753, he had been made court and state chancellor, and, in 1756, was created chancellor of Italy and the Netherlands. Thus he not only managed the foreign affairs of Austria, under Maria Theresa, but had also the greatest influence upon the domestic concerns. In 1764, the emperor, Francis I., raised him to the dignity of prince. As long as Maria Theresa lived, her confidence in Kaunitz was unbounded; but the emperor Joseph did not implicitly follow his advice; of which the unsuccessful attempt to open the Scheldt and to exchange Bavaria, as well as the unfortunate war with Turkey, were consequences. Under the reign of Leopold II., the influence of prince Kaunitz was still less. When Francis II. ascended the throne, his advanced age induced him to resign the office of court and state chancellor. He made up his opinions slowly, and after mature consideration. Voltaire was his favourite author, and he had much esteem

for Rousseau, who had been for a few weeks his private secretary at Paris. In Lombardy and the Netherlands, he instituted academies. Learned men found free access to him, and he cultivated the arts. The school of art at Vienna is almost entirely his work. Several painters and engravers were indebted to him for his patronage. His love of dress was considered extravagant. He was strictly honest and faithful. He rarely laughed, yet he was affable to all below him in rank. Under Joseph's government, Kaunitz ceased to appear at court, but the emperor often went to visit him, and received much assistance from him in his ecclesiastical reforms; hence he was called, by the court of Rome, *il ministro crederi*. yet, when the pope was at Vienna, he gave him, in a matter of policy, not the back, but the palm of his hand to kiss, which was formerly considered the highest favour; but the prince, pretending not to understand this etiquette, took the hand of the pope in his, and gave it a hearty shake. He died in 1794, with the reputation of one of the ablest ministers Austria had ever produced, and the still greater fame of a man of noble character. No minister was ever treated with a longer and more intimate confidence, which was founded equally on his talents and his strict integrity.

KEAN, EDMUND, the most brilliant and effective tragic actor of the age, was the reputed son of a Miss Carey, strolling actress and itinerant vender of perfumes, and an Edmund Kean, a scene carpenter. He was born in London, on the 17th March, 1787, or, according to other statements, 1789. His father procured a situation for him as a sign-man in the pantomimes at Drury-lane theatre, when he was only two years old; but here, by the unnatural and forced positions which he had to practise in order to make his limbs more pliable, he became deformed. Some of the actors procured him surgical assistance, his limbs were supported, and he finally overcame his bodily defects. At seven years, his mother sent him to a little school; but order and obedience were not in his character, and he engaged himself as cabin-boy in a vessel going to Madeira. This situation, however, equally displeased him, and, to deliver himself in Madeira, he feigned deafness, and played his part so well, that the captain sent him home. In London, he could not find out his mother; but a woman who had had him under her care recommended him to Miss Tidswell, an actress at Drury-lane theatre, who gave him much assistance. At one period, after his return to London, he exhibited as a droll, in a booth. After this, he was placed in one of the minor theatres, and was much applauded in Rolla's address to the Peruvians. From this period he commenced reading dramatic productions. His protectress recommended him to a company of players in Yorkshire, where he appeared under the name of Carey. Although not more than thirteen years old, he performed the parts of Hamlet, Lord Hastings, and Addison's Cato, well enough to please a provincial audience. In Windsor his talent was applauded by the royal family, a Satan's address to the sun, from Paradise Lost, and the first soliloquy in Shakespeare's Richard III. About this time, he was fortunate enough to attract the attention of doctor Drury, who recommended him to the directing committee of Drury-lane, in order to revive this declining theatre. He was, in consequence, engaged for three years at Old Drury. Kean appeared for the first time on the London boards, Jan. 26, 1814, in the character of Shylock. The next evening was decisive; but his Richard III. made him the idol of the Londoners. In Othello, also, and as Giles Overreach, he has been unequalled by any contemporary. When he performed Massinger's Jew the first time, the actors, and others of his opinion,

presented him with a gold cup, as a token of their esteem (June 25, 1814). In 1820, he visited the United States, and performed in New York, Philadelphia, Baltimore, and Boston, on the whole, with great success. A second visit to America, in 1825, was attended with little credit or advantage. His death took place at Richmond, on the 15th of May, 1833. His professional gains in Britain and America, have been estimated at above £150,000; but the recklessness of his character kept him always in difficulties.

KEATS, JOHN; a young English poet, of fine sensibility and great luxuriance of language, was born, of humble origin, in Moorfields, London, on the 29th October, 1796. He was sent to school at Enfield, where he remained till the age of fifteen, and was then bound apprentice to a surgeon; but his inclination to poetry having been cultivated by his teachers at school, he gave way to the ambition of becoming a poet. Keats's first volume of poems, many of which were written in his teens, made its appearance in 1817, when he was in his twenty-first year. This was followed by *Endymion*, a Poetic Romance, in 1818; and, in the year 1820, he published his last and best work, *Lamia*, *Isabella*, and other Poems. Being in feeble health, he was prevailed upon to try the climate of Italy, where he arrived in November, 1820, and died in Rome, on the 27th of December following. His death has been attributed to the attacks of critics; but it was, in fact, owing to a consumptive complaint of long standing. He was interred in the English burying-ground, near the monument of Cains Cestius, and not far from the place where were soon after deposited the ashes of his poetical mourner, Mr Shelley. "Mr Keats," says, Mr Leigh Hunt, who was his earliest and warmest patron, and to whose patronage, as connecting him with the liberal party, may be attributed many of the merciless attacks made on the young poet by Tory writers, "had a very manly, as well as a delicate spirit. He was personally courageous in no ordinary degree, and had the usual superiority of genius to little arts and the love of money. His patrimony, which was inconsiderable, he freely used in part, and even risked altogether, to relieve the wants of others, and further their views. He was handsome, with remarkably beautiful hair, curling in natural ringlets. He had the two highest qualities of a poet in the highest degree—sensibility and imagination. His *Endymion*, with all its young faults, will be a store-house for the lovers of genuine poetry, both young and old, a wood to wander in; a solitude inhabited by creatures of superhuman beauty and intellect; and superabundant in the luxuries of a poetical domain, not omitting 'weeds of glorious feature.' The fragment of *Hyperion*, which was his last performance, and which extorted the admiration of Lord Byron, has been compared to those bones of enormous creatures which are occasionally dug up, and remind us of extraordinary and gigantic times."

KEBIR; an Arabian word, which signifies *large*, and is found in many geographical names.

KEBLA. See *Kaaba*, and *Koran*.

KEDGE, or KEDGER; a small anchor, used to keep a ship steady and clear from her bower anchor, while she rides in a harbour or river, particularly at the turn of the tide, when she might otherwise drive over her principal anchor, and entangle the stock or flukes with her slack cable, so as to loosen it from the ground. The kedge-anchors are also used to transport a ship, or remove her from one part of a harbour to another, being carried out from her in the long boat, and let go by means of ropes fastened to these anchors. They are also generally furnished with an iron stock, which is easily displaced for the convenience of stowing. See *Anchor*.

KEEL; the principal piece of timber in a ship, which is usually first laid on the blocks in building. By comparing the carcass of a ship to the skeleton of the human body, the keel appears as the back-bone, and the timbers as the ribs. The keel supports and unites the whole fabric, since the stem and stern posts, which are elevated on its ends, are, in some measure, a continuation of the keel, and serve to connect and enclose the extremities of the sides by transoms, as the keel forms and unites the bottom by timbers. The keel is generally composed of several thick pieces placed lengthways, which, after being scarfed together, are bolted and clinched upon the upper side.

*False Keel*; a strong, thick piece of timber, bolted to the bottom of the keel, which is very useful in preserving its lower side. The false keel is provided when the thick pieces which form the real keel cannot be procured large enough to give a sufficient depth thereto. In large ships of war, the false keel is composed of two pieces, called the *upper* and *lower* false keels. The lowest plank in a ship's bottom, called the *garboard streak*, has its inner edge let into a groove or channel, cut longitudinally on the side of the keel: the depth of this channel is therefore regulated by the thickness of the garboard streak.

KEEL-HAULING; a punishment inflicted for various offences in the Dutch navy. It is performed by suspending the culprit by a rope from one yard-arm, with a weight of lead or iron upon his legs, and having another rope fastened to him, leading under the ship's bottom, and through a block at its opposite yard-arm. He is then suddenly let fall from the one yard-arm into the sea, where, passing under the ship's bottom, he is hoisted up on the opposite side of the vessel to the other. This punishment is not altogether unknown in British ships; but, as it is dangerous, it is very rarely, or, indeed, scarcely ever now practised.

KEELSON, or KELSON; a piece of timber forming the interior or counterpart of the keel, being laid upon the middle of the floor timbers immediately over the keel, and serving to bind and unite the former to the latter, by means of long bolts driven from without, and clinched on the upper side of the keelson. The keelson, like the keel, is composed of several pieces scarfed together; and, in order to fit with more security upon the floor timbers and crotchets, it is notched about an inch and a half deep, opposite to each of those pieces, thereby scored down upon them to that depth, where it is secured by spike-nails. The pieces of which it is formed are only half the breadth and thickness of those of the keel.

KEENERS; the name of the Irish singing mourners. The Irish have always been remarkable for their funeral lamentations, and once were celebrated for their musical art, in the last sad offices to their departed friends. Formerly, these duties were performed by dressing the body of the deceased in grave-clothes, ornamenting it with flowers, and placing it on a bier; when the relations and keeners, ranging themselves in two divisions, one at the head and the other at the feet of the corpse, the chief bard of the head chorus, softly accompanied by the harp, sung the first stanza of the *caoinean*, or funeral song. This being ended, the foot semi-chorus began the lamentation, or *ullaloo*, in which they were answered by the head semi-chorus, and then both united in one general chorus. After this, the chief bard of the foot semi-chorus began the second *gol*, or lamentation, in which he was answered by that of the head; and then, as before, both united in the general full chorus. Thus, alternately, were the song and choruses solemnly performed during the night. But whatever

merit or decorum there might formerly be in these vocal obsequies of the Irish, they have, at present, little to boast, either of melody, harmony, or dignity. The keepers now generally consist of a motley multitude of men, women, and children, and the *cacina* is degenerated into a wild and hideous howl.

**KEEP**, in ancient military history; a kind of strong tower, which was built in the centre of a castle or fort, to which the besieged retreated, and made their last efforts of defence. It is also called the *donjon*, or *dungeon*.

*To keep*; a term used, on several occasions, in navigation; as, *to keep the land aboard*, is to keep within sight of land as much as possible.—*To keep the luff*, or *the wind*; to continue close to the wind; i. e. sailing with a course inclined to the direction of the wind as much as possible.—*To keep off*; to sail at a distance from the shore or a ship, &c.

**KEEPER OF THE GREAT SEAL** (see *Chancellor*, *Lord High*, of *England*; for the office and privileges of the French keeper of the seals (*garde des sceaux*), before the French revolution of the last century, (see *Chancellor*). The *garde des sceaux*, or keeper of the seals, in France, is at present always minister of justice. On the continent of Europe, the department of justice is directed in the same way as the finances, &c., at the head of which stands a *chef*, or minister.

**KEEPER OF THE PRIVY SEAL**, in England, is a lord by virtue of his office, through whose hands pass all charters signed by the king, before they come to the great seal.

**KEEPER OF THE KING'S CONSCIENCE**. See *Chancellor*.

**KEEPER, BOAT**, one of the boat's crew who remains as a sentinel, in his turn, to take care of the boat and her contents when she is ashore, or alongside of a ship, or is towed astern of her.

**KEEPING**, in painting, is a technical term, which signifies the peculiar management of colouring and *chiaro oscuro*, so as to produce a proper degree of *relievo* in different objects, according to their relative position and importance. This may be effected either by shade or colour, either by throwing a shadow across the inferior objects, or by tinting them with a colour less bright than that given to others, and, in very skilful hands, it may even be done by the directly reverse practice. As the objects recede in the ground plane, the hue of the atmosphere, intermixing with their *proper* or *local* colour, as it is termed, will assist in their keeping. On keeping, *relievo* entirely depends; for, if the lights, shadows, and half tints be not kept in their exact relative proportions of depths, no rotundity can be effected, and, without due opposition of light, shade, and colours, no apparent separation of objects can take place. The celebrated Raphael has, in two instances, totally failed of proper keeping—in the Transfiguration, and the miraculous Draught of Fishes.—The word *keeping* is also sometimes used of works in other branches of the fine arts, as of a drama, to denote the just proportion and relation of the various parts.

**KEHL**; a village in the grand duchy of Baden, formerly a fortress of the German empire, situated at the influx of the Künig into the Rhine, over which there is a bridge to Strasburg, about two miles distant. The fortress was built by the French, towards the end of the seventeenth century, and was intended to aid Louis XIV.'s plans of conquest on the right bank of the Rhine. By the peace of Ryswick, in 1697, Kehl was ceded to the margrave of Baden-Baden, the empire retaining the right to garrison it. In the middle of the last century, the fortifications were demolished, and Kehl became the

seat of manufactures. Here Beaumarchais established his printing press, from which proceeded an edition of Voltaire and other magnificent editions. During the revolutionary war, the fortifications were rebuilt. Kehl has sustained several sieges (the severest in 1796), has been alternately in French and German hands, and has been three times burnt down. In 1806, it was included in the department of the Lower Rhine; in 1814, it was restored to Baden. In 1815, the works were again demolished. It has about a thousand inhabitants.

**KEISER**, one of the earliest German opera composers, born at Leipsic, in 1673, died 1739. He has 118 operas, besides much church-music, full of originality, and distinguished by a noble and pure style. Being, besides, self-formed, he deserves to be ranked among the first composers.

**KEITH, JAMES**; a brave and experienced warrior, as well as an able and successful politician, field-marshal of Prussia, and the confidential friend of a sovereign. He was descended of a noble house in Scotland, being the youngest son of William Keith, earl-marshal of that kingdom, and was born in 1696. The breaking out of the rebellion, in 1715, developed his military propensities, and gave the future colour to his fate. His mother, warmly attached to the house of Stuart, added her persuasions to the dictates of his own inclination, and, at the age of nineteen, he joined the Pretender's standard. The issue of the battle of Sheriffmuir, so unfortunate to the cause he had embraced, drove him into voluntary exile: he escaped from the conflict wounded and with difficulty, and effected a retreat to France. Here he applied himself with great diligence to the study of mathematics and military tactics, having previously made considerable progress in classical and general literature, under the auspices of the celebrated Ruddiman. In 1717, he quitted Paris for Italy, whence he proceeded to Spain, in the capital of which kingdom he was fortunate enough to obtain the friendship of the duke of Liria, who procured him a command in Ormond's Irish brigade. He subsequently accompanied his patron, when appointed ambassador to Russia, where, through the duke's recommendation, he obtained the rank of lieutenant-general from the czarina, who also conferred on him the order of the black eagle. In the Russian service, he continued several years, distinguishing himself as well in the field as in the cabinet, during the war with Turkey and Sweden. In the revolution which ended by the elevation of the czarina Elizabeth to the throne, he also took a prominent part; but, at length, on some disgust, he obtained his dismissal. On leaving Russia, he went to Berlin, where the king of Prussia, to whom his abilities were well known, received him with open arms, and raised him to the post of governor of his metropolis, and field-marshal of his forces. He made him also his confidential companion, selecting him as his associate in a tour which he made incognito through part of the north of Europe. In the subsequent wars of that martial monarch, field-marshal Keith continued to display the greatest military talents as well as ardour in his service, till his career was finally closed by a cannon-shot, in the unfortunate battle of Mollathkirchen, October 14, 1758.

**KELLER, JOHN BALTHASAR**, was born at Zurich, and studied the art of casting in metal, during the most flourishing time of Louis XIV. Keller was distinguished himself by the boldness with which he undertook to cast the most important works. Towards the end of the seventeenth century, Guarni made the model of an equestrian statue of the king, twenty-one feet high. The statues of *Marcus Aurelius*, *Cosmo de' Medici*, *Henry IV.* and *Louis*

XIII. had been cast in several pieces; but Keller undertook to cast the statue of the king in one piece. The work was successful, and did as much honour to Keller as to Girardon. The king rewarded him, and gave him the direction of the foundry of the arsenal. He died in 1702. His brother, John James Keller, born 1635, was likewise a skilful founder. He died at Colmar, in 1700.

KELLERMANN, duke of Valmy, marshal and peer of France, born at Strasburg in 1735, entered the 'oufians legion as a hussar, in 1752, and performed in it the first campaigns of the seven years' war. He went through all the degrees of service, up to the rank of *maréchal de camp*. At the breaking out of the revolution, he so distinguished himself by patriotism and judgment, that the citizens of Landau, in the garrison of which he was stationed, presented him with a civic crown. At the commencement of the war, he received the command of the army of the Moselle, formed a junction, in September, with the main army under Dumouriez, and sustained, September 20, 1792, the celebrated attack of the duke of Brunswick. This cannonade of Valmy, as it is called, caused the allies to retreat, and perhaps decided, not merely the whole campaign, but also the fate of Europe, and the supremacy of France, till 1813. In the following wars of France, Kellermann received various general commands. Napoleon loaded him with honours, and gave him *Johannisberg*. After the restoration of the Bourbons, he was appointed a member of the chamber of peers, where he espoused the liberal side. He died September 12, 1820, eighty-five years of age. In his last will, he had ordered that his heart should be buried on the field of Valmy.

KELLGREN, HENRY, a Swedish poet and *savant*, was born in 1751, in Schonen, and studied at the university of Abo. Gustavus III. protected him against the assaults of envy in Stockholm, and put him beyond the reach of want. He was one of the first members of the academy of sciences, established by the same monarch, at Stockholm. Kellgren's assiduous study was too much for his weak frame. He died in the Swedish capital, in 1795. On his tombstone are the words *Poeta, philosopho, civi, amico lugentes amici*. He is considered as a poet of a very rich imagination. His complete works appeared after his death at Stockholm. As editor of the literary part of the Stockholm Journal, he laboured much to improve the taste of his countrymen, and his criticisms made him many enemies.

KELP, in commerce; the ashes of sea-weeds or *fuci*. See *Fucus*. *F. serratus* and *F. vesiculosus*, the species used in the manufacture of this article, grow attached to rocks between high and low water mark, and are often termed *rock-weed*. On the Scottish coast, the sea-weed is cut close to the rocks, during the summer season, and afterwards spread out upon the shore to dry, care being taken to turn it occasionally, to prevent fermentation. It is then stacked for a few weeks, and sheltered from the rain, till it becomes covered with a white saline efflorescence, and is now ready for burning. This is usually accomplished in a round pit, lined with brick or stone; but the more approved form for a kiln is oblong, about two feet wide, eight to eighteen long, and from two to three deep; the bottom of this is covered with brush, upon which a little dried seaweed is scattered, and fire is applied at one extremity; the sea-weed is now thrown on gradually, as fast as the combustion reaches the surface, and should there be much wind, it is necessary to protect it by covering the sides with sods; after the whole is burnt, the mass gradually softens, beginning at the sides, when it should be slowly stirred up with a heated iron

bar, and incorporated, till it acquires a semi-fluid consistence. This part of the process requires considerable dexterity; and, if the mass continues dry, a little common salt should be thrown on, which acts as a flux. When cold, it is broken up, and is now ready for sale.

During the war, and for some time after, when barilla and salt were highly taxed, kelp was manufactured to a large extent in Ireland and Scotland, but more particularly in the Hebrides, where it was a source of support to many of the poorer inhabitants. In Scotland and its isles alone, the total quantity annually made amounted to about 20,000 tons annually, the average price of which was £10 9s. 7d. per ton. But with the reduction of the duties on barilla and salt, this trade was totally ruined, and shores that formerly yielded the proprietors a rent of from £200 to £500, are now worth nothing. It was the repeal of the duty on salt that mainly put a stop to the kelp manufacture. The purification of kelp for soap-making is more troublesome and expensive than the decomposition of salt, and the greater quantity of alkali used is now obtained by the latter method. Even with the reduction of the duty on barilla, kelp might still have been manufactured, though with less profit, but for the repeal of the duty on salt.

One of the products of kelp, we have not yet adverted to, is iodine. (q. v.) The uses of soda are, in general, the same with those of potash, but there are certain branches of manufactures to which it is indispensable, as to the making of plate and crown-glass, and all hard soaps. Both alkalies are consumed in immense quantities by soap-boilers, bleachers, and glass-makers; but it is said that in France the use of potash has very much diminished since the culture of barilla has been introduced. The barilla obtained in France from the *salicornia annua* yields fourteen or fifteen per cent. of soda; and that from *salsola tragus*, *S. kali*, *statice limonium*, *atriplex portulacoides*, &c., yields only from three to eight per cent. The Spanish barilla is the most esteemed, particularly that from Alicante, and is obtained from the *salsola sativa*, which is carefully cultivated in light, low soils, embanked on the side next the sea, and furnished with flood-gates, through which the salt water is occasionally admitted. So anxious are the Spaniards to monopolise this trade, that the exportation of the seed is prohibited under pain of death. (See *Barilla*.) Carbonate of soda is also found abundantly in a mineral state in many countries, as in Hungary, the southern parts of Siberia, Persia, China, North Africa, and the environs of Smyrna; but the native salt has not hitherto become important as an article of commerce.

KELSO, a town of Scotland, in Roxburghshire, situated on the north bank of the Tweed, forty-two miles S. E. of Edinburgh. It was anciently called Calc-How and Calco, from the calcareous hill still conspicuous in the town, and termed the Chalk Heugh, owed much of its ancient importance to the stately abbey, founded in 1128, to the honour of the virgin Mary and St John, by the earl of Northumberland, afterwards David I., for a mitred abbot and monks of the order of Tyronenses, whom he first settled at Selkirk, then at Roxburgh, and finally fixed here, granting them many valuable privileges, with an endowment so liberal, that at the suppression it is stated to have been worth £2000 Scotch per annum. A considerable portion of this once-extensive and sumptuous edifice remains, exhibiting a most interesting specimen of the Norman style; and that fine taste in sacred architecture by which it is distinguished. The town was thrice destroyed by fire during the border warfare, was burned down by accident in 1686, and a like casualty caused its almost entire destruction

again in 1745, from which period it has gradually arisen to its present state, that of a well-built, gay, and populous place. It is delightfully seated on the northern bank of the river Tweed, which is crossed by a noble bridge of five arches, built upon the site of a more ancient structure that was swept away by a flood in 1798; there is also a bridge over the Tiviot, which, running from the southward, forms a junction with the Tweed, nearly opposite to the town. Almost at the southern termination of the principal street, which runs parallel with the Tweed, is the market-place, containing many handsome buildings and shops; and on the east side of it is a newly-erected town-house, comprising the town-hall and other public offices, with piazzas, and an arcade underneath, for the convenience of the great concourse of persons who resort to the high markets, of which there are twelve in the year (exclusive of the weekly marts), viz., two before, and one after the Whitsuntide and Martinmas terms, for hiring servants, and the other six in March and at the close of autumn, chiefly for horses. This is often the seat of the Caledonian hunt; and the Kelso races are held upon Cavertown Edge, a muir in the adjoining parish of Eckford. The parish church, which is dedicated to the virgin Mary, stands at the east end of the venerable abbey, a conspicuous ornament to the place; there are also an elegant episcopal chapel, burgher, anti-burgher, and relief meeting-houses, three benefit societies, a public dispensary, three subscription libraries, containing valuable collections of books, two public schools of some repute, one for Latin, the other for English; with several minor establishments for the instruction of youth, including a school of industry, conducted on a plan most creditable to its originators. The inhabitants are mostly employed in the manufacture of woollen cloth, linen, stockings, shoes, leather, and in the dressing of sheep and lamb skins, the latter business being carried on to a considerable extent for the supply of the populous country, of which Kelso is the centre. Population, in 1831, 4939.

**KEMBLE, JOHN PHILIP:** one of the most eminent tragedians of the British stage, was the eldest son of Roger Kemble, manager of a company of comedians at Prescot in Lancashire, in which county he was born, February, 1757, and received the rudiments of education at the Roman Catholic seminary of Sedgley park, Staffordshire. With the view of qualifying him for one of the learned professions, he was afterwards placed by his father at the college of Douay, where he early distinguished himself by his proficiency in elocution. On his return to England, having completed his academical pursuits, he entered immediately upon the profession of an actor, for which he had long exhibited a decided predilection. At this period, he produced a tragedy on the story of Belisarius, which was acted at Liverpool, and printed a volume of Fugitive Pieces, in verse, with which he was, however, so dissatisfied, that, on the day after their publication, he destroyed every copy he could recover. Mr Kemble appeared, for the first time in London, on the Drury-lane boards, September 30, 1783, in the part of Hamlet, and was received with great applause. It was not, however, till the retirement of Smith from the stage, in 1788, that he took a decided lead in tragedy. He afterwards obtained the management of Drury-lane theatre, which he enjoyed with only a short interruption, till 1801. In 1794, he brought out a musical entertainment of his own, entitled *Lodoiska*, which had a great run, and has since been revived with benefit to the theatre. In 1802, he visited the continent, and having passed twelve months at Paris and Madrid, returned to London, when he pur-

chased a sixth share in the Covent-garden theatre, and became manager of that establishment. Here he continued his career with great success, till the destruction of the theatre by fire in 1809. In the autumn of the same year, the present edifice, being constructed, opened with an increase of price, which, together with certain obnoxious arrangements in regard to the private boxes, created, for a series of nights, the disturbances known by the name of the *O P riots*. Mr Kemble took his farewell of the stage July 23, 1817, on which occasion he was complimented with a public dinner and other honorable tokens of esteem, and shortly after returned to the continent, where he died at Lausanne, in Switzerland, February 26, 1823, of a paralytic attack, after a few hours' illness. As an actor, Kemble was distinguished for dignity, precision, and studious preparation. His merits were differently appreciated, but by all he was regarded as a highly gifted actor, and the impression which he made in characters more immediately adapted to his style of excellence, such as Cato, Coriolanus, Hamlet, John, Jacques, Parroldock, was very great. His management both of Drury-lane and Covent-garden theatres, but especially of the latter, was also marked by the exhibition of much refined and accurate taste, in the rectification of scenic decoration, and the adoption of appropriate costume, adding thereby both to the splendour and illusion of the drama. The learning, elegant manners, and accomplishments of Mr Kemble introduced him into the best company, by whom he was at once courted and esteemed. See Bowden's *Life of Kemble*.

**KEMPELEN, WOLFGANG, BARON VOX,** famous as the inventor of the automaton chess-player, was a native of Presburg in Hungary. He displayed much talent, when young, as a mechanic; and, as early as 1769, he announced the completion of his automaton or androïde, which has since attracted so much attention. In 1783, the chess-playing figure was first exhibited at Paris; and it afterwards made its appearance in London, where it surprised and puzzled those who witnessed its performance. Baron Kempelen or his assistant was always present, to direct, by some incomprehensible method, the motions of the machine. It consists of a figure in a Turkish dress, seated at a table, the top of which is marked as a chess-board. The arm of the automaton, by means of internal machinery, is capable of executing about a dozen motions, which it appears to perform spontaneously, so as to play a game at chess with any visitor. While the movements are taking place, the noise of a fly-wheel is heard; and, after a certain time, the machinery requires winding up like a clock, before it can again be brought into action. Various conjectures have been advanced as to the means by which the action of this machine is directed. The most probable of which is, that a child or small man is concealed in a drawer under the table which supports the chess-board. It is true that the whole cavity beneath the table, as well as the body of the figure, is opened and exhibited to the spectators previously to the commencement of an exhibition; but as the inside of the automaton and the space under the table are not shown at the same time, an individual within might move from one part to the other, so as to deceive those who witness the performance. It is easy to conceive that, by means of some audible signal, the evolutions of the automaton may be directed. This very ingenious man also constructed a speaking figure, of which he published an account in a curious work, entitled *La Mécanisme de la Parole, suivi de la Description d'une Machine parlante, et enrichi de 15 Planches* (Vienne, 1791, 8vo.) also printed in Ger-

men. He contrived, likewise, a printing-press, for the use of mademoiselle Paradis, a famous blind musician. He also published German poetry; a drama, called *Perseus and Andromeda*; the *Unknown Benefactor*, a comedy, &c. He died at Vienna in 1804. The chess-player is now in the possession of Mr Malsel, who has himself invented several ingenious automata, which, together with the chess-player, have been publicly exhibited.

KEMPIS, THOMAS A. See *Thomas à Kempis*.

KEN, THOMAS, a learned and pious dignitary of the English church, was educated at Oxford. About 1679, he went to Holland to officiate as chaplain to the princess of Orange, and afterwards to Tangier, as chaplain to the earl of Dartmouth. In every station which he held, he exhibited a conscientious propriety of conduct and unyielding morality, which procured him the respect of the licentious court of Charles II., and, strange as it may appear, conciliated the favour of that prodigal prince; for, residing at Winchester when the king, attended by his female favourites, visited that city, his house was designed by his majesty's harbinger for the lodging of Nell Gwynn; but doctor Ken, thinking such an inmate unsuitable for a man of his function, positively refused to admit her. When the king was informed of his conduct, he coolly said, "Mrs Gwynn must find lodgings elsewhere; and, to the surprise of his courtiers, he took the first opportunity to promote this conscientious supporter of the dignity of his character. Doctor Ken became a chaplain to Charles II., in whose reign he was made bishop of Bath and Wells. He was one of the seven bishops sent to the Tower for resisting the dispensing power claimed by king James, and for petitioning in behalf of their own and the people's rights. After the revolution, bishop Ken refused to take the oath of allegiance to king William, in consequence of which he was deprived of his preferment. He was, however, highly respected by those of opposite sentiments, and queen Anne bestowed on him a pension. He died in 1711. His works, consisting of sermons, poems, &c., were published in 4 vols. 8vo., 1721, with an account of his life.

KENAWHA, or KENHAWA, GREAT; a river in Virginia, which has its sources in the western part of North Carolina, flows through the western part of Virginia, in a north-westerly direction, and joins the Ohio at Point Pleasant, eighty-seven miles below Marietta, and 265 below Pittsburg. It receives Green Brier river in the western part of Monroe county, and, about forty miles below the junction, it has a remarkable cataract, falling perpendicularly fifty feet. There are salt-works on the river, a little above the town of Charleston. The river is navigable most of the year.

KENAWHA, LITTLE; a river of Virginia, which runs west into the Ohio, 178 miles below Pittsburg.

KENILWORTH (called, by corruption, *Killingworth*); a town in Warwickshire, England, five miles N. of Warwick, six S. S. W. of Coventry, and 61 N. W. of London. Population, in 1831, 3097. It consists chiefly of an irregular street, nearly a mile in length, and has considerable manufactures of iron combs, and a market on Wednesday. The town is chiefly noted for its magnificent castle, which, long with its extensive chase and park, formed at one time the pride and ornament of this part of the kingdom. It was originally founded by Geoffrey de Clinton, chamberlain and treasurer to Henry I. Most of the buildings, of which remains are yet visible, were erected by John of Gaunt, father of Henry IV. continued in the possession of the crown till the reign of Elizabeth, who conferred it on Robert Dudley,

earl of Leicester. He enlarged and adorned it at the expense of £60,000, and afterwards entertained the queen here for seventeen days, in a style of extraordinary magnificence. The area within the walls of the castle contained seven acres, and the circuit of the walls, manors, parks and chase, was nineteen or twenty miles. The building was greatly injured during the civil wars; and the remains of the castle now present one of the most splendid and picturesque wrecks of castellated strength in England, and impart a melancholy grandeur to the town and neighbourhood. The romance of Sir Walter Scott has given it additional interest.

KENNEBEC; the largest river in Maine, after the Penobscot. It has two principal branches—the eastern and western. The former rises from Moosehead lake; and the latter, called *Dead river*, interlocks with the sources of the Chaudiere, with which it is connected by a portage of only five miles. The two branches unite about twenty miles below Moosehead lake, and the river afterwards pursues a southerly course. It is joined by the Androscoggin eighteen miles from the sea. The tide flows up as far as Augusta, and the river is navigable for ships to Bath, twelve miles, for vessels of 160 tons to Hallowell, forty miles, for sloops to Augusta, two miles farther, and for boats to Waterville, eighteen miles above Augusta. There are a number of handsome and flourishing towns on the river, among which are Bath, Gardiner, Hallowell, Augusta.

KENNICOTT, Doctor, and professor of theology at Oxford, born in 1718, at Totness in Devonshire, where his father was a poor shoemaker and sexton, has become known by his extensive and valuable collection of readings from about 580 manuscripts, and twelve printed editions of the Hebrew Bible, which he annexed to his edition of the Hebrew text. This work is entitled *Vet. Test. Hebr., cum variis Lectionibus* (2 vols., fol., Oxford, 1776—80). To the 2d volume is prefixed a *Diss. gener. in V. T. Hebr.* In this laborious and expensive undertaking, Mr Kennicott was assisted by a subscription of several thousand pounds, and thus enabled to send several scholars to Spain, Italy, Germany, &c., to collate manuscripts and editions. The work has many typographical errors. The author's plan, too, was defective, and he was not sufficiently acquainted with the Eastern languages and the true principles of criticism; but he rendered great service to the cause of science and religion by opening the way in this department of biblical criticism. At the time of his death, he was employed in preparing Remarks on select Passages in the Old Testament, which were subsequently published, accompanied by eight sermons.

KENSINGTON; a large and populous village of England, in the county of Middlesex, nearly two miles from Hyde-park corner, and chiefly distinguished for its royal palace and gardens. In former times, Kensington palace was a favourite royal residence; and king William III., queen Mary, queen Anne, and George II., died here. Kensington gardens, attached to the palace, are well known, and much frequented as a fashionable promenade in summer. They form a great ornament to the metropolis. These gardens contained originally twenty-six acres, and twenty acres were added by queen Anne. Population, in 1831, 20,902.

KENT; a maritime county of England, forming the south-eastern angle of the island of Great Britain, whence, probably, originates its name, the word Cant signifying a corner, in the ancient Gaulish, or Celtic dialect. It is bounded on the north by the river Thames, which divides it from Essex; on the west by Surrey and Sussex; on the south by the English Channel; and on the east by the German Ocean. It

contains numerous monuments of antiquity, and has been the theatre of many important events connected with our national history. On the eastern coast the Romans landed, under Julius Cæsar, when he invaded Britain, 54 B. C. and again the following year; but he made no permanent conquest, and a century elapsed before this part of the island submitted to the power of Rome, when Kent became a part of the province called *Britannia Prima*. In this county the Saxons, commanded by Hengist and Horsa, obtained their earliest settlements, having been invited hither by the Britons, to aid them in repelling the invasions of the Picts and Scots, but becoming ultimately much more formidable enemies than those northern marauders. An open war at length took place between the Britons and their former allies, and Hengist, having subdued this county, about 455, assumed the title of king of Kent. Canterbury was the capital of this kingdom, and Ethelbert, who reigned here towards the close of the sixth century, having been converted to Christianity by Augustin, an Italian monk, founded in that city the first bishopric among the Anglo-Saxons, in consequence of which, when other sees were founded, this was made an archbishopric, and the prelates who sat here became primates of all England, which ecclesiastical dignity they still retain. When the kingdoms of the Heptarchy were united under the sovereignty of the West Saxon princes in the ninth century, Kent, from its vicinity to London, and other local advantages, retained much of its former importance; and William, duke of Normandy, after his victory over the English, near Hastings, is said to have entered into a convention with the people of Kent, securing unto them their ancient rights and privileges, as the condition of their admitting his claim to the crown; and hence it is supposed the custom of gavelkind has been preserved in this county, while it has been abolished in almost every other part of England. At a subsequent period William appears to have shown his conviction of the maritime importance of Kent, by the institution of the cinque-ports, a measure which probably had a considerable effect in promoting the naval prosperity of Britain.

The surface of this county displays much diversity of scenery, the banks of the Thames being low and marshy, while the central and eastern parts consist of a range of chalk hills, terminating in the white cliffs of Dover; and that portion bordering on Sussex, called the Weald of Kent, is a flat woody tract, of a clayey soil, fruitful, but damp and unhealthy, especially at the southern angle, where its extremity forms the great marsh of Romney. The western districts include hill and dale, arable and pasture land, equaling in pleasantness and variety of products the most agreeable and fertile parts of the kingdom. Two chains of hills intersect this county, termed the Upper and the Lower Hills; the former, situated to the north, are the chalk hills already mentioned, in which are embedded numerous nodules of flint, and fossilized organic remains; the southern or lower range, consists of iron-stone and rag-stone; and on the west, towards Surrey, a mixture of clay and gravel predominates. Kent is watered by several rivers, the most considerable of which, next to the Thames, is the Medway, formed by four streams, which unite near the confines of Sussex, and passing by Maidstone and Rochester, this river expands into an estuary, containing several small islands, and joins the Thames at Sheerness. The Stour rises in the Weald of Kent, flows by Canterbury, and falls into the sea north of Sandwich; the Rother which has its source in Sussex, forms the boundary between that county and Kent, and empties itself into the sea at Rye; and the Ravensbourn, the Cray, and the

Darent mingle their waters with the Thames. Besides the usual productions of agriculture, Kent affords large quantities of hops, by which the brewers of the metropolis are principally supplied. Here also are grown various kinds of fruit, especially cherries and apples, for the London market. Population, in 1831, 479,155.

KENT, EDWARD, duke of, fourth son of George III., king of Great Britain, was born Nov. 2, 1767. He was educated in England, at Göttingen, and Geneva, where he remained until 1790; when he proceeded in a military capacity to Gibraltar. He subsequently went to America, and, in 1796, became lieutenant-general, and returned to England. In 1799, he was created duke of Kent and Southern earl of Dublin, and the same year visited America, but returned again in 1800. In 1802, he was made governor of Gibraltar; but his rigid discipline produced a mutiny, and he was recalled the following year. In 1818, he married the youngest daughter of the duke of Saxe-Coburg, and the widow of the prince of Leiningen. In May, 1819, the duchess bore him a daughter, who was called Alexandra Victoria, who is now heiress presumptive of the crown. The duke of Kent died Jan. 23, 1820. His widow, with her brother, prince Leopold, the husband of the late princess Charlotte, at present assumes the principal guardianship of the princess, who is likely to become the future sovereign of Great Britain.

KENT, WILLIAM, an ingenious artist, was born a Yorkshire, in 1685. He was apprenticed to a coach-painter, but, conscious of superior talent, repaired to London, where he was enabled, by some gentleman, to repair to Rome, and to study painting under cavalier Luti. In this art, however, he never obtained celebrity; his talent lay chiefly in ornamental architecture, some specimens of which at Holkham, Stowe, and other places, are much admired. He is regarded by Horace Walpole as the inventor of modern gardening, which he rendered more natural, graceful, and pleasing. He leaped the sunk fence, says the last-mentioned writer, and saw that all nature was a garden. He broke up the old uniformity of straight lines and corresponding parts, and threw wind, water, and ground, into the beautiful shapes presented by nature. The taste of Pope is supposed to have aided that of the artist. He died at Burlington-house in 1748, aged sixty-three, and was buried at Chiswick.

KENTUCKY; one of the United States of America, bounded north by the river Ohio, which separates it from Ohio, Indiana, and Illinois, east by Virginia, south by Virginia and Tennessee, and west by the river Mississippi; lon. 81° 50' to 89° 20' W. lat. 36° 30' to 39° 10' N.; 300 miles long, and from 8 to 180 broad; square miles, 42,000; population, in 1790, 73,677; in 1800, 220,969; in 1810, 478,511; in 1820, 564,317; and in 1830, 688,844; free white persons, 518,678; free coloured persons, 4816, and slaves, 165,350. The first permanent settlement in Kentucky was begun by colonel Daniel Boone, in 1775. The country formed a part of the state of Virginia until 1790; in 1792, it was admitted into the union as an independent state. Frankfort is the seat of government. Lexington and Louisville are the largest towns. There is a penitentiary at Frankfort, in which are confined over 100 convicts. At Lexington, there is a lunatic asylum; at Danville an asylum for the deaf and dumb; and at Louisville and Smithland on the Ohio, hospitals for sick and disabled boatmen. The most prominent literary institution is Transylvania university, at Lexington, which has about 150 students, besides the students of the law and medical schools, and of the frequent

tory department. There is a Roman Catholic college at Bairdstown, called St Joseph's college; Centre college, at Danville, established by Presbyterians; and a college at Augusta, established by Methodists. There is also a Baptist college at Georgetown, and a Presbyterian college, called Cumberland college, at Princeton. The legislature has several times taken steps for establishing a system of common schools, but nothing effectual has been accomplished. There are two banks in the state, called the bank of Kentucky, and the bank of the commonwealth. There are also branches of the United States bank at Lexington and Louisville. The legislature is composed of a senate, consisting of thirty-eight members, chosen by districts, for four years, and a house of representatives, not exceeding 100, chosen annually. The governor and lieutenant-governor are chosen by the people for four years, but are not eligible for the succeeding seven years. The legislature meets on the first Monday in November. The principal rivers of Kentucky are the Ohio, which flows along the state 637 miles, following its windings; the Mississippi, Tennessee, Cumberland, Kentucky, Green, Licking, Big Sandy, Salt and Rolling. The Cumberland mountains form the south-east boundary of this state. The eastern counties, bordering on Virginia, are mountainous and broken. A tract from five to twenty miles wide, along the banks of the Ohio, is hilly and broken land, interspersed with many fertile valleys. Between this strip, Green river, and the eastern counties, lies what has been called the garden of the state. This is the most populous part, and is about 150 miles long, and from 50 to 100 wide. The soil is excellent, and the surface is agreeably diversified, gently rising and descending. These lands produce black-walnut, black-cherry, honey-locust, buckeye, pawpaw, sugar-maple, mulberry, elm, ash, cottonwood, whitethorn, with an abundance of grape-vines. There is a tract of country in the south-western part of the state, east and north of Cumberland river, and watered by Green and Barren rivers, about 100 miles in extent, called the *barrens*, which, a few years since, was a beautiful prairie, destitute of timber. It is now covered with a young growth of various kinds of trees. These, however, do not prevent the growth of grass, and an almost endless variety of plants, which are in bloom during the whole of the spring and summer, when the whole region is a wilderness of the most beautiful flowers. The soil is of an excellent quality, being a mixture of clay, loam, and sand. Through this country there runs a chain of conical hills, called *knoles*. It is also distinguished for some stupendous caves. Ancient fortifications and mounds of earth are found in almost all parts of Kentucky. The caves in the south-western part of the state are great curiosities. One, styled *Mammoth cave*, 130 miles from Lexington, on the road leading to Nashville, is said to be eight or ten miles in length, with a great number of avenues and windings. Earth strongly impregnated with nitre is found in most of these caves, and there are many establishments for manufacturing it. From 100 pounds of earth, 50 pounds of nitre are frequently been obtained. A number of the rivers in this state have excavated the earth, so as to form abrupt precipices, deep glens, and frightful falls. The precipices formed by Kentucky river are, in many places, awfully sublime, presenting perpendicular banks of 300 feet, of solid limestone, surrounded with a steep and difficult ascent, four times as high. The banks of Cumberland river are less precipitous, but equally depressed below the surface of the surrounding country. Wheat, tobacco, and hemp are the staple productions. Indian corn is, however, the principal grain raised for home con-

sumption. Rye, oats, barley, buckwheat, flax, potatoes, &c., are cultivated. Apples, pears, peaches, cherries, and plums are the most common fruits. The domestic animals are large and beautiful, particularly the horse. Great numbers of swine, horned cattle, horses, and mules are annually driven to the neighbouring states for a market, and large quantities of pork, bacon, and lard are exported. The fattening of animals is the chief mode of consuming the surplus grain, on account of the expense of conveying it to market. Considerable quantities of whiskey are made. Marble, of excellent quality, abounds, and the whole state may be said to repose on a bed of limestone. Salt and iron are among the minerals of this state. The most extensive works for the manufacture of salt established west of the Alleghany mountains, are on the waters of Kentucky. These supply not only this state, but a great part of Ohio and Tennessee. Kentucky, from its position, has become a manufacturing state. See *United States*.

*Kentucky*; a river in Kentucky, which rises in the south-east part of the state, and runs north-west into the Ohio, seventy-seven miles above the rapids at Louisville. It is navigable, in the winter, for small boats, about 180 miles. The current is rapid, and the banks are high and rocky.

KEPLER, JOHN, a great mathematician and astronomer, to whom astronomy is indebted for much of its present perfection, was born in 1571, at Weil, in Wurtemberg, and was descended from a noble family. Poverty, and the vicissitudes of his father's fortune (who was an innkeeper), were the causes of the neglect of his education, and of the unhappiness of his youthful days. But, in his eighteenth year, after the death of his father, he left the monastic school of Maulbrunn, and succeeded in entering the university of Tubingen. Here he studied the course then prescribed—first philosophy and mathematics, and then theology. He also indulged his inclination for astronomy, and devoted himself especially to the investigation of the physical causes of the motion of the celestial bodies. From Tubingen, he was invited, in 1593, to become professor of mathematics and morals at Gratz, in Stiria, where he pursued his astronomical studies. For the sake of freedom of conscience, he fled to Hungary, but returned some time after. Meanwhile the astronomer Tycho de Brahe had come to Germany, his acquaintance with whom had an important influence on Kepler's life. He resolved to relinquish his situation, and to prepare, at Prague, with Tycho, the famous Rodolphine tables, called after the reigning emperor Rodolph, which were first printed at Ulm, in 1626, and which Lalande (*Ast. i. p. 474*) calls an *Ouvrage essentiel, et qui fut le fondement de tous les calculs de l'astronomie pendant un siècle*. At Tycho's recommendation, he was established in that place; but, as his office and science did not afford him a subsistence, he studied medicine, in order to gain a livelihood by the practice of it. The emperor had assigned him a salary, but, in the period of trouble which preceded the thirty years' war, it was not paid. Even when he was appointed imperial mathematician, by Rodolph's successor, Matthias, his hope of recovering his arrears was disappointed. Controversies with the clergy, and the disturbed state of the Austrian dominions, made his situation very uncomfortable. He left Lintz, repaired to Ratisbon, declined an invitation to England, and was confirmed by the succeeding emperor, Ferdinand, in the office of imperial mathematician, and afterwards went to Ulm, in order to print his Rodolphine tables. In 1627, he returned to Prague, and received from the emperor 6000 guilders. He finally became a professor at Rostock, on the recommendation of Albert, duke of Wallenstein, at that time duke of

Mecklenberg, but did not receive the promised compensation. He therefore went to Ratisbon, where he died, in 1630. Kepler was small of stature, thin, and of a weak constitution, and short-sighted. His manners were frequently gay and sportive. He was attached to his science with the deepest love: he sought after truth with eagerness, but forgot, in the search, the maxims of worldly prudence; and there was a certain love of mystery about him, which too often manifested itself in idle astrological visions. He had but a small share of what are commonly esteemed the pleasures of life, but he endured all calamities with firmness. "Kepler," says Lalande, "is as famous in astronomy, for the sagacious application which he made of Tycho's numerous observations (he was not himself an observer), as the Danish astronomer for the collection of such vast materials." The laws of the courses of the planets, deduced by Kepler from those observations, are known in astronomy under the name of the *three laws of Kepler* (*regulae Kepleri*), and on them were founded Newton's subsequent discoveries, as well as the whole modern theory of the planets. The first of these laws is, that the planets do not move, as Copernicus had imagined, in circles, but in ellipses, of which the sun is in one of the foci. For this, Kepler was indebted to the observations which Tycho had made on the planet Mars, whose eccentricity is considerable, and agrees particularly with this rule, in determining which, Kepler went through an indescribably laborious analysis. (See the astronomical works of Lalande, Schubert, and others.) The second law is, that an imaginary straight line from the sun to the planets (the *radius vector*) always describes equal sectors in equal times. By this rule, Kepler calculated his tables, imagining the whole plane of revolution divided into a number of such sectors, and, from this, investigated their respective angles at the sun. This was called *Kepler's problem*. The third law teaches that, in the motion of the planets, the squares of the times of revolution are as the cubes of the mean distances from the sun; one instance of the application of which law, in the want of other means, is in the determination of the distance of the planet Herschel from the sun, it having been ascertained, that its time of revolution amounts to little more than eighty-two years. Kepler's services in the cause of astronomy have placed him high among the most distinguished men of science on record. In Ratisbon, a monument was erected to his memory in 1808, by Charles Theodore von Dalberg. It consists of a Doric temple, in which is placed the bust of Kepler. The most important of his works is his *Astronomia nova, seu Physica Cœlestis tradita Commentariis de Motibus Stellæ Martis* (Prague, 1609, folio)—a work which secures immortality to the author, and is still regarded as classical by astronomers. An account of Kepler's life is prefixed to his *Letters* (printed at Leipsic, in 1718, in folio). We annex the epitaph which he composed for himself:

*Mensus eram cœlos, nunc terra metior umbras;  
Mens cœlestis erat, corporis umbra jactat.*

See the article *Harmony of the Spheres*.

KEPPEL, AUGUSTUS, a British admiral, was the second son of William, earl of Albemarle, entered the sea service at an early age, and accompanied admiral Anson round the world. In 1778, he was appointed to the command of the Channel fleet. July 12, in that year, he fell in with the French fleet, under count D'Orvilliers, off Ushant, when a short but warm engagement ensued. A short delay becoming necessary to repair damages, when that labour was accomplished, the admiral made signal for his van and rear divisions to assume their proper

stations. Sir Hugh Palliser, commanding the rear, took no notice of the signal, and refused to join the commander, until night prevented a renewal of the battle. The conduct of the rear-admiral being severely attacked, and Keppel refusing a disavowal of the charges brought against him, Palliser immediately exhibited articles of accusation against him. Keppel was honourably acquitted, and received the thanks of both houses of parliament for his services. Palliser was next tried, and reprimanded; but the public indignation was so great that he was obliged to resign his seat in the House of commons, and to vacate several offices which he held under government. In 1782, admiral Keppel was raised to a peerage, under the title of *viscount Keppel, baron Eldon*, and was, at two different periods, appointed first lord of the admiralty. He died in October, 1786, unmarried. He was regarded as very able in his profession, and a man of great integrity and humanity.

KERGUELEN TREMAREC, JAMES JOSEPH DE, an eminent French navigator, born at Brest, about 1745. He entered young into the navy, and obtained the rank of lieutenant in 1767. After being employed on an expedition to the coast of Iceland, to protect the whale fishery, he was sent, by his government, on a voyage of discovery, to the south sea. On his return, he gave a flattering account of a supposed continent towards the south pole, some parts of which he had visited. He was sent, in 1773, to make further discoveries; but the result of his researches only served to show the little value of the country he discovered; and he was arrested and confined in the castle of Saumur, after his return to France, on the charge of having ill-treated one of his officers. In his prison, he wrote several memoirs relative to maritime affairs; and, having at length obtained his liberation, he again engaged in the service. He died in 1797. Kerguelen published accounts of his voyage to Iceland, and likewise of his southern expeditions. His name is preserved to the appellation of an island in the southern hemisphere—Kerguelen's Land, or the Isle of Desolation.

KERKE, or KERQUE (the Flemish corruption of the German *Kirke*, the Scottish *Kirk*); a church. It occurs in proper names; for instance, *Stevenskerke, Dunkerque*, &c.

KERMES, in zoology. See *Coccus*.

KERMES MINERAL. See *Antimony*.

KERTSCH, or KERCH; a fortress on a peninsula of the same name, in Eastern Taurida, on the bay of Taman, with a safe harbour, important for the commerce of the Black sea and the sea of Azoph, and which Alexander ordered to be opened in 1811. Kertsch and Jenikale, not far distant from it, have a common municipal administration, and contain together 4000 inhabitants, mostly emigrant Greeks. The environs are very fertile, and produce the orange tree without cultivation. The best wine of the Crimea is also made there. Horses, Angora and Astrachan goats, black and Astrachan sheep, are raised. Considerable quantities of salt are manufactured. This new place enjoys equal privileges with Taganrook and Feodosia. (See *Asfa*.) In the neighbourhood are the ruins of Panticapæum, where Mithridates the Great died, and Nymphaeum. Even to this day, the highest hill near Kerch is called the *Chair of Mithridates*, and the whole peninsula Taman, where the opulent cities of Cimmeria and Phanagoria formerly flourished, contains a treasure of antiquities for future investigators.

KESELSDORF; a village about five miles distant from Dresden, celebrated for the battle fought there Dec. 15, 1745, in which the Prussians, commanded by prince Leopold of Dessau, defeated the Saxons.

(See *Frederic II.*) Near the village are considerable coal mines.

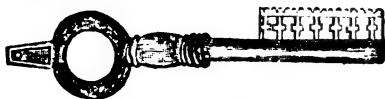
**KETCH**; a vessel equipped with two masts, viz., the main-mast and the misen-mast, and usually from 100 to 250 tons burden. Ketches are principally used as yachts for conveying princes of the blood, ambassadors, or other great personages, from one place to another. Ketches are likewise used as bomb-vessels, and are therefore furnished with all the apparatus necessary for a vigorous bombardment. *Bomb-ketches* are built remarkably strong, as being fitted with a greater number of riders than any other vessel of war; and, indeed, this reinforcement is absolutely necessary to sustain the violent shock produced by the discharge of their mortars, which would otherwise, in a very short time, shatter them to pieces.

**KETCHUP**, or **CATSUP**, Mr Todd defines as "a kind of Indian pickles imitated by pickled mushrooms." Doctor Kitchiner, in his *Apiculus redivivus*, devotes ten pages to different varieties of receipts for this sauce. There we may become acquainted with the composition and virtues of numerous catsups, whether they be walnut, mushroom, quintessence of mushroom, quintessence of oysters, cockle, muscle, tomato, white cucumber, or pudding. "Mushroom gravy," says the doctor, "approaches the flavour of meat gravy more than any other vegetable juice, and is the best substitute for it in meagre soups and *extempore gravies*." Again, "What is commonly called *catsup* is generally an injudicious composition of so many different tastes, that the flavour of the mushroom is overpowered by a farrago of garlic, shallot, anchovy, mustard, horseradish, lemon-peel, beer, wine and spices. Ready-made catsup is little better than a decoction of spice, and salt and water, with the grosser part of the mushrooms beaten up into a pulp."

**KEW** is situated on the Thames, about seven miles from London, and one and a half mile from Richmond. Kew palace was improved by Kent, and contains some pictures; but the gardens are the principal object of attraction. They are not very large, nor in their situation advantageous, as it is low, and commands no prospects; but they contain the finest collection of plants in the world, and are decorated with various ornamental buildings, most of which were erected by Sir W. Chambers, about 1760. The first building which appears is the orangery, or green-house, 145 feet long. Near it, in a grove, is the temple of the sun, of the Corinthian order. There is also a physic garden, and, contiguous to it, the flower garden, of which the principal entrance forms one end. The two sides are enclosed with high trees, and the other end is occupied by an aviary of vast depth. From the flower garden, a short winding walk leads to the menagerie, the centre of which is occupied by a large basin of water, stocked with curious water-fowl, and enclosed by a range of cages for exotic birds. The gardens also contain the temple of Belknap, the temple of the god Pan, the temple of Echo, the temple of Solitude, the house of Confucius, a Chinese octagon, painted with historical subjects relating to Confucius, and the Christian missions in China, near which is the engine that supplies the lake and basins in the garden with water, contrived by Mr Smeaton (two horses raise upwards of 3600 hogsheads of water in twelve hours), the temple of victory, the great pagoda, (designed as an imitation of the Chinese Tan.) The base is a regular octagon, forty-nine feet in diameter; and the superstructure is likewise a regular octagon, of ten stories, measuring, from the base to the top of the neuron, 163 feet. The walls are composed of very hard bricks; the outside of graystocks, laid with such care, that there is not

the least crack or fracture in the whole structure, notwithstanding its great height. The staircase is in the centre of the building, and from the top is a very extensive view, in some directions upwards of forty miles, over a rich and variegated country. There are also the mosque, besides a Gothic building, representing a cathedral, and the gallery of antiques, the temple of Arethusa, and a bridge from one of Palladio's designs. The ruin, which forms a passage for carriages over one of the principal walks, is built in imitation of a Roman antiquity. These gardens are opened every Sunday, from midsummer to the end of autumn. Population of the parish of Kew in 1831, 837.

**KEY**; an instrument for shutting or opening a lock. The following represents an ancient Roman key, found at Pompeii.



**KEY**, or **KEY NOTE**, in music; a certain fundamental note or tone, to which the whole of a movement has a certain relation or bearing, to which all its modulations are referred and accommodated, and in which it both begins and ends. There are but two species of keys; one of the major, and one of the minor mode, all the keys in which we employ sharps or flats, being deduced from the natural keys of C major and A minor, of which they are mere transpositions.

**KEYS** of an organ; movable projecting levers in the front of an organ, so placed as to conveniently receive the fingers of the performer, and which, by a connected movement with the valves or pallets, admit or exclude the wind from the pipes. See *Organ*.

**Keys**, are also certain sunken rocks lying near the surface of the water, particularly in the West Indies, from the Spanish *cayo* (an islet, rock).

**KEY-STONE** of an arch or vault; that placed at the top or vertex of an arch, to bind the two sweeps together. This, in the Tuscan and Doric orders, is only a plain stone, projecting a little; in the Ionic, it is cut and waved somewhat like consoles; and in the Corinthian and Composite orders, it is a console, enriched with sculpture.

**KEY WEST**; a small island, sometimes called *Thompson's island*, belonging to the United States of America, situated within the reef extending from the Tortugas islands to cape Florida, in lat. 24° 25' N.; sixty miles from cape Sable, the nearest mainland of Florida, and seventy miles from the northern shore of Cuba. It is four and a half miles long, and has an area of about 2000 acres. It has a good soil, which has been yet but little cultivated, and the climate has in general proved extremely healthy. It has, however, in certain seasons, been subject to desolating fevers, which have been attributed to accidental causes. The first settlement upon it was made about the year 1820, after the cession of Florida to the United States. It has now about 100 buildings, some of which are large and commodious, and 300 inhabitants. It has a good harbour, easy of access, and of sufficient water for vessels of the largest size. It is advantageously situated for commerce, and it is already the seat of a considerable trade with the island of Cuba. The commerce between the Atlantic coast and the islands of Cuba and Jamaica, and the ports on the gulf of Mexico, all passes near the island. It is a military post of the United States, and is frequently visited by the ships of war on the West India station. It is the seat of the territorial court of the southern district of Florida, which has frequent jurisdiction of cases of wreckers. It has a marshal and attorney

of the United States, and a collector of the customs. The name *Key West* is said to be derived from *cayo Aueso* (bone islet), a name given to the island by the Spaniards, on account of its shape.

**KHALIF.** See *Caliph*.

**KHAN**; the Turkish name for caravansary (q. v.). We will only add, to what was said under that article, that the caravansaries in towns are of two kinds, those for travellers and pilgrims, where a lodging is furnished gratis, and those for traders, which are usually handsomer and more convenient, and have doors to the apartments, which are well secured, but a small charge is made for each chamber, usually not more than a half-penny or a penny per day. There is also a *droit* of entry, which is more considerable, and a duty on whatever is sold in the caravansary. These establishments belong either to government, or to private individuals, and each is appropriated to some particular country, or to the dealers in some particular kind of merchandise.

*Khan* is also the name of an officer in Persia, answering to *Governor* in Europe. There are *khans* of countries, provinces, and cities, who have different additions to distinguish them. In the north of Asia, this title expresses the full regal dignity.

**KHOH**; a Persian word for *bald*. It has been suggested that the name *Caucasus* may be from *khoh karp* (bald mountain), having the summit without vegetation. This metaphor is very frequent in geographical names. *Chaumont*, in France, *Kahlenberg*, in Germany, signify the same.

**KIACHTA**; a town of Siberia, in the government of Irkoutsk (q. v.) on the river Kiachta, which forms the boundary between China and Russia, situated in a barren country, destitute of water and wood. Population 4000, in 450 houses. Kiachta and the Chinese town of Maimatchin, situated opposite, on the other bank of the river, are the medium of the Russian over-land trade with China, as settled by the treaty of 1727. The duty on the trade yields an annual income of 7,000,000 roubles to Russia. The whole amount of import and export is estimated at about 30,000,000 of roubles annually. 3,000,000 pounds of tea are imported. Kiachta is 1532 versts from Peking, and 6512 from St Petersburg. A commercial outfit and return between Kiachta and St Petersburg, requires generally two years. The Chinese government often interrupts the commerce, when it thinks it has any cause of complaint against Russia. China lays a duty of five per cent. on all exports and imports.

**KIANG**; a Chinese word signifying *river*; e. g. *Kiang-yuen* (country of river).

**KIANGKU.** See *Yangtse*.

**KIDDERMINSTER**; a market town of England, on the Staffordshire and Worcestershire canal, which was finished in 1774, and passes within 100 yards of the market-place. Kidderminster has long been noted for its manufactures. That of broadcloth prevailed in the reign of Henry the VIII. But the carpet manufacture is that which has taken the firmest root here, has flourished best, and promoted most essentially the trade, wealth, and population of the town. Population in 1831, 20,865.

**KIDNAPPING** is the forcible and wrongful seizing upon any person, with intent to carry him away out of the country or jurisdiction within which he is seized, or to confine him, or sell him into slavery. This is a heinous offence, and was punished by fine, imprisonment, and pillory, by the common law. The statute of 11 and 12 William III., c. 7, provides a punishment by imprisonment for three months, in case the captain of a merchant vessel shall, while abroad, force any person on shore, and wilfully leave him behind, or one shall refuse to bring home any

whom he may have carried out, when the person shall be able and desirous to return.

**KIDNEY**; one of the abdominal viscera, consisting of two voluminous glands, the office of which is to secrete the urine from the blood. One of these glands lies on the right, and the other on the left, of the vertebral column (or back bone). They are both contained in a fatty, cellular substance (surt), and are situated behind the *peritonæum*, and before the diaphragm and the *quadratus lumborum*. They are penetrated with blood-vessels and nerves, are of a reddish colour, and more consistent than the other glands. An external cellular membrane, and an internal fibrous membrane, envelope each kidney, which is divided into the cortical substance and the tubulous substance. The former constitutes the exterior part of the kidney, and extends between the cones formed by the latter. It secretes the urine, that is, separates its elements from the blood, and combines them, while the latter pours it into the pelvis, a membranous bag situated at the middle of the kidney, from which it is conveyed by the ureter, a membranous tube, into the bladder. From the bladder, the urine is evacuated by the urethra, a membranous canal passing through the penis. The kidneys are not mere filters or sieves, as was formerly supposed, and as some modern physiologists have maintained; they are true glands, that is, a vascular nervous apparatus, having a particular action for the production of a peculiar fluid. The kidneys are subject to an inflammation, called *nephritis*, and to a nervous pain, called *nephralgia*. The kidney sometimes contains stones, gravel, or sand in the pelvis, and also in the cortical and tubulous substances (see *calculus*), which occasion the most excruciating pain. Diseases of the kidneys are generally occasioned by excess in eating and drinking, particularly in subjects addicted to venery, or accustomed to violent riding, or much walking. Temperance, vegetable diet, warm bathing, abstaining from equitation, &c., are preventives.

**KIDNEY BEANS.** See *French Beans*.

**KIEL**; a city and fine harbour on a bay of the Baltic, in the Danish duchy of Holstein, until 1773 the chief place of the Gottorp (or Imperial Rostock) part of Holstein. It contains 7000 inhabitants, and 800 houses. Lat. 54° 19' 43" N.; lon. 10° 15' 20" E. Its university was established in 1665, by Christian Albert, duke of Holstein; hence its name, *Christiana Albertina*. It has, at present, over 250 students, a library of 100,000 volumes, an observatory, and a museum of natural history. There are also, a seminary for teachers, and other excellent institutions. The environs of Kiel are picturesque. The inhabitants are engaged in commerce. The peace of Kiel, between Denmark and Sweden, and between Denmark and Great Britain, Jan. 14, 1804, was connected with the treaties of Hamover, Feb. 2, 1814, between Denmark and Russia, and that of Berlin, Aug. 25, 1814, between Denmark and Prussia. Denmark ceded Norway to Sweden, and received in return Swedish Pomerania, with the promise of 600,000 Swedish dollars. Great Britain gave back all the Danish colonies, but retained the *Isles* and Heligoland. Denmark contracted to send 15,000 men against Napoleon, for which Britain gave £33,333 per month subsidies. Prussia ceded *Stettin* and Lauenburg to Denmark, and undertook to pay the 600,000 Swedish dollars already promised by Sweden, and 2,000,000 more of Prussian dollars, at certain periods, besides 3,500,000 of Prussian dollars to Sweden; in return for which she received Southern Pomerania with Rugen. See Scholl's *Hist. des États de Pise*, x, 219, seq.; xiv, 215, seq.; and xi, 304, seq.

**KIEN-LONG** emperor of China, distinguished for

his love of literature, was born in 1710, and succeeded his father, Yuntschin, in 1745. He favoured the Christian religion in private, but, in 1753, interdicted its exercise by a formal order; and he had previously even persecuted those who openly professed it. The missionaries were, in consequence, obliged to proceed with great caution, although several of them were in the emperor's service, and treated with great respect as men of science and learning. On the suppression of the Jesuits, in 1774, China was less visited by scientific persons than formerly, which induced Kien-Long to send to Canton, and invite artists and learned men of all the European nations, and particularly astronomers. This sovereign possessed, on his own part, a taste for poetry and natural history. Resolving to immortalize the remembrance of his victories by the graver, he engaged French artists to copy some Chinese paintings, in which they were represented; but Louis XV. had them engraved for him at his own expense. The larger Chinese collection on agriculture contains several poems of this monarch on rural occupations and incidents; and he established a library of 600,000 volumes, containing copies of all the most interesting works in China. Into this collection he admitted three books written by the Jesuits, on the Christian religion. A description of the Chinese empire, which appeared in Busching's Magazine, was also compiled by his order. He died at Pekin, in 1786, after a reign of fifty years.

KILDA, ST., or HIRTA, the farthest removed island of the Hebrides, is situated in the Atlantic ocean, lat. 57° 50' N., sixty miles west distant from the island of Harris, and about 140 miles from the nearest point of the mainland of Scotland. It belongs to the parish of South Uist. It is three miles in length, two in breadth, nine and a half in circumference, and surrounded with rocks, dangerous of approach, and lofty precipices, inaccessible on every side, except at the only landing-place in a small bay on the south-east; and even there the passage leading to the interior is so contracted and extremely steep, that a few persons only, by hurling stones from the summits of the rocks on either hand, might successfully repel the most hostile attack. The whole surface is rugged, rising into several high mountains; but the soil, which is naturally unproductive, has been rendered tolerably fertile, and produces early crops of barley, oats, potatoes, and culinary herbs, for the use of the inhabitants, the male proportion of which is chiefly employed in fishing and fowling; the fowlers are remarkably dexterous in their occupation, fastening themselves in couples, one at each end of a cow-hide rope, by which they alternately descend from the loftiest cliffs to the frightful length of thirty fathoms, and at the imminent hazard of destruction, there search among the cavities for wild fowl and eggs, with astonishing success. Among the various kinds of birds thus taken is the solan goose; but that most highly esteemed by the natives is the fulmar, which supplies oil for the lamp, ointment for wounds, down for the bed, and the most nutritious food for the body; the female lays but one egg during the season of incubation, and to plunder her nest is considered an act of the highest degree of criminality. The village, which is situated about a quarter of a mile from the landing-place, on a rivulet, originating in the union of several springs, consists of one wide street, formed by two rows of houses built of freestone, and each comprising one apartment for the family, and another for the cattle. The Gaelic is the only language spoken here, in which the minister explains the English Bible to the inhabitants. Mr Macleod is the sole proprietor of St Kilda, and his steward used annually to collect the rents from the produce of the island; but the property is now

under the supervision of a tacksman. The storms during the equinoxes are extremely violent here. In 1730 the small-pox, brought by one of the natives from Harris, made such dreadful havoc here, that only four adults escaped death. The population at present is little above a hundred. Of late years, steam-boats have visited this secluded spot. For a most interesting account of St Kilda, see Dr Macculloch's *Western Isles*.

KILLIGREW. Three brothers of this name, distinguished by their loyalty, wit, and talents, flourished under the two Charleses. They were the sons of Sir Robert Killigrew.—*William*, the eldest, was born in 1605, at Hanworth, Middlesex, and, after going through the usual course of a university education at St John's college, Oxford, made the tour of Europe. On his return to England, he obtained a place at court, as one of the gentlemen ushers of the privy chamber to Charles I. During the civil wars, he suffered materially, both in purse and person, in consequence of his adherence to the royal cause; in recompense for which he received, after the restoration, the honour of knighthood, and, on the marriage of Charles II. obtained the post of vice-chamberlain. He composed four plays—*Selindra*, the Siege of Urban, Ormasdes, and Pandora (Oxford, folio, 1666), popular in their day. His other writings are, *Midnight and Daily Thoughts*, and the Artless *Midnight Thoughts of a Gentleman at Court* (8vo). He died in 1693.

*Thomas*, the second, was born in 1611, and died before his elder brother, in 1682. He was one of Charles I.'s pages, and accompanied the prince of Wales into exile. During his absence from England, he visited France, Italy, and Spain, and, after the restoration, was appointed by the new king (with whom he was a great favourite), one of his grooms of the bedchamber. A vein of lively pleasantry, combined with a certain oddity, both of person and manner, placed him high in the good graces of Charles, who would frequently allow him free access to his person, when characters of the first dignity in the state were refused it, till Killigrew, at length, became almost the inseparable companion of his monarch's familiar hours. He wrote eleven pieces for the stage, which have been collected and printed in one volume folio (1664); but we look in vain in them for traces of that facetiousness and whim, which, together with the encouragement he received from royalty, procured him the appellation of *king Charles's jester*. He lies buried in Westminster abbey.

*Henry*, the youngest of the three, was one year younger than his brother Thomas, whom he survived about six years. He was educated for the church at Christ-church, Oxford, and acted as chaplain to the cavaliers. In 1642, he graduated as doctor in divinity, and obtained a stall at Westminster. On the re-establishment of monarchy, he obtained the living of Wheathamstead, Herts, and the mastership of the Savoy. He wrote a tragedy when only seventeen years old, called the Conspiracy. In 1652, he published a corrected version of this piece, changing the name to that of Pallantus and Eudora.

The females of this family were also distinguished.

Dame *Catharine Killigrew*, wife of Sir Henry, was celebrated as one of the most accomplished scholars of her day. She was the daughter of Sir Anthony Cooke, born about the year 1530, and, to a familiar acquaintance with the classical, as well as some of the Oriental languages, united considerable poetic talent. Her death took place in 1600.

*Anne Killigrew*, daughter of the divine already mentioned, was born in 1660. She gave strong indications of genius at an early age, and became equally eminent in poetry and painting, as well as

distinguished for her piety and unblemished virtue amidst the seductions of a licentious court. She fell a victim to the small-pox, in the summer of 1685, and has been characterised by Wood as "a grace for beauty, and a muse for wit," and celebrated by the greatest of her literary contemporaries, John Dryden.

KILMARNOCK, a thriving town in Ayrshire, situated twelve miles distant from Ayr, and twenty-one and a half from Glasgow. Although a town of some antiquity, it is only of recent years that it has become a place of consideration. Thirty or forty years ago, it was a small irregularly built town; but an act of parliament having passed in 1802 for the general improvement of the place, followed by two others in 1810, for paving, lighting, and watching the streets, and for erecting various public buildings, it now presents a handsome appearance, having an elegant town-house, a bank, printing-offices, a bride-well, a workhouse, a commodious grammar-school, a coffee-room, and other establishments of public utility, besides several places of worship, public schools, and charitable institutions. Kilmarnock obtained its first charter by means of lord Boyd, in 1591, and a renewal of it in 1672, to the earl of Kilmarnock, upon the attainder of whose descendant in 1745, the superiority became vested in the crown. The five deacons of the incorporated trades of the town, in 1700, obtained from the then earl a grant of the whole common good and customs of the burgh. Kilmarnock is the chief manufacturing town in the shire, both for home consumption and exportation. Woollen cloths, carpets, blankets, serges, tartans, stockings, gloves, bonnets, caps, muslins, leather, saddlery, shoes, and a variety of other useful articles are manufactured here; and there are within the town and suburbs mills for spinning wool, tanneries, extensive breweries, an ironfoundry, and a large printfield. In the neighbourhood are several thriving nurseries, the soil and climate being peculiarly adapted to the growth of young trees and shrubs; and about half a mile north-west of the town, is an extensive colliery, whence a railway has been formed to the harbour of Troon, by which the produce is conveyed thither to be shipped. Coal is found in other parts of the parish, which contains 5900 Scottish acres, in general fertile and well cultivated; though towards the north the surface inclines to moss. Kilmarnock, with Port-Glasgow, Renfrew, and Rutherglen, returns one member to parliament. Population of town and parish in 1831, 18,093.

KING (Old Frankish, *chünig*, *chünig*, *kuning*; Anglo-Saxon, *cyning*, *cyuig*, *cyng*; German, *könig*; Danish, *konge*; Swedish, *konung*; Finlandish, *kuningas*) is a word of uncertain derivation. The title of *majesty* belongs exclusively to kings and emperors; other privileges, likewise, principally of a ceremonial kind, are connected with the regal title, included in diplomacy under the name of *royal honours* (*honneurs royaux*, *honores regii*). These honours, however, are sometimes enjoyed by states, where the princes do not bear the royal title; thus the late republics of Venice and of the United Netherlands (and now that of Switzerland), the electors (as the elector of Hesse), the grand dukes, possessed them, at least in part. Previously to the French revolution, the following countries gave their princes the regal title: Germany, France, Spain, Portugal, Naples, and Sicily (or the Two Sicilies), Sardinia, Prussia, Bohemia, Hungary, Galicia, and Lodomeria, Poland, England, Ireland, Scotland, Sweden, Denmark, and Norway. After the French revolution broke out, France was struck out from the list of kingdoms, and soon after, Poland; and, on the other hand, while Napoleon stood at the head of France, new kingdoms arose, though some of them enjoyed only an ephemeral existence. Thus

the kingdom of *Hetruria* was formed from the ancient grand duchy of Tuscany, and a new kingdom of Naples sprang into being, while the old family in the Sicilies still retained the royal dignity (not acknowledged, indeed, by Napoleon). Thus there was a kingdom of Italy, a kingdom of Holland, and, at the beginning of 1806, the kingdoms of Bavaria and Wurtemberg, which were followed, in 1807, by the kingdoms of Saxony and Westphalia. The son of Napoleon was called *king of Rome*, in imitation of the custom which prevailed in the German empire, when the person elected, during the life of the emperor, to succeed at his death, was styled *king of the Romans*. The existence of *Hetruria* and Holland as kingdoms, however, was soon terminated by France itself; and of Westphalia by the enfranchisement of Germany from the dominion of the French. After the fall of Napoleon, the kingdoms of the Netherlands and of Hanover were established. In place of the kingdom of Italy, arose the Lombardo-Venetian kingdom, under the sovereignty of Austria.—In early times, the chief of an independent state was called *king*; at a later period, the pope and emperor, as spiritual and secular heads of Christendom, pretended to have the right to make kings, until Frederic III., elector of Brandenburg and duke of Prussia, declared himself king of Prussia. Like other subjects of common interest in European politics, the general acknowledgment of the royal title, in any particular instance, is dependent, to a considerable degree, on the will of the most powerful governments. The following monarchs have the titles enumerated below, in addition to those by which they are usually known. The emperor of Austria is titular king of Jerusalem, actual king of Hungary, Bohemia, the Lombardo-Venetian dominions, Dalmatia, Croatia, Slavonia, Galicia, and Lodomeria; the emperor of Russia has the title of king of Moscow, Kazan, Astracan, Poland, Siberia, and the Taurian Chersonesus; the king of Portugal calls himself, also, king of Algarve; the king of Spain, king of Castile, Leon, Arragon, the Two Sicilies, Jerusalem, Navarre, Granada, Toledo, Valencia, Galicia, Majorca, Seville, Sardinia, Cordova, Corica, Murcia, Jaen, Algarve, Algeziras, Gibraltar, the Canary Islands, the East and West Indies, of the Islands and Terra Firma beyond the sea; the former kings of France called themselves, also, kings of Navarre; at present, like Louis XVI., in the time of the revolution, they have the title king of the French; the king of the Two Sicilies calls himself, also, king of Jerusalem; the king of Great Britain (i. e. England and Scotland) is also king of Ireland, and the Brunswick house are kings of Hanover; the king of Denmark calls himself, also, king of the Goths and Vandals, as does, also, the king of Sweden and Norway. Where we have used the phrase "is king," we mean that the countries from which the title is derived are actually existing, distinct states, under one head, as Bohemia and Hungary, which have nothing in common, except their monarch. The same is the case with Sweden and Norway. Many of the titles are empty, antiquated designations, retained from a childish love of pomp. Down to the union of Britain and Ireland, the kings of Britain bore the title of kings of France. For information respecting the prerogatives and limitations of the kings of Great Britain, see *Britain*, division *British Constitution*.

KING, WILLIAM; a learned Irish prelate, who was a native of Antrim, but of Scottish extraction. His zealous opposition to the measures of the Roman Catholic party, in the reign of James II., earned him preferment after the expulsion of that prince. After holding several inferior offices, he was made,

in 1702, archbishop of Dublin. He died May 8, 1789, aged seventy-nine. He was distinguished for his wit as well as his learning. Having been disappointed in his expectations of being raised to the primacy of Ireland on the death of archbishop Ladbey, it being assigned as a reason for passing him over, that he was too far advanced in years, he received doctor Boulter, the new primate, at his first visit, without paying him the customary compliment of rising to salute him, apologising for the apparent incivility by saying, "My lord, I am sure your grace will forgive me, because you know *I am too old to rise.*" Archbishop King is principally known at present as the author of a treatise *De Origine Mali*, the object of which is to show that the presence of natural and moral evil in the world is not inconsistent with the power and goodness of the Supreme Being. This work provoked the animadversions of the celebrated Bayle, as it impugned his arguments on the Manichean system. Some remarks on it were likewise published by Leibnitz, whose objections, as well as those of other opponents, are considered in the additions to an English translation of the work, by Law, afterwards bishop of Carlisle.

KING, RUFUS, a distinguished American orator, statesman, and diplomatist, was born in 1755, at Scarborough, in the district of Maine, where his father was an opulent merchant. He was entered at Harvard college, Cambridge, in 1773; but, in 1775, his collegiate pursuits were interrupted by the commencement of the revolutionary war, the buildings appertaining to the institution having become the barracks of the American troops. The students were, in consequence, dispersed until the autumn of the same year, when they re-assembled at Concord, where they remained until the evacuation of Boston by the British forces in 1776. In 1777, he received his degree, and immediately afterwards entered, as a student of law, into the office of the celebrated Theophilus Parsons, at Newburyport. Before he was admitted to the bar in 1778, he volunteered his services in the enterprise conducted by general Sullivan and count d'Estaing against the British in Rhode Island, and acted in the capacity of aid-de-camp to the former. In 1780, he began the practice of his profession, and soon after was elected representative of the town of Newburyport, in the legislature or General Court, as it is called, of Massachusetts, where his success paved the way to a seat in the old congress in 1784. His most celebrated effort in the legislature was made in that year, on the occasion of the recommendation by congress to the several states to grant to the general government a five per cent. impost, a compliance with which he advocated with great power and zeal. He was re-elected a member of congress in 1785 and 1786. In the latter year, he was sent by congress, with Mr Monroe, to the legislature of Pennsylvania, to remonstrate against one of its proceedings. A day was appointed for them to address the legislature, on which Mr King rose first to speak; but, before he could open his lips, he lost the command of his faculties, and, in his confusion, barely retained presence of mind enough to request Mr Monroe to take his place. Meanwhile, he recovered his self-possession, and on rising again, after complimenting his audience by attributing his misfortune to the effect produced upon him by so august an assemblage, proceeded to deliver an elegant and masterly speech. In 1787, when the general convention met at Philadelphia for the purpose of forming a constitution for the country, Mr King was sent to it by the legislature of Massachusetts, and, when the convention of that state was called, in order to discuss the system of government proposed,

was likewise chosen a member of it by the inhabitants of Newburyport. In both assemblies, he was in favour of the present constitution. In 1788, he removed to New York city. In 1789, he was elected a member of the New York legislature, and, during its extra session, in the summer of that year, general Schuyler and himself were chosen the first senators from the state, under the constitution of the United States. In 1794, the British treaty was made public, and, a public meeting of the citizens of New York having been called respecting it, Mr King and general Hamilton attended to explain and defend it; but the people were in such a ferment, that they were not allowed to speak. They therefore retired, and immediately commenced the publication of a series of essays upon the subject, under the signature of Camillus, the first ten of which, relating to the permanent articles of the treaty, were written by general Hamilton, and the remainder, relative to the commercial and maritime articles, by Mr King. The most celebrated speech made by Mr King, in the senate of the United States, was in this year, concerning a petition which had been presented by some of the citizens of Pennsylvania against the right of Albert Gallatin to take a seat in the senate, to which he had been chosen by that state, on the ground of want of legal qualification, in consequence of not having been a citizen of the United States for the requisite number of years. Mr King spoke in support of the petition, and in answer to a speech of Aaron Burr in favour of Mr Gallatin. Mr Gallatin was excluded. In the spring of 1796, Mr King was appointed, by president Washington, minister plenipotentiary to the court of St James's, having previously declined the offer of the department of state. The functions of that post he continued to discharge until 1803, when he returned home. In 1813, he was a third time sent to the senate by the legislature of New York, at a period when the nation was involved in hostilities with Great Britain. His speech on the burning of Washington by the enemy, was one of his most eloquent displays, and teemed with sentiments which had echoes from all parties. In 1816, whilst engaged with his senatorial duties at Washington, he was proposed as candidate for the chief magistracy of the state of New York, by a convention of delegates from several of its counties. The nomination was made without his knowledge, and it was with great reluctance that he acceded to it, at the earnest solicitation of his friends. He was not, however, elected. In 1820, he was re-elected to the senate of the United States, where he continued until the expiration of the term, in March, 1825. Several of the laws which he proposed and carried, in that interval, were of great consequence. On his withdrawal from the senate, he accepted from president Adams, the appointment of minister plenipotentiary at the court of London. During the voyage to Britain, his health was sensibly impaired. He remained abroad a twelvemonth, but his illness impeded the performance of his official duties, and proved fatal soon after his return home. He died like a Christian philosopher, April 29, 1827, in the seventy-third year of his age. The name of Mr King is conspicuous in the annals of the American Union, in connexion, not merely with the history of parties, but with that of the formation and establishment of the federal republican system. Politicians of every denomination bore testimony to the value of his public services, and the eminence of his talents and virtues.

KING AT ARMS, in heraldry; an officer formerly of great authority, whose business is to direct the heralds, preside at their chapters, and have the jurisdiction of armoury. The origin of the title is doubtful. There are three kings at arms in England—

Garter, Clarencieux, and Norroy; the first is called *principal king at arms*, the two others *provincial kings*. Clarencieux is said to be derived from Clareuce, brother of Henry V., first king at arms for the south of England. Norroy (Norman French, *northern king*) is king at arms for the north of England. There are also Lion king at arms for Scotland, and Ulster king at arms for Ireland.

**KING-CRAB** (*limulus polyphemus*). This well known inhabitant of the northern coasts of the United States is distinguished from its kindred species by having seven spines on the upper part of the thorax, and three on the upper part of the abdomen: the superior surface of the tail is also provided with numerous spines. The female, including the tail, is about two feet in length, the male somewhat less. It should be noticed that the spines on the thorax and abdomen, although very acute and prominent when the animal is young, become more obtuse as it advances in age, so that, when full grown, they are obsolete, their situation being designated by a tubercle somewhat browner than the surrounding shell. They occur in great profusion in Delaware bay, in the inlets of the New Jersey coast, &c. These crustaceous animals never swim, but change their situations by crawling slowly along on the bottom. The feet are completely hidden by the shell. If, when cast on shore by the waves, they should unfortunately be thrown on their back, they cannot recover their proper position. Hogs are very fond of them, and it is said that these animals appear to know of the inability of the king-crab to escape if it be turned on its back, and take advantage of the circumstance by reversing as many as they can before they proceed to satisfy their appetite. When irritated, they elevate their tail, but are incapable of using it as a weapon of defence. They are never eaten by man, though the eggs are said to form an article of food in China. These are deposited by the female in a hole of considerable width, but little depth, which she forms between high and low water mark. The eyes of this animal, according to the observations of Mr André, consist of a great number of very small cones.

**KINGFISHER** (*alcedo*, Lin.). This genus of birds is distinguished by having an elongated, robust, straight, tetragonal, acute bill, with its margins finely crenate-fimbriate; feet robust; wings rather short; body thick and compact; head large and elongated; plumage thick and glossy. They occur in all parts of the world, especially in warm climates, there being but one species in Europe and one in the United States. The kingfisher frequents the banks of rivers, and is almost always found alone, perched on a branch of a tree projecting over the water, where it remains motionless for hours, watching till some fish comes under its station, when it dives perpendicularly downwards into the water, and brings up its prey with its feet, carries it to land, where it beats it to death, and swallows it entire, afterwards casting up the scales, and other indigestible parts, in the form of balls. There is, perhaps, no animal respecting which the imagination of mankind has invented more fables than respecting this bird. The ancients supposed that it built its nest upon the ocean—

*Incubat halcyon pendente aequore nidia. Ovid.*

But, as this floating cradle would be likely to be destroyed by storms, they endowed the bird with powers to lull the raging of the waves during the period of incubation: hence those tranquil days near the solstice were termed *halcyon days*; and, that the voyager might want no accomplishment, they attributed to it the charm of song.\* But these were not all the

wonderful attributes of the kingfisher. Whatever branch it perched on became withered; the body, when dried, preserved clothes from the moth; and, still more extraordinary, it preserved, where it was kept, the peace of families and was not only a safeguard against thunder, but also augmented hidden treasures. But it is not to the fanciful genius of the ancients alone, that this bird is indebted for wonderful attributes. According to Gmelin, the feathers of the kingfisher are employed by the Tartars and Ostiaks for many superstitious practices. The former pluck them, cast them into the water, and carefully preserve such as float, pretending that if with one of these feathers they touch a woman, or even her clothes, she must fall in love with them. The Ostiaks preserve the skin about their persons as an amulet against every ill. But it is not these barbarous nations only that entertain extravagant notions in regard to this bird. It is believed by some persons, that if the body of a kingfisher be suspended by a thread, by some magnetic influence, its breast always turns to the north. The species inhabiting the United States (*A. adrym*), is distinguished by being of a bluish slate colour, with a ferruginous band on the breast, and a spot between and behind the eyes, a large collar round the neck, and the vent white: the head has an elevated crest. It inhabits the whole continent, from Hudson's bay on the north to the equator, and perhaps even still farther south, migrating in cold and temperate regions. See Wilson's *American Ornithology*.

**KING'S ADVOCATE.** See *Advocate of the Crown*.

**KING'S BENCH.** See *Courts of Justice, Division Courts of England*.

**KING'S COLLEGE** (London). This new institution received the royal charter August 14, 1829, and was brought forward under the patronage of the government and the church. The course of education in King's college is divided into a higher and a lower department. The latter division consists of a school for the reception of day scholars, and is distinct from the higher, and intended to afford an education preparatory to it. The studies pursued are the classical elements of mathematics, English literature and composition, and some modern languages, if desired. In the former are comprehended religion and moral, classical literature, mathematics, philosophy, legal, political economy, history, English literature and composition, foreign languages, and subjects connected with particular professions. No person, not a member of the established church, can hold any office of government or instruction in the college, except the professorships of Oriental literature and modern languages. The building forms the eastern wing of Somerset house, comprising a chapel, library, lecture rooms, residences for the professors, &c. (See *Universities, and London University*). —King's college is also the name of one of the colleges at the university of Cambridge. See *Cambridge*.

**KING'S THEATRE, or ITALIAN OPERA HOUSE**, is a fashionable place of amusement in the British metropolis. The performances consist of Italian operas and ballets, and the performers are the most celebrated from the Italian and French stages. The interior is very magnificent, and is nearly as large as the celebrated theatre of La Scala, at Milan. The stage, within the walls, is sixty feet long and eighty broad, and the space across from the boxes on each side, forty-six feet. Each box is enriched by curtains, according to the fashion of the Neapolitan theatres, and is furnished with six chairs. There are five tiers of boxes, all of which are private property, or are let out for the season to persons of rank, and

\* Cum sonat halcyones cantu, nidosque natantes  
Immota gerat, sopitis fluctibus, unda.—Sil. Ital.

fashion. The boxes will accommodate about 900 persons, the pit 800, and the gallery 800. The opera usually opens for the season in January, and continues its performance, on Tuesdays and Saturdays, till August.

KINGSTON; a seaport on the south coast of Jamaica, constituted a city in 1802, situated on a bay or inlet of the sea, in which there is safe anchorage. It was founded in 1693, after the destruction of Port Royal by an earthquake in the preceding year. It has been of late greatly extended, and has many handsome houses. It has two churches, one Episcopal, the other Presbyterian. There is, besides, a theatre, a free-school, established in 1729, a poor-house, and a public hospital. Population—whites, 10,000; people of colour, 2,500; free negroes, 2,500; slaves, 17,000; total, 33,000. Ten miles east of Spanish Town. Lon. 76° 33' W.: lat. 18° N.

KINGSTON, ELIZABETH, duchess of, was born in 1720, and was the daughter of colonel Chudleigh, governor of Chelsea college, who, dying while she was young, left her almost unprovided for. She resided with her mother, who, through the interest of Pulteney, afterwards earl of Bath, procured her the post of maid of honour to the princess of Wales, the mother of George III. Her wit and beauty procured her many admirers, and, in spite of the levity of her manners, a serious offer of marriage from the duke of Hamilton. But while that nobleman was on the continent, Mrs Hanmer, the aunt of Miss Chudleigh, with whom she was on a visit, persuaded her niece to marry privately captain Hervey, a naval officer, afterwards earl of Bristol. She soon conceived a violent dislike of her husband, heightened by the discovery that she had been deceived into an opinion that the duke of Hamilton had forgotten her. Her marriage, which took place August 4, 1744, was kept a secret; and her refusal of advantageous proposals of marriage which she subsequently received, offended her mother, and subjected her to reproaches, which induced her to go abroad. She went in company with a major in the army, with whom she proceeded to Berlin, where they parted. She is said to have been well received by the king of Prussia, and also at the court of Dresden; and, on her return to England (as Miss Chudleigh), she resumed her situation as maid of honour. Desirous of breaking off her union with captain Hervey, she adopted the infamous expedient of tearing the leaf out of the parish register, in which her marriage was entered; but, repenting of this step in consequence of her husband's succeeding to the peerage, she contrived to have the leaf replaced. Not long after, the duke of Kingston made her a matrimonial offer, on which she endeavoured to procure a divorce from lord Bristol. He at first opposed her scheme; but at length he assented to it, and she obtained the wished-for separation. March 8, 1769, she was openly married to Evelyn Pierrepont, duke of Kingston, on whose death, in 1773, she found herself left mistress of a splendid fortune under the condition of her not again becoming a wife. But she did not enjoy her riches undisturbed. The heirs of the duke commenced a suit against her for bigamy, as having been divorced by an incompetent tribunal. She was tried before the house of lords, and was found guilty; but, on her pleading the privilege of peerage, the usual punishment of burning in the hand was remitted, and she was discharged on paying the fees of office. Her property had been so secured that it was not affected by this process. The remainder of her life was spent abroad, and she died at her seat near Fontainebleau, in France, August 28, 1788.

KINSBERGEN, JOHN HENRY VAN, a Dutch

admiral, born May 1, 1735, at Doesborg in Guelderland, died 1820, eighty-four years old. From his ninth year, he served in the army, and from the age of fourteen in the navy, in which he made his way with uncommon rapidity, from the rank of a cadet to that of a vice-admiral. With the permission of the Dutch government, he entered the Russian service in 1767, at the commencement of the war against the Turks. Kinsbergen enjoyed the unlimited confidence of Catharine II., of which he proved himself worthy, by his brilliant success in an engagement on the Black sea, when, with five ships of forty guns, and some smaller men of war, he captured the whole Turkish fleet of thirteen ships of the line. In this battle, several celebrated naval movements were first attempted by him, which have since been generally adopted. His memorial to Catharine, On the Free Navigation of the Black Sea, recommended his political talents to the notice of the empress, who loaded him with marks of esteem. Kinsbergen returned to his country in 1776, and was employed to negotiate a treaty with the emperor of Morocco, in which he was successful. On the famous day of the Doggerbank (August 5, 1781), so honourable to the Dutch marine, Kinsbergen commanded, under admiral Zoutman, seven ships of the line, and had the principal merit of the victory over the British admiral Parker. After the peace of Paris of 1783, the empress of Russia and the king of Denmark endeavoured to induce Kinsbergen to enter their respective marines; but he refused every offer. During the war of the French Revolution, he was of great assistance to his country, particularly in the campaigns of 1793 and 1794. After the unsuccessful campaign of 1795, and the change of administration, Kinsbergen remained in retirement, declining the most brilliant offers. Even Schimmelpenninck, his personal friend, could not tempt him from his retreat, where he occupied himself in study, agricultural pursuits, and the education of the lower classes. King Louis Napoleon appointed him first chamberlain, count of Doggerbank, counsellor of state, and gave him the grand cross of the order of the union. But he could not induce him to leave his country-seat in Guelderland, in the neighbourhood of Appeldoorn, nor to accept any of the salaries which were connected with these appointments. After the union of Holland with France, in 1810, Napoleon also endeavoured to gain him over, and appointed him senator. Kinsbergen could not refuse the dignity, but he declined the income connected with it. Master of a large fortune, he applied it to benevolent and useful institutions. Few men have left a name equally deserving esteem. He was a member of many orders, and a member and correspondent of the principal learned societies. As a writer on navigation and tactics, he is an authority. His maps, including those of the Crimea, are excellent.

KIOSK; a summer-house, with a tent-shaped roof, open on all sides, and isolated. It is supported by pillars (commonly placed in a square), round the foot of which is a balustrade. It is built of wood, straw, or similar materials, and is chiefly erected to afford a free prospect in the shade, but it also serves to embellish a rural or garden view. The word *kiosk* is Turkish. This kind of pavilion has been introduced from the Turks and Persians into the English, French, and German gardens.

KIPPIS, ANDREW, a dissenting divine, was born at Nottingham, March 28, 1725; in 1746, became minister of a dissenting congregation at Boston in Lincolnshire, and, in 1753, pastor to a dissenting congregation in Westminster. In 1763, he was appointed classical and philological tutor to the academy supported in London by the funds of William Coward.

In 1767, he received the degree of doctor of divinity from the university of Edinburgh, and, in 1778 and 1779, became a fellow of the society of antiquaries and of the royal society. He died in 1795. Doctor Kippis laid the foundation of the New Annual Register. He devoted his principal attention during the later years of his life, to an improved edition of the *Biographia Britannica*. This work was conducted on a plan so elaborate, that no termination of it on the same scale is likely to be attempted. The labours of doctor Kippis extended only to five folio volumes, forming a small part of the plan.

KIRCHE; a German word for church, which appears in a great number of geographical words.

KIRCHER, ATHANASIUS; a learned German Jesuit, born at Fulda, in 1602. He was professor of mathematics, philosophy, and the Oriental languages, at Wurtzburg, when the arms of the Swedes disturbed his repose, and he repaired to Avignon, where he continued several years. He wished to return to Germany, but the pope called him to Rome, where he at first taught mathematics in the *collegium Romanum*, and afterwards occupied himself in the study of the Egyptian hieroglyphics. Father Kircher was a good Orientalist, as well as an excellent mathematician; but the fanciful nature of some of his studies has caused most of his productions to be considered rather curious than useful. In his attempts to unravel the hieroglyphics, he occasionally fell into some singular absurdities. His industry as a writer was unwearied, the whole of his works occupying no fewer than twenty volumes in folio, eleven in quarto, and three in octavo. Among these are his *Edipus Ægyptiacus* (4 vols., fol., 1652—55), which contains fanciful explanations of a great number of hieroglyphics. In this work, and in his *Prodromus Coptus* (Rome, 1636, 4to), and his *Lingua Ægyptiaca restituta* (Rome, 1644, 4to), he made investigations respecting the Coptic language. He wrote also *Obeliscus Ægyptiacus*; *Phonurgia Nova*; *Arta magna sciendi seu Combinatoria*; *Praelusiones Magnetica* (folio); *Itinerarium extaticum* (4to); *Mundus subterraneus* (2 vols.); *Musurgia universalis* (2 vols., folio); *Turris Babel*; *China illustrata*; *Primitivæ Gnomonica catoptrica* (4to); *Arca Noë*; *Polygraphia* (folio); *Organum Mathematicum*; *Arta magna Lucis et Umbrae* (folio), &c. &c. In his *Musurgia*, he lays claim to the invention of the Æolian harp; and in his *Phonurgia Nova*, to that of the speaking-trumpet. He was afterwards professor of Hebrew and mathematics at Rome, where he died in 1680. His writings embrace the departments of philosophy, mathematics, physics, mechanics, cosmography, natural history, philology, history, and antiquity. They exhibit great learning, but are disfigured by many extravagances.

KIRGHISES, or KIRGUIS, or KIRGESE, or KIR-GUSES, or, as they call themselves, SARA-KAISAKI (Cossacks of the steppes); a widely extended people of Independent Tartary, occupying a great part of the southern frontier of Asiatic Russia. They are generally considered as the descendants of the most ancient Mongols, who formerly dwelt in the neighbourhood of the Chinese wall. When they were first discovered, at the time of the Russian conquest of Siberia, they were dwelling on the upper Yenesei. Since that time, they have been known as a restless and dangerous people. They now inhabit the wastes between the Ural and the Irtisch, called, by the Russians, the *Kirghise steppes*. These wastes are bounded west by the Caspian sea and the province of Caucasus, north by the governments of Ufa and Tobolsk, and east by that of Kolivan. They have been long divided into the Great, the Middle, and the Little Hordes. The first, on account of their

valour and the inaccessible mountains in which they dwell, long remained independent, until their submission, in 1819, acknowledged the sovereignty of Russia. The Middle and Little Hordes have recognised the dominion of the Russians since 1731, but have always shown themselves faithless, and disposed to pillage; on which account, lines of small fortresses have been erected along the streams on their frontiers. The Little Horde occupy the westernmost position, and wander over the plains south and east of the Ural, and between the Caspian and Aral. The Middle Horde live farther east, on the vast plains north of lake Aral. These two hordes subsist entirely on their flocks, and have no agriculture. The Great Horde live farther to the east and south, beyond the Aral, and on the Sirr: some of them are pastoral, but a considerable proportion cultivate the land, and inhabit fertile, mild, and well watered countries. In the lofty ranges between Cashgar and Siberia, there is a race called *Wild or Mountain Kirghians*, fierce, and warlike, amounting to about 50,000. There is another detachment south of Cashgar, an agricultural people, and more civilised than the rest. The Little and Middle Hordes are said to consist each of about 30,000 tents or families, each of about ten persons; total, about 600,000. Their constitution is entirely free and independent. The Khan of the Little Horde is indeed appointed by Russia, but he has scarcely any influence. The Russian government, instead of exacting any tribute, pay regular pensions to all the principal chiefs, in consideration that these turbulent warriors shall not exercise upon the Russian empire those predatory habits for which they have always been famous. The Kirghians profess the Mohammedan religion, practise polygamy, and live in tents of felt. Their articles of trade are cattle, furs, leather, and coverlets of felt.

KIRK. See Kerk.

KIRK-SESSION; a subordinate ecclesiastical court in Scotland. See *Assembly, General*.

KIRWAN, RICHARD, a distinguished modern writer on chemistry, geology, and the kindred sciences. He was a native of the county of Galway, in Ireland, and was educated at the university of Dublin, where he took the degree of LL.D. He devoted himself with great ardour to chemical and mineralogical researches, and became a member of the royal Irish academy, and also a fellow of the royal society. He published in the Philosophical Transactions for 1780, 1782, and 1783, *Experiments and Observations on the Specific Gravities and Attractive Powers of various Saline Substances*; which important subject he farther prosecuted in the Philosophical Transactions for 1785. In 1784 appeared his *Elements of Mineralogy* (2 vols., 8vo), which was translated into German by Crell, and subsequently republished, with additions and improvements. In 1787, he published an *Essay on Phlogiston and the Constitution of Acids*, designed as a defence of the theory of chemistry advanced by doctor Priestley. This very ingenious production was translated into French by the advocate for the anti-phlogistic hypothesis, and published, with animadversions on the rival system, which made a convert of doctor Kirwan, whose rejection of the principles he had so ably supported, had a considerable influence in producing the revolution which took place in chemical science. He produced, besides the foregoing works, an *Estimate of the Temperature of different Latitudes* (1787, 8vo); a treatise on the *Analysis of Mineral Waters* (8vo), and another on *Logic* (2 vols., 8vo), to which may be added various communications to the learned societies to which he belonged. At Dublin, he founded an association for the express purpose of cultivating mineralogy; and, as a geologist, he advocated what

has been called the *Neptunian theory* of the earth, in opposition to that of doctor James Hutton. His death occurred in 1812.

KIRWAN, WALTER BLAKE; an Irish divine, eminent for his popularity as a preacher. He was born at Galway, in 1754, and educated at the English Catholic college of St Omer's, whence he removed to Louvain, where he took priest's orders, and became professor of philosophy. In 1778, he was appointed chaplain to the Neapolitan embassy in London, and attained some fame by his exertions in the pulpit. In 1787, he resolved to conform to the establishment, and preached to his first Protestant congregation in St Peter's church, Dublin. In 1788, he was preferred to the prebendary of Howth, and to the rectory of St Nicholas, Dublin, and finally presented to the deanery of Killala. Wonders are told of his attraction as a preacher, and it was often necessary to keep off the crowds from the churches in which he preached, by guards, and palisadoes. He died, exhausted by his labours, October 27, 1805, leaving a widow with two sons and two daughters, to the first and last of whom was granted a pension of £300 per annum. In 1814, a volume of his sermons was published, which is the only work of his which reached the press.

KISS. The mutual touching of the lips and the mingling of the breath is one of the most natural expressions of affection among men. The child expresses its love by a kiss, and men in all stages of refinement do the same. Inferior creatures express tenderness in a similar manner, as the billing of doves; and many creatures touch objects of love with the mouth or rather tongue. The faithful dog cannot show his affection to his master more clearly than by licking his hand; but man puts the restraints of reason and decorum on the demonstrations of affection, and the kiss has been subjected to various restrictions among different nations; so that, to this day, a kiss given contrary to the will of the person kissed, may, in Germany, be punished as an *injuria* (q. v.), whilst, on the other hand, it has entered largely into various ceremonials, civil and religious. Kissing the forehead of a person, is a sign of condescension and good-will, the parental blessing being sealed with the father's kiss on the forehead of the child among many nations. Kissing the shoulders, is an expression of inferiority; still more so kissing the hand or the foot; and the sign of the greatest humiliation among the Poles, Bohemians, Russians and Asiatics, is to kiss the ground, as a symbol that the place where the foot of the honoured person has trod is dear to them. The word *kissing* is the usual expression, in Hebrew, to signify adoration; and *adoratio* literally means *touching with the mouth*. In the article *Adoration*, mention has been made of the custom of kissing the hand, among the ancients, and of kissing the foot, originally of every bishop, and, at present, of the pope. The stern Romans held it indecent for a husband to kiss his wife in presence even of a daughter. With some nations, as the Germans and French, it is customary for men to kiss each other after a long absence, &c. In the most ancient times, it was customary to impress kisses on one's own hand, and then make the sign of throwing them to the sun, moon, the stars, (*Job xxxi, 26*), and even to Baal. Homer makes Priam kiss the hand of Achilles. Among the Romans, the higher magistrates gave their hands to be kissed by the lower officers, and, under the emperors, the monarch gave his hand to be kissed to the superior officers, whilst the lower officers paid their homage on their knees, touching the gown of their emperor, or their own hand, &c. Kissing the hand of the sovereign, now forms part of the ceremonial of all European courts.

It is considered a particular mark of grace. Officers are allowed this privilege when they set out on important expeditions, or return from them. In Prussia, alone, the king's hand is never, or, at least, very rarely kissed, as a matter of settled ceremonial. In Spain, the *grandees* perform this ceremony on certain court days. In Britain, it is customary for certain officers to kiss the king's hand, at their first audience. When the emperor of Russia dies, his body is laid out in state, and every one who approaches him kisses his hand. Catholics kiss the bishop's hand, or rather the ring which he wears in virtue of his episcopal office. Kissing the hand was formerly very customary on the European continent, and still is so to a certain degree. A gentleman may kiss a lady's hand; and people of the lower class, to express great gratitude, will not unfrequently kiss the hand of a benefactor. In Russia, all persons have a right to kiss each other on Easter day—the day of rejoicing in the Greek Catholic church. When the wives of European monarchs appear, people generally make a motion as if to kiss the gown, and they offer the hand to be kissed. In Britain, on the first presentation of young ladies of high families at court, the queen salutes them on the cheek. In the same way, she salutes a hostess if she pays a visit. Kissing the foot is a common Oriental sign of respect. The later Roman emperors, whose court ceremonial was mixed with so many servile customs, first introduced this practice into the West. The popes have required it as a sign of respect from the secular power since the eighth century. Pope Constantine I. first had his foot kissed by the emperor Justinian II., on his entry into Constantinople, in 710. Valentine I., about 827, required every one to kiss his foot; and, from that time, this mark of reverence appears to have been expected by all popes. When this ceremony takes place, the pope wears a slipper with a cross, which is kissed. In French, this is called *le baisement des pieds*, the word *baisement* is not used in any other relation. In more recent times, Protestants have not been obliged to kiss the pope's foot, but merely to bend the knee slightly. Even Catholic princes sometimes perform only the genuflection. When the pope is elected, he is placed on the altar, and the cardinals, first of all, perform the adoration. Each approaches the newly elected pope, and kisses his foot, then his knee, and is then embraced by the pope, and saluted on the cheek. The clergyman sometimes kisses the woman immediately after marriage. The *kiss of peace*, in the Catholic church, forms part of a religious rite. St Peter and Paul end their epistles—"Salute one another with a holy kiss." And it was at first customary among the Christians to give each other the kiss of peace—a symbol of concord and unity—particularly at the *agapes*. (q. v.) Many fathers of the church mention it, as St Justin, Tertullian, St Cyril, &c., and in the apostolic constitutions and all old liturgies, mention is made of it. The heathens, on this account, reproached the Christians with licentiousness, as, from misunderstanding, they also accused them of sacrificing human victims, when the sacrifice of Christ was meant. That these kisses may have had an objectionable tendency, we do not deny, as we know ourselves, that, in Berlin, where a certain sect had reintroduced these kisses with the *agapes*, government found it necessary to prohibit them. In the Greek church, the kiss of peace is given before the oblation, and after having dismissed the catechumens. In the Latin church, the kiss of peace is given immediately before the communion. The clergyman who celebrates mass kisses the altar, and embraces the deacon, saying, *Pax tibi, frater, et*

*ecclesia sancta Dei*; the deacon does the same to the sub-deacon, and says *Pax tecum*; the latter salutes the other clergy. Kissing must have been common with the Jews, since Judas used it as a sign to betray the Saviour.

KITCHINER, DOCTOR, was the son of a Middlesex justice, who was for many years a coal merchant in the Strand. He acquired a handsome fortune, which he bequeathed to his son. Doctor Kitchiner was educated at Eton, after which he settled in London as a physician. Early in life, he married; but a separation from his wife soon after took place by mutual consent, and he was left at liberty to employ his ample fortune in experimental cookery. He treated eating and drinking as the only serious business of life; and, having caught the attention of the public by the singularity of his conduct, he proceeded to promulgate, under the title of the *Cook's Oracle*, the laws of the culinary art, professedly founded on his own practice. He was accustomed to assemble his friends at a *conversazione* at his house on Tuesday evenings, and, for the regulation of these meetings, placed a placard over his chimney-piece, containing these words, "At seven come, at eleven go." He was a great stickler for punctuality, and kept a slate in his hall, on which his hours for receiving visitors were indicated. His appearance, his dress, his usages, his person were all quaint. Besides his *Cook's Oracle*, doctor Kitchiner wrote *Practical Observations on Telescopes* (1815, reprinted for the fourth time in 1825, under the title of *Economy of the Eyes*); *Apicius redivivus*, (1817); the *Art of Invigorating and Prolonging Life* (1822); also the *Traveller's Oracle*, published just after his death; &c. In his private character, doctor Kitchiner is represented as having been an amiable man, respected for his integrity, conciliatory manners, and social virtues.

KLAPROTH, MARTIN HENRY, one of the most scientific German philosophers and chemists, was born Dec. 1, 1743, at Wernigerode, and died Jan. 1, 1817, at Berlin. He was an apothecary till the year 1788. In that year, he became chemist to the academy of sciences, and sold his apothecary's establishment. He was the first who discovered, in the stone called *zircon*, and also, afterwards, in the hyacinth, from Ceylon, a peculiar alkaline earth, to which he gave the name of *zircon earth*, and which has since attracted much attention from the French chemists Morveau and Vauquelin. In 1797, he ascertained, by a masterly analysis, the existence of a distinct metal in the substance called *platina*, to which he gave the name *tellurium*. To the same period belongs, also, the discovery of another species of metal, the titanium, which is of frequent occurrence in combination with the oxide of iron and various earths. We are indebted to his analysis of pitch blende for a third new species with which he enriched the class of metals—the uranium. He subjected meteoric stones to a very thorough and careful analysis, and proved the interesting point of their identity of composition. The result of these, and other more important chemical investigations, are exhibited in his *Contributions to the Chemical Knowledge of Mineral Bodies* (Berlin, 1795—1815, tom. vi.) We have also a chemical dictionary published by him in conjunction with D. Wolff, of which five volumes, and four supplementary volumes, have appeared at Berlin, since 1807, which may be regarded as the most complete and respectable chemical work, in alphabetical arrangement, that Germany has produced.

KLEBER, JEAN BAPTISTE, a French general, distinguished not less for his humanity and integrity, than for his courage, activity, and coolness, was one

of the ablest soldiers which the revolution, so fertile in military genius, produced. His father was a common labourer, and young Kleber was himself peacefully occupied as an architect, when the revolutionary troubles led him to the career of arms. He was born at Strasburg, in 1754, and had received some education in the military academy at Munch. through the agency of some German gentlemen, to whom he had rendered a service. From 1776 to 1783, he had served in the Austrian army against the Turks. Having entered a French volunteer corps as a simple grenadier in 1792, his talents soon procured him notice; and, after the capture of Mayence, he was made general of brigade. Although he openly expressed his horror at the atrocious policy of the revolutionary government, his services were too valuable to be lost, and he distinguished himself as a general of division, in the campaigns of 1796 and 1798. In 1797, Kleber, dissatisfied with the directory, retired from the service; but general Bonaparte prevailed upon him to join the expedition to Egypt. Although no favourite of the general in chief, yet, such were the talents that he displayed in the campaign in Syria, and the battle of Abukir, and such was the esteem in which he was held by the army, that Bonaparte left him the command, when he himself returned to France. His situation was difficult; the army was weakened by a series of laborious marches and sanguinary conflicts, and all communication with France was intercepted; yet he maintained himself successfully against the enemy, and introduced order into the government; but, in the midst of new preparations for securing possession of the country, he was assassinated by a Turkish fanatic, June 14, 1800.

KLEIN; a German word for *small*, prefixed to a great many geographical names.

KLEIST VON NOLLENDORF, EMILIE FREDERIC, COENT, one of the most distinguished Prussian generals in the campaign of 1813 and 1814, against Napoleon, was born at Berlin, in 1762, served in the campaign of 1778, and rose by his courage and military talents, so that, in 1803, he was made reporting adjutant-general to the king of Prussia. After the enterprise of Schill (q. v.), he was made commander of Berlin—a post which required, at that time, much talent and skill. In 1812, Kleist commanded a corps of Prussians, auxiliary to Napoleon's grand army. He distinguished himself in the battle of Bautzen (q. v.), May 20, 1813, and was one of the plump-tentariaries who concluded the armistice. When Napoleon forced the allies to retreat from Dresden into Bohemia, after the battle of Dresden (August 26), Kleist followed the general retreat; but Vandamme had entered Bohemia before him, with 40,000 men, and Kleist had only the alternative of surrendering his army, or fighting for life and death. He took the bold resolution of throwing himself down from the mountains into the rear of Vandamme (August 30), and was victorious at the village of Nollendorf. His success saved Bohemia, against which Napoleon had directed his masterly demonstrations. Kleist was afterwards known by the siffix of *Nollendorf*. Feb. 14, 1814, he was victorious at Jönköping, in France. In the engagement at Claye, March 25, he led a brigade to an assault in person. Kleist died in 1821.

KLEIST, EWALD CHRISTIAN VON, born March, 1715, at Zeblin, in Pomerania, studied for some years at the Jesuit college at Kron, in Great Poland, then at the gymnasium at Dantzic, and went, in 1731, to Königsberg to study law. Besides his acquirements in mathematics, philosophy, literature, and law, he made great proficiency in modern languages. Having tried in vain, several times to obtain a civil appoint-

sent, he entered the army, and became, in 1736, a Danish officer. He studied, with zeal, the military art, and, when Frederic the Great, of Prussia, began his reign, Kleist entered his service. He always disliked the military profession, which, together with an unfortunate attachment, gave to his poems the tone of melancholy which distinguishes them. Few German poems, from an author without previous reputation, have met with such immediate success, as his *Frühling* (Spring), which was first printed in 1749, for his acquaintance only. In 1757, Kleist was made major. In 1759, he lost his leg in the battle of Kunnersdorf: he lay, during the whole night, with his wounds exposed, on the field of battle. The next noon, he discovered himself to a Russian officer, who was passing by, and who had him carried to Frankfort. Eleven days after the battle, the fractured bones parted, and tore an artery, and he died August 24. Kleist was an amiable and upright man. He composed several war-songs, and liked to call himself a Prussian grenadier. His admiration of Frederic the Great was deep, as many of his most beautiful compositions prove. Kleist enjoyed the friendship of many of the most talented men of his nation.

KLEPHTES, (Κλεφτης, κλεπτης), properly a robber, is the name given to those Greeks who kept themselves free from the Turkish yoke, in the mountains, and carried on a perpetual war against the oppressors of their country, considering every thing belonging to a Turk a lawful prize, often, as may be easily imagined, exercising their profession on Greeks. Such a population is very common in conquered countries, where there are mountains to afford a retreat to the vanquished. At the time of the conquest of Greece, many inhabitants of the plain retreated to the highlands, where they even formed *κλεφθυρια* (klephtes villages), from whence they surprised and annoyed the Turks. By degrees, their independence was acknowledged by the Turks (as, for instance, in the case of the Mainots), and a militia acknowledged by the Turks was formed among them, which, under the pachas and other officers of the Porte, was intrusted with the maintenance of order in different parts of Greece. The members of this were called *αρχερωλη* and *ἀρχερωλη* (probably from the Latin and Italian word *arma*, as many words of this description have become incorporated in the modern Greek, partly through the conquest of the country by the Romans, partly by the predominance of Italian on the Mediterranean in later periods; or from *arma*, which is connected with the ancient Greek *αρχων*). The leaders were called *capitani* (q. v.), and their dignity appears to have been hereditary. These *armatoloi*, also called *pallikaris*, from the ancient *παλλικῆς* or *παλλικῆς*, returned to their profession of klephtes, when their rights were attacked; as, for instance, when Ali Pacha of Janina attacked the Albanians. They retained a proud feeling of independence, and Greece would never have been freed, had it not been for these robbers, who were the first to take part in the struggle against the Porte in 1821, and furnished the few good soldiers in the land-service of Greece, their leaders becoming the best generals in the Greek service, as Niketas, Colocotroni, &c. (See Greece.) Whole tribes are to be counted among the klephtes; as the Suliots and Chimariots, in the ancient Epirus, and the Sphakiots on the island of Crete. Besides these, there were single klephtes in the Morea, &c. (For their mode of attack, see Hobhouse's *Journey through Albania*, 1817.) The songs of the klephtes, composed among themselves, form part of the modern national Greek poetry, of which Faurliel (*Chants populaires de la Grèce moderne*, 2 vols., Paris, 1824 and 1825) has published several. The same work gives, in a *discours préliminaire*,

interesting details respecting the klephtes and *armatoloi*. The klephtes are hospitable towards those who are not tempting objects of plunder, as the writer can testify.

KLINGEMANN, AUGUSTUS; doctor of philosophy and director of the national theatre at Brunswick; born Aug. 31, 1777, at Brunswick. Inspired by the example of Goethe and Schiller, who had raised the theatre of Weimar to a high degree of perfection, he devoted himself entirely to the theatre of his native place. In 1813, this was raised from a private to a national institution. Klingemann received the direction of it, and, under his superintendence, it became one of the first of the German theatres. Of his dramatic productions, *Heinrich der Löwe*, *Luther*, *Moses*, *Faust*, *Deutsche Treue*, are stock pieces. His *Dramatische Werke* were published at Brunswick, 1817—1818, 12 volumes.

KLINGER, FREDERIC MAXIMILIAN VON, was born at Frankfort on the Maine, in 1753. He fell, when young, into an exaggerated style of writing, but even then produced a great sensation. Few works have stirred the passions more than his *Twins* (*Twillinge*). Goethe speaks favourably of his exterior, his disposition, and his manners. What Klinger was, he became through himself. Rousseau was a favourite author of his. After having studied at the gymnasium of Frankfort, he went to the university of Giessen. His first productions were dramatic. In the war of the Bavarian succession, he entered the military service, and was made a lieutenant in the Austrian army. After the peace, he went (1780) to St Petersburg, and was appointed an officer and reader to the grand-admiral, the grand-prince Paul, with whom he afterwards travelled through Poland, Austria, Italy, France, Switzerland, Germany, &c. In 1784, he was appointed an officer of the military school at St Petersburg, and rose, in the reign of Catharine, to the rank of colonel. In 1799, he was made major-general by the emperor Paul, and director of the corps of cadets. He distinguished himself by an independent uprightness, at a time when the vagaries of Paul made such conduct dangerous. When Alexander ascended the throne, he received several other offices, as the direction of the university of Dorpat, the inspection of the body of pages, &c. After having received many orders, and the income of a crown village for life, he was made lieutenant-general in 1811. He had served forty years, when he retired. He died in February, 1831. In the midst of his many occupations, Klinger was ever alive in the field of poetry. His works are quite peculiar. He collected them in 12 volumes (Königsberg, 1809 to 1810.) *Der Weltmann und der Dichter* is considered by many the best of his productions.

KLOOTZ, ANACHARSIS. See *Clootz*.

KLOPSTOCK, FREDERIC GOTTLIEB, one of the most celebrated of the German poets, was born July 2, 1724, at Quedlinburg. His father, a senator of Quedlinburg, and an eccentric man, removed, after his birth, to Friedeburg, near Wettin, on the Saal, where the young Klopstock spent his childhood, and was subsequently placed at the gymnasium of Quedlinburg. At the age of sixteen, he went to the *Schulpforte*, near Naumburg. Here he made himself perfect in the ancient languages, acquired a decided predilection for the classical writers, and formed the resolution of writing a great epic poem, though he was not determined what subject to choose; and the reign of Henry the Fowler at that time attracted him most. In 1745, he studied theology at Jena, and commenced, in solitude, the first canto of his *Messiah*. In Leipsic, where he went the next year, he formed an acquaintance with Cramer, Schlegel, Rabener, Zacharia, and others, who then published

the *Bremischen Beiträge*, in which the three first cantos of the Messiah appeared, in 1748, and excited universal attention. Some revered the author as a sacred poet; others, particularly the old divines, imagined that religion was profaned by his fictions. A country clergyman came to him, and seriously entreated him, "for the sake of God and religion, not to make Abaddon (a fallen angel) blessed." He likewise underwent some severe criticism, on account of the novelty and originality of the form and spirit of his poem. The work made the deepest impression in Switzerland. In the summer of 1750, he went to Zurich, where much exertion was made to induce him to remain. The people there viewed him with a kind of veneration. He travelled for his amusement through several cantons. In Denmark, too, the three first cantos of his Messiah met with a very favourable reception; and Klopstock was invited by the minister Bernstorff to Copenhagen, with a small pension, to finish the poem. He departed in 1751, and travelled through Brunswick and Hamburg, where he became acquainted with a young lady, who was a great admirer of his poems—the talented Meta (properly *Margaretha*) Møller, the daughter of a merchant there. In Copenhagen, he was received with every mark of kindness and esteem. There he passed the winter, and was introduced, the next summer, by his friend Moltke, to king Frederic V.; and, as the king was to go to Holstein in the summer of 1752, Klopstock took advantage of the opportunity to go to Hamburg, and visit Meta. He spent the whole summer there, and returned again with the king to Denmark. In the summer of 1754, he went back to Hamburg, and was married to Meta. The steps by which his acquaintance with this lady ripened into tenderness, are described with great beauty and simplicity in his well-known letters, written when she had become his wife, to Samuel Richardson, and afterwards published in that writer's correspondence. But he soon lost her. She died in childbed, in 1758. He buried her in the village of Ottensen, near Hamburg, and placed over her remains this simple and beautiful epitaph:

*Saat gesamt von Gott,  
Am Tage der Gerben zu reifen.  
Seed sown by God,  
To ripen for the harvest.*

From 1759 to 1763, he resided alternately at Brunswick, Quedlinburg, and Blankenburg, and afterwards in Copenhagen. In 1764, he wrote his *Hermann's Schlacht* (Battle of Arminius), and sent it to the emperor Joseph, but not with the success which, in his patriotic enthusiasm, he had promised himself. After this, he entered upon his investigations of the German language. In 1771, after Bernstorff had received his discharge, he left Copenhagen for Hamburg, under the character of Danish secretary of legation and counsellor of the margraviate of Baden. In Hamburg, he finished his Messiah. In 1792, he married a second time. His principal amusement in winter was skating; and he was once in imminent danger of losing his life by it. Klopstock died with calmness and resignation, without pain or a groan, March 14, 1803. His body was buried with great pomp and solemnity, in the presence of thousands. Purity and noble feeling were the characteristics of his mind. He was gay and animated; but his sportiveness was always tempered with a sort of dignity, and his satires were ever gentle. His disposition restrained him from intimacy with men of rank; for he hated the chilling condescensions of the great more than an open insult. He loved to retire into the country, with the families of his friends, and was always pleased to be among

children. In the private welfare and happiness of his friends, he took the deepest interest; but dearest of all to him was the memory of his pious brethren, with whom he had been associated in Leipsic, and whom he saw, one after another, dropping into the grave. (See Henry Doering's *Life of Klopstock*, Weimar, 1825.) As a lyrical writer Klopstock is, perhaps, among the most successful of any age. He may well be called the *Poet of modern poetry*; but he is superior to him in richness and deep feeling, as the spiritual world which he paints excels, in intrinsic magnificence, the subjects celebrated by the Grecian poet. His religious ode, as the Festival of Spring, exhibit the creation of the Psalmist. The elegiac odes to *Fanny and Elise* are known to every refined reader, for the melancholy and elevated tone which reigns throughout them. In expressing joyful feelings, as in the ode to the lake of Zurich, and when his strains are almost Anacreontic, as in many small pieces to Cuck, he never oversteps the limits of Platonic love. His patriotism is strong and ardent, and his latter ode, called forth by the French revolution, in which, at first, he took the warmest interest, and those to which he speaks of the German language and poetry, are distinguished by bold and original tones of expression. Owing to these, and to his frequent allusions to the northern mythology, he is often obscure to many readers; but the most attentive cannot fail clearly to understand and gratefully to venerate Klopstock as a writer of sacred poetry. He gained, however, the brightest and quickest fame by his epopee; the first cantos of which, by their prophetic grandeur and the magnificence of their description, their genuine patriarchal tone, and unfeigned sincerity of love and devotion, announced him a rival of Milton. His *Bardade* are dramatized epics, and lyrical scenes for the theatre, rather than tragedies. The choruses possess the highest lyrical beauty, and breathe the most ardent patriotism and independence of feeling. He has idealized the German character as no other one has ever done. Klopstock created for the Germans a simple, strong, free, and genuine poetic language, and essentially influenced the form, by introducing the ancient classic measures, and especially the hexameter; but he was unduly prejudiced against rhyme. He acquired much reputation by his grammatical works. His fragments on Language and the Art of Poetry, his Republic of Letters, and his Conversations on Grammar, explain many difficulties in German grammar and German poetry, although his innovations in orthography, and, on the whole, several peculiarities of his style, cannot meet with general approbation. Klopstock's works were published at Leipsic, 1798—1817, twelve volumes, &c. They have lately appeared in a pocket edition. The 100th anniversary of his birth was celebrated at Quedlinburg and Altona, July 2, 1824, and a monument has been erected to him in Quedlinburg.

KLOTZ, CHRISTIAN ANTONIUS, was born September 23, 1738, at Bischofswerda, in Lusatia. He studied at Jena, and, in 1762, was appointed professor of philosophy in Göttingen. His patron, Queen Julia, recommended him to Frederic the Great, and he went, in 1765, to Halle. The king esteemed him as an eminent scholar. Klotz distinguished himself chiefly by his Latin poems, his numismatic treatise, his works on the study of antiquity, and on the value and mode of using ancient gems. After having contributed much to the *Deutscher Bibliothek*, under the signature E. he established a paper in opposition to it, called *Acta Literaria*. Lessing was the leading and wittiest of his opponents. His dispute with Lessing and Burmann took a tone of underhand

Klotz was of an ardent temperament. Thorough in Greek and Latin, of modern languages he knew little. An irregular life hastened his death. He died December 31, 1771.

KNEE; a crooked piece of timber, having two branches or arms, and generally used to connect the beams of a ship with her sides or timbers. The branches of the knees form an angle of greater or smaller extent, according to the mutual situation of the pieces which they are designed to unite. One branch is securely bolted to one of the deck beams, and the other in the same manner strongly attached to a corresponding timber in the ship's side. By connecting the beams and timber into one compact frame, they contribute greatly to the strength and solidity of the ship, and enable her to resist the effects of a turbulent sea. In fixing these pieces, it is occasionally necessary to give an oblique direction to the vertical or side branch, in order to avoid the range of an adjacent gun-port, or because the knee may be so shaped as to require this disposition, it being sometimes difficult to procure so great a variety of knees as may be necessary in the construction of a number of ships of war. The scarcity of these pieces frequently obliges shipwrights to form their knees of iron.

KNEES, in Russia; noblemen of the first class, who, however, have no more authority over their vassals than other landholders. A number of these nobles are descended from the former ruling families of particular provinces of the Russian empire. Of such families, there are eighteen, as the Dolgorucky, Repnin, Scherbatow, Wazneskoy, Labanow, who are all descended from the family of Rurik. The czar allows them to retain the arms of the provinces which their forefathers ruled. Individuals of these families have been illustrious in the civil and military service of their country. There are also some nobles of this class sprung from collateral branches of the family of Jugellons, which formerly ruled in Lithuania or Poland, and is extinct in its principal line. There are others, who claim a descent from independent Tartar khans. The last class of Knees consists of the descendants of noble members of Tartar tribes, who, after the subjugation of the tribes, embraced the Christian religion, and received the above title from the Russian sovereigns.

KNELLER, SIR GODFREY, an eminent portrait painter, born at Lubek, about 1648, was designed for a military life, and sent to Leyden to study mathematics and fortification, but, showing a decided bent for painting, was placed under Bol and Rembrandt at Amsterdam. He visited Italy in 1672, where he became a disciple of Carlo Maratti and Bernini, and painted several historical pieces and portraits both at Rome and Venice. On his return, he was induced to visit England, in 1674; and, having painted a much admired family picture, which was seen by the duke of York, the latter introduced the painter to Charles II., by whom he was much patronised. He was equally favoured by James II. and William III., for the latter of whom he painted the beauties at Hampton court, and several of the portraits in the gallery of admirals. He also took the portrait of the czar Peter for the same sovereign, who, in 1692, knighted him, and made him gentleman of the privy chamber. Queen Anne continued him in the same office, and George I. made him a baronet. He continued to practise his art to an advanced age, and had reached his twenty-fifth year at his death, in 1723. His interment took place in Westminster abbey, under a splendid monument erected by Rysbrach, on which appears an epitaph by Pope. The airs of his heads are graceful, and his colouring is lively, true, and

harmonious; his drawing correct, and his disposition judicious. He displays a singular want of imagination in his pictures, the attitudes, action, and drapery being insipid, unvarying, and ungraceful. See Walpole's *Anecdotes of Painting*.

KNIEPHAUSEN, a lordship on the Jade, in the duchy of Holstein-Oldenburg, containing about thirty-two square miles, and 2900 inhabitants, has belonged, since 1757, to the counts of Bentink; was formerly a sovereign state, but was attached, in 1807, to the department of East Friesland, in Holland; in 1810, to the department of Eastern Ems, in France; and was sequestered, in 1813, on account of the lord having taken part with the allies. Subsequently, it was occupied by Oldenburg, which deprived the lord of his sovereignty, but left him in possession of the revenue, &c. In this condition he has been obliged to remain, as the German diet would not recognise him as an independent prince. The name *Kniefhausen* is derived from a castle, to which belong eight houses with fifty inhabitants, and in which the chancery, archives, &c., of this Lilliputian government are kept. At the congress of Aix-la-Chapelle, the lord of Kniefhausen appeared, and gave rise to much ridicule, by assuming the airs of an independent prince.

KNIGGE, ADOLPHUS FRANCIS FREDERIC LOUIS, Baron de, was born October 16, 1752, at Brendenbeck, not far from Hanover. His father died in 1766, leaving him an estate deeply embarrassed. In 1769, he went to the university of Gottingen. In 1777, he was made a chamberlain at Weimar. He died at Bremen, May 6, 1796, after a rather unsettled life. Knigge wrote a variety of works. His novels were once very popular, on account of their easy style of narration, and a tinge of satire and popular philosophy. His *Journey to Brunswick* was, for a considerable time, much read. The work which gave him the greatest reputation was his *Ueber den Umgang mit Menschen* (On Intercourse with Men) a book which contains some good advice, but is disfigured by a minuteness of petty precepts. Knigge was also a member of the illuminati, and thus became implicated in some of the disputes relating to that order. See *Short's Biography of the Baron Adolphus von Knigge*, Hanover, 1825.

KNIGHT, in chess. The move of this piece has given rise to an interesting problem, in regard to the various modes by which the chess-board may be covered by the knight. The path of the knight over the board is of two kinds, terminable and interminable. It is interminable whenever the concluding move of a series is made in a square, which lies within reach by the knight of that from which he originally set out, and is terminable in every other instance. Euler, in the *Memoirs of the Academy of Berlin*, for 1759, has given a method of filling up all the squares setting out from one of the corners. He has likewise given an interminable route, and has explained the method by which the routes may be varied, so as to end upon any square. Solutions of the same problem have also been given by Montmort, Demolivre, and Mairan.

KNIGHT, RICHARD PAYNE; a patron of learning and the fine arts, to the study and encouragement of which he devoted a great portion of his time and ample fortune. His father, from a dread lest his son's constitution should be impaired by the discipline of a public school, kept him at home till his fourteenth year; but, on his decease, young Knight was placed at a large seminary, where he soon distinguished himself by his progress in classical literature, his favourite study. His splendid collection of ancient bronzes, medals, pictures, and drawings, in his museum at his house in Soho square, gave equal proofs of his

taste and liberality. This collection he bequeathed, at his death, to the British museum. His principal writings are, *Remains of the Worship of Priapus*, lately existing in Naples, and its connexion with the Mystic Theology of the Ancients (4to, 1786); an *Analytical Essay on the Greek Alphabet* (4to, 1791); *Analytical Inquiry into the Principles of Taste* (8vo, 1805); and *Prolegomena in Homerum*, reprinted in the *Classical Journal*. He was also author of some poems. He died in 1824, aged 76.

KNIGHTHOOD. See *Chivalry*.

KNIGHTS OF ST JOHN. See *John, Knights of St.*

KNIGHTS OF THE SHIRE, or KNIGHTS OF PARLIAMENT, in the British polity, are two knights, or gentlemen of estate, who are elected on the king's writ, by the freeholders of every county, to represent them in parliament. The qualification of the knight of the shire is, to be possessed of £600 per annum in a freehold estate.

KNIGHTS TEMPLARS. See *Templars*.

KNIPIHAUSEN. See *Kniephausen*.

KNIVES. See *Cutlery*.

KNOLLES, RICHARD, author of a *History of the Turks*, was entered at the university of Oxford about 1560, and became a fellow of Lincoln college, which he left to be master of the free school of Sandwich, in Kent. He composed his *History of the Turks* (folio, 1610), being the labour of twelve years. It has passed through several editions, and is executed in a manner which has transmitted his name with honour to posterity. Several continuations have appeared, the last of which is that of Sir Paul Rycaut. Knolles is also author of the *lives and conquests of the Ottoman kings and emperors until 1610*, and a *Brief Discourse on the Greatness of the Turkish Empire*. He translated Bodin's *Six Books of a Commonwealth*.

KNOUT; the severest punishment in Russia. The criminal, standing erect, and bound to two stakes, receives the lashes, which are inflicted with a leather strap, in the point of which wire is interwoven, on the bare back. Almost every lash is followed by a stream of blood. From 100 to 120 lashes are the highest number inflicted, and are considered equal to the punishment of death. If the criminal survives, he is exiled for life into Siberia. Formerly, the nose was slit up, and the ears cut off, in addition, and a W (wov, rogue) cut in the skin of the forehead, and made indelible by rubbing in gunpowder. At present, the two former punishments, at least, are abolished. If the criminal is sentenced to a smaller number of lashes, the last part of the punishment is not inflicted, and he is sent to Siberia for a few years only.

KNOX, JOHN, the chief promoter of the reformation in Scotland, was descended from an ancient family, and born at Gifford, in East Lothian, in 1505. He received his education at the university of St Andrews, where he took the degree of master of arts much before the usual age. Having embraced the ecclesiastical profession, he began, as usual, with the study of scholastic divinity, in which he so much distinguished himself, that he was admitted into priest's orders before the time appointed by the canons. He soon became weary of the theology of the schools, and resolved to apply himself to that which was more plain and practical. This alteration of opinion led him to attend the sermons of Thomas Guillaume, or Williams, a friar of eminence, who was so bold as to preach against the pope's authority; and he was still more impressed by the instructions of the celebrated George Wishart, so that he relinquished all thoughts of officiating in the church of Rome, and became tutor to the sons of the lairds of Long Niddrie and Ormiston, who had embraced the reformed doctrines. Here he preached not only to his pupils, but to the

people of the neighbourhood, until interrupted by cardinal Beaton, archbishop of St Andrews, who obliged him to conceal himself; and he thought of retiring to Germany. The persuasion of the fathers of his pupils, and the assassination of Beaton by the Leslies, encouraged him to remain. He took shelter, under the protection of the latter, in the castle of St Andrews, where, notwithstanding the opposition of the clergy of St Andrews, he preached the principles of the reformation with extraordinary boldness, until the castle of St Andrews surrendered to the French in July, 1547, when he was carried with the garrison into France, and remained a prisoner on board the galleys until the latter end of 1549. Being then set at liberty, he passed over to England, and, arriving in London, was licensed either by Cranmer or the protector Somerset, and appointed preacher, first at Berwick, and afterwards at Newcastle. In 1552, he was appointed chaplain to Edward VI., and preached before the king, at Westminster, who recommended Cranmer to give him the living of All-hallows, in London, which Knox declined, not choosing to conform to the English liturgy. It is said that he refused a bishopric, regarding all prelacy as avouring of the kingdom of antichrist. He, however, continued his practice as an itinerary preacher, until the accession of Mary, in 1554, when he quitted England, and sought refuge at Geneva, where he had not long resided before he was invited, by the English congregation of refugees at Frankfort, to become their minister. He unwillingly accepted this avocation, at the request of John Calvin, and continued his services until embroiled in a dispute with doctor Cox, afterwards bishop of Ely, who strenuously contended for the liturgy of king Edward. Knox, in his usual style of bold vituperation, having to a treatise published in England, called the emperor of Germany as great an enemy to Christ as Nero, his opponents accused him to the senate of treason, both against the emperor and queen Mary; on which he received private notice of his danger, and again retired to Geneva, whence, after a residence of a few months, he ventured, in 1555, to pay a visit to his native country. Finding the professors of the Protestant religion greatly increased in number, and formed into a society under the inspection of regular teachers, he finally joined them, and produced so great an effect by his exertions, both in Edinburgh and other places, that the Roman Catholic clergy, alarmed at his progress, summoned him to appear before them in the church of the Blackfriars, in that metropolis, May 15, 1556. This summons he purposed to obey, relying on the support of a formidable party of nobles and gentry, which so alarmed his opponents, that they dropped the prosecution. Thus encouraged, he continued preaching with additional energy and boldness, and was even induced to write to the queen regent, Mary of Lorraine, a letter, in which he earnestly exhorted her to listen to the Protestant doctrines. While thus occupied, he was strongly urged to pay a visit to the English congregation at Geneva; and he accordingly departed for that place in July, 1556. He was no sooner gone than the bishops summoned him to appear before them; and, as that was impossible, they passed sentence of death against him as a heretic, and burned him in effigy at the cross at Edinburgh. Against this sentence he drew up an energetic appeal, which was printed at Geneva, in 1558, previously to which, he was invited to return to Scotland, and had actually reached Dieppe on his way, when he received other letters recommending delay; which epistles he answered by such strong remonstrances against timidity and backsliding, that those to whom he addressed them entered into a solemn bond or covenant, dated December 3.

1557, "that they would follow forth their purpose, and commit themselves, and whatever God had given them, into his hands, rather than suffer idolatry to reign, and the subjects to be defrauded of the only food of their souls." Knox, in the mean time, had returned to Geneva, where he published his treatise entitled the *First Blast of the Trumpet* against the monstrous Regiment of Women, chiefly aimed at the cruel government of queen Mary of England, and at the attempt of the queen regent of Scotland to rule without a parliament. A Second Blast was to have followed; but the accession of queen Elizabeth to the throne of England, who was expected to be friendly to the Protestant cause, prevented it. In April, 1559, he would have visited England, but was prevented by the resentment felt by Elizabeth at his late treatise. He therefore proceeded directly to Scotland, where he found a persecution of the Protestants just ready to commence at Stirling. He hurried to the scene of action to share the danger, and, mounting a pulpit, inflamed the people by a vehement harangue against idolatry. The indiscretion of a priest, who, immediately on the conclusion of this discourse, was preparing to celebrate mass, precipitated his hearers into a general attack on the churches of the city, in which the altars were overturned, the pictures destroyed, the images broken, and the monasteries almost levelled to the ground. These proceedings were censured by the reformed preachers, and by the leaders of the party. From this time, Knox continued to promote the reformation by every means in his power, and, by his correspondence with the secretary Cecil, was chiefly instrumental in establishing the negotiation between the congregation and the English, which terminated in the march of an English army into Scotland. Being joined by almost all the chief men of the country, these forces soon obliged the French troops, who had been the principal support of the regent, to quit the kingdom; and the parliament was restored to its former independence. Of that body, the majority had embraced Protestant opinions, and no opportunity was omitted of assailing the ancient religion, until at length the Presbyterian plan recommended by Knox and his brethren, was finally sanctioned, the old ecclesiastical courts being abolished, and the exercise of religious worship, according to the rites of the Roman church, prohibited. In August, 1561, the unfortunate Mary, then widow of Francis II., king of France, arrived in Scotland to reign in her own right. She immediately set up a mass in the royal chapel, which, being much frequented, excited the zeal of Knox, who was equally intolerant with the leaders of the conquered party; and, in the face of an order of the privy council, allowing the private mass, he openly declared from the pulpit, "that one mass was more frightful to him than 10,000 armed enemies, landed in any part of the realm." This freedom gave great offence, and he and the queen had long and angry conferences with him on that and other occasions, in which he never paid the slightest homage either to sex or rank. He preached with equal openness against the marriage of Mary; and Darnley, after his union, being induced to hear him, he observed, in the course of his sermon, "that God set over them, for their offences and iniquity, boys and women." In the year 1567, he preached a sermon at the coronation of James VI., when Mary had been dethroned, and Murray appointed regent. In 1572, he was greatly offended at a convention of ministers at Leith, for permitting the titles of *archbishop* and *bishop* to remain during the king's minority, although he approved of the regulations adopted in reference to their elections. At this time, his constitution was quite broken, and received an additional shock by the news of the

massacre of St Bartholomew. He had, however, strength enough to preach against it, which he desired the French ambassador might be acquainted with, but soon after took to his bed, and died, Nov. 24, 1572. He was interred at Edinburgh, several lords attending, and particularly the earl of Morton, that day chosen regent, who, when he was laid in his grave, exclaimed, "There lies he who never feared the face of man, who hath been often threatened with dag and dagger, but yet hath ended his days in peace and honour; for he had God's providence watching over him in an especial manner when his life was sought." The character of this eminent reformer has been sketched by doctor Robertson, in his *History of Scotland*, who, in observing upon the severity of his deportment, impetuosity of temper, and zealous intolerance, observes, that the qualities which now render him less amiable, fitted him to advance the reformation among a fierce people, and enabled him to encounter dangers, and surmount opposition, to which a more gentle spirit would have yielded. John Knox was a man of exalted principles, great intellectual energy, undaunted intrepidity, and exemplary piety and morality. He was twice married, and had two sons by his first wife. His writings, in addition to those already mentioned, are, a *Faithful Admonition to the Professors of the Gospel of Christ in the Kingdom of England* (1554); a *Letter to Queen Mary, Regent of Scotland*; a *Steady Exhortation to England for the speedy embracing of Christ's Gospel*. After his death appeared his *History of the Reformation of Religion within the Realm of Scotland*, to the fourth edition of which (Edinburgh, 1732, folio) are appended all his other works. See *M'Crie's Life of Knox*.

KNOX, VICESIMUS, D. D.; an eminent divine, author of a variety of works, both in theology and polite literature. He was born Dec. 8, 1752, and educated at Oxford. On the death of his father, he was chosen his successor in the head-mastership of Tunbridge grammar school, over which he presided thirty-three years, till, retiring in 1812, he was himself, in turn, succeeded by his son. His works, many of which have been translated into various European languages, are, *Essays, moral and literary* (three vols. 8vo and 12mo); *Liberal Education* (two volumes, 8vo and 12mo); *Winter Evenings* (three volumes, 8vo and 12mo); *Personal Nobility, or Letters to a young Nobleman* (one volume, 12mo); *Christian Philosophy* (two volumes, 12mo); *Considerations on the Nature and Efficacy of the Lord's Supper* (one volume, 8vo), and a pamphlet on the National Importance of Classical Education, with a variety of sermons on different occasions; expurgated editions of Horace and Juvenal, and a series of selections from the works of the best English authors, generally known as *Elegant Extracts*, and *Elegant Epistles*. Doctor Knox wrote the Latin language with great purity and elegance, both in prose and verse. He died Sept. 6, 1821.

KOBOLD, in Germany; a spirit which differs from the spectre in never having been a living human creature. It corresponds to the English *goblin*. The kobold is connected with a house, or a family, and appears in bodily shape. Though inclined to mischievous teasing, they do, on the whole, more good than evil to men, except when irritated. In the mines, they are thought to appear, sometimes in the shape of a blue flame, sometimes in that of a dwarfish child, and to indicate rich veins. They do the miners mischief when disturbed by them.

KOCH, CHRISTOPHER, WILLIAM, professor of law, at Strasburg, and a writer well versed in the history of the middle ages, born 1737, at Buxweiler, in Alsace, conducted the school for teaching public law in Strasburg with such success, that scholars flocked

thither from the most distant countries. In 1761, Koch published his *Commentatio de Collatione Dignitatum et Beneficiorum ecclesiasticorum in Imperio Germanico*, and, in 1789, his Commentary upon the Pragmatic Sanction. In Paris, he collected (1762) materials for the continuation of the *Historia Zuerin-go-Badensis*, which appeared under the name of Schoepflin, who, however, had only composed the first volume. In 1780, Joseph II. conferred upon Koch the rank of nobleman. He remained a professor in Strasburg, until the university was broken up. In 1789, he was sent as deputy to Paris, by the Protestants in Alsace, in order to obtain the acknowledgment of their civil and religious freedom, which was effected by the decree of the 17th August, 1790. After the breaking out of the revolution, he was sent, by the department of the Lower Rhine, as deputy to the legislative assembly, where he showed himself a friend to constitutional monarchy. The anarchists threw him into prison, from which he was not delivered till after eleven months' confinement, and the overthrow of Robespierre. In 1802, he was appointed a member of the tribunate, in which capacity he did much for the restoration of order in church affairs, and the re-establishment of the Protestant university in Strasburg. After the dissolution of the tribunate, Koch refused to fill any other office; but the government granted him, without any solicitation on his part, a salary of 3000 francs, and, in 1810, the title of rector in the university at Strasburg. He died Oct. 25, 1813. Besides the above-named works, he is the author of the following:—*Tables généalogiques des maisons souveraines de l'Europe* (Strasburg, 1782—1784); *Hist. abrégée des Traités de Paix depuis la Paix de Westphalie* (Basil, 1791, 4 vols.; continued by Scholl, Paris, 1818, 15 volumes); *Tableaux des Révolutions de l'Europe depuis le Renversement de l'Empire Romain en Occident* (Basil, 1802, Paris, 1814 et seq., four vols.); and *Table des Traités entre la France et les Puissances étrangères depuis la Paix de Westphalie*; with a new collection of diplomatic documents (Basil, 1802). Koch was a man of great acuteness, equanimity, patience, and nobleness of character.

KOENIG; German for king; prefixed to many geographical names, as, *Königsberg* (king's mountain).

KOH; an Indo-Germanic word, signifying mountain; e. g. *Hindookoh* (mountains of India).

KOLA; a seaport of Russia, the chief town in Russian Lapland (now called the circle of Kola), in Archangelskoe; 540 miles N. Petersburg; lon. 33° 0' E.; lat. 68° 32' N.; houses, fifty; churches, two. It is situated near the North sea, on the river Kola, which forms a bay at its mouth, where is a considerable fishery for whales, sea-dogs, and other fish, which the inhabitants cure for sale. The circle, including the whole of Russian Lapland, is very dreary and thinly peopled, supposed to contain not more than 2000 inhabitants.

KOLBERG. See *Colberg*.

KOLIN. See *Colin*.

KOLLER, BARON OF; Austrian field-marshal-lieutenant; one of the commissioners who accompanied Napoleon, in 1814, to Elba, after his abdication. Koller had to protect Napoleon against a rabble infuriated by priests and ultras, and always preserved the great coat of Napoleon, who had put on his (Koller's) uniform, in order to be less exposed to danger. When Koller returned from Elba, he fulfilled Napoleon's wish to conclude a treaty of commerce between Genoa and Elba. The conduct of Koller is highly praiseworthy, if we consider how much the passions of men were excited against Napoleon, and how much a liberal treatment of him was misconstrued. General Koller afterwards served with the Austrian

army in Naples. He died Aug. 23, 1826. He left an excellent collection of antiques.

KOM, or COM, or KOOM (ancient *Chosra*; a town of Persia, in Irak; 150 miles N. Ispahan; lon. 51° 14' E.; lat. 34° 20' N.; population, about 15,000. It is said to have contained, formerly, 15,000 houses, but is now much reduced, and exhibits extensive ruins. It is esteemed by the Persians a holy city, and has a celebrated mosque, and an asylum for debtors, who are protected and supported. One of the mosques is highly esteemed by the Persians, because of the sepulchres of Shah Sophy, and his son Shah Abbas II., and that of Sidy Fatima, grand-daughter of Mohammed. These tombs are frequented by pilgrims from all parts of Persia, who resort thither once a year to pay their devotions. Kom is celebrated for manufacturing the best sabres and poniards of all Persia. The walls of the town are lofty, and it has seven gates. The grand bazar crosses the town from one gate to the other; besides which there are others well furnished with coffee-houses, and shops of various kinds. The country round about is fertile in rice and fruit.

KOMORN, the capital of the county of Komorn in Hungary, with 11,500 inhabitants, has a gymnasium, and carries on some commerce. On the island of Schutt, 2000 paces distant, between the Vase and Danube, is a fortress, recently erected, which is rendered almost impregnable by nature and art.

KONIGSBERG (that is, king's mountain); the capital of Prussia Proper, seat of many civil and military authorities, and superior judicial tribunal; 63,800 inhabitants; 4108 houses; lat. 54° 42' 13" N. lon. 20° 29' E. It is situated on the Pregel, not far from the influx of this river into the Frische Haf. Königsberg is an important seaport of the Baltic, and formerly belonged to the Hanseatic league. It has some considerable buildings, as, for instance, the cathedral, with the tombs of the grand masters of the Teutonic order, and the dukes. The university of Königsberg was founded in 1544, by the margrave Albert I., duke of Prussia, and has at present 22 students. It is largely endowed for poor students. The library contains 60,000 volumes. The astronomer Bessel is a professor of this university. Kant taught here a long time. Large vessels cannot sail up to the city, but they are obliged to remain at Pillau, the fortress and port of Königsberg. Its commerce has very much declined.

KONIGSMARK, MARIA ADELA, countess of one of the many mistresses of Augustus II., king of Poland, and elector of Saxony, born about 1670, was descended from one of the oldest families of Brandenburg. She was one of the most celebrated women of her age, on account of her personal charms and uncommon talents, and of the part which she performed in politics. While a girl, she wrote and spoke Swedish, German, French, Italian, and English; read the classics in the original, had an extensive knowledge of history and geography, and even composed poems in French and Italian. She played on several instruments, composed music, and sang, as painted with great skill. Several proofs of her talent for painting still remain at Querfurt. She had also a delicate wit, and fine powers of conversation. Thus gifted and accomplished, she arrived, in 1694, in Dresden, with her two sisters. The eldest fell in love with her at first sight. She rejected, for a long time, all his offers, though he tried every means to gain her; at last she yielded, and appeared at court as his mistress. She bore him a son, the famous marshal Saxe (q. v.). But when the passion of the fickle king cooled, the countess knew how to sustain her misfortune with dignity; and he afterwards remained on terms of friendship with her. But

influence she was appointed, by the court of Vienna, superintendent of Quedlinburg (in 1700), where she resided, at intervals, until her death. The king's esteem for her talents appears from the circumstance that he sent her, in 1702, to Charles XII., to negotiate a peace; but Charles refused to see her. She died in 1728. She was beloved by all around her, and very benevolent towards the poor. Her brother, count Philip Christopher, the last male of this family, was assassinated, in 1694, in the castle of Hanover, by the order of the elector Ernest Augustus, because he had offered to assist the princess Sophia Dorothea (who died in prison at Ahlen, 1726) in her projected flight.

**KONIGSTEIN**; a mountain-fortress, on the Elbe, in the kingdom of Saxony, not far from the frontier of Bohemia. It is impregnable. A solitary mountain of sandstone rises 1400 feet almost perpendicularly: the surface is more than a mile in circumference. But the fortress is of no military importance, as it cannot serve for a rallying point or point of support for an army, nor impede the march of an enemy. It is very useful, however, as a place of deposit for precious articles, for instance, the invaluable pictures of the Dresden gallery, in times of war. It cannot be undermined, nor can it be reduced by cutting off its supplies, as the small garrison necessary to hold it, can raise grain enough for their subsistence on the top of the mountain. There is a well 1172 feet deep. About 600 people reside on the top. The cannon of the fortress command the town below it on the river Elbe. The Lilienstein (q. v.) is opposite.

**KOPECK**; a Russian coin. See *Copeck*, and *Coin*.

**KOPF**; German for *head*; appearing in many geographical words, for *summit*; also *koppe*.

**KORAIS**. See *Coray*.

**KORAN** (*Al-Koran*, i. e. *the Koran*, which means originally the *reading*, or *that which is to be read*; also called *al Forkan*, because it is divided into 114 *suras* or chapters; also *al Moshaf*, the volume; *al Kitab*, the book; *al Dhikr*, the recollection) is the religious code of the Mohammedans, written in Arabic by Mohammed. The parts were collected into a volume by Mohammed's father-in-law and successor, Abubekir. According to the Mohammedan doctrine, the prophet received the Koran from the angel Gabriel, written upon parchment made of the skin of the ram which Abraham sacrificed in the name of his son Isaac. The volume was ornamented with precious stones, gold, and silver, from Paradise. According to other traditions, Mohammed is said to have drawn up the Koran with the assistance of a Persian Jew, rabbi Warada Ebn Nawsal, and a Nestorian monk, the abbot of the convent of Addol Kaist, at Bosra, in Syria; but nothing certain is known respecting these two persons, though it appears beyond a doubt, less from the author's doctrines than from the expressions, his tales, and his mentioning several prophets, &c., that he was well acquainted with the Old and New Testament, though he himself cites only the Pentateuch and the Psalms. In the twenty-first chapter, he represents the Almighty as saying, "I have promised in the books of Moses and in the Psalms, that my virtuous servants on earth shall have the earth for their inheritance." A number of passages might be quoted which prove his knowledge of the whole Bible; and not only was he acquainted with the religious systems of the Jews and Christians, but also with those of the Sabæans and Magians, from all of which he seems to have drawn materials which he incorporated into a system, after he idea of establishing a religion in his country, where numberless sects of pagans, Jews, Christians, Sabæans, and Magians existed, had risen in his mind. He lived, as is well known, much in solitude, where

he doubtless meditated on his doctrine, and the great mission which he thought himself called upon to accomplish. He does not reject the doctrines of any sect, but takes from all. He asserts that he wishes to restore the true faith to its purity. The unity of God is his fundamental doctrine, which is clearly laid down in the symbol of the Moslem—"God is God, and Mohammed is his prophet." The unity of God is the very aim of his mission, and, according to him, had been the essence and the basis of all true religion, with which ceremonies and customs were only accidentally connected. Thus he says, in the eleventh chapter of the Koran, "We make no difference between that which God has taught us, and that which Abraham, Isaac, Ishmael, the twelve tribes, Moses and Jesus have learned from the Lord. We believe in God, and are Moslem." And, in the fourth chapter, it is said, "God commands thee to receive the religion which he prescribed to Noah, which he has revealed unto thee, and which he imparted to Abraham, Moses, and Jesus." Who can say whether it was the desire of establishing pure monotheism in his country, or ambition, which led him to call himself a prophet? But even in the way in which he speaks of his inspirations, we may discern an endeavour not to deviate from ideas already adopted, or, at least, the evidence of his being strongly influenced by them. He professed to have nocturnal intercourse with the angel Gabriel, who brought him the Koran precisely as it stands, verse for verse, chapter for chapter, from heaven. In the doctrine of the Magians, the angel Gabriel is the angel of revelation. Besides the fundamental doctrine of the unity of God, the Koran establishes several other articles of faith. Thus, in chapters four, six, seven, and forty-eight, the doctrine of good and bad angels is set forth, which was general with the Arabians before Mohammed. Mohammed returns most frequently to the doctrine of the resurrection and the last judgment. The way in which he endeavours to set it forth has much similarity with that of St Paul. He even borrows expressions from the Jewish and Christian scriptures, when he speaks of the last judgment. In chapter forty-three, it is said, "When the trumpet sounds the second time, they shall rise quickly from the graves to appear before God;" and further, "A sound of the trumpet of judgment will assemble all men before my throne, and every one shall there receive the reward of his deeds." In regard to the form of the last judgment, Mohammed followed the doctrines of the Jews and Magians; for instance, the passage of the narrow bridge *Al-Sirat* (q. v.), the book in which all the actions of men are set down, and the scale in which they are weighed. Mohammed's paradise, too, is quite Jewish and Magian. Another dogma is set forth in the Koran, yet not explicitly, that of the unchangeable decrees of God. Mohammed used the doctrine of predestination with great success, to infuse into his adherents undaunted courage, which elevated them above all perils. Probably he adopted, in this case, views already widely spread. With the Sabæans, the belief in predestination was firmly established, and founded on the unchangeable course of the stars, and their influence upon the life and actions of men and the course of events. With the Magians this doctrine followed from their system of the good and evil principles, and probably it had passed from both to the Arabians. In regard to religious exercises, too, Mohammed adopted such as he found, giving more universality and precision to those which were vague. The Koran prescribes prayer, fasting, alms, and the pilgrimage to Mecca. The first includes every thing relating to the purifications and ablutions, by which the faithful prepares himself for prayer. Mohammed

considered this exercise of the greatest importance. When the Tayesites sent an embassy to the prophet to request him to absolve them from the troublesome observance of this exercise, his answer was, "Religion is nothing without prayer." In another passage he calls prayer the "key to paradise." He surpassed the severity of the rabbis, and prescribed prayer five times a day, with the face turned towards Mecca. Turning the face, during prayer, toward a certain point, is a common custom with the Orientals. It was particularly so with the Jews, Sabæans, and Magians, who call the point to which they turn *kebla*. In the beginning, Mohammed adopted the same *kebla* with the Jews, i. e. the city of Jerusalem. In the second year, he changed the *kebla* to Mecca. The way which he prescribed for calling the people to prayer was at first that of the Jews and Christians, but he afterwards adopted another. To give alms, was always a particular trait of the Arabians, but Mohammed made it obligatory. The pilgrimage, or something similar, had existed with most sects before him. In respect to the civil laws, relating to polygamy, divorce, inheritance, &c., Mohammed followed step for step, the laws of Moses and the decisions of the rabbis, only adapting them to the customs and prejudices of his countrymen. As for the propagation of his religion, Mohammed only requires from converts the pronunciation of the words of his fundamental doctrine; he enjoins no abjuration, no violent separation from a former faith. To the Jews he says, that he only comes to restore the faith of their fathers in its purity; to the Christians, that Jesus is the best of prophets, and sometimes he wishes to pass with them as the Paraclete. Excepting the worship of idols, which was positively against his fundamental doctrines, he attacks few old customs; and, though he prohibits the use of inebriating liquors, and requires fasting, yet he says, "God intended that his religion should be easy, else, as he well knew, you would only become hypocrites"—a sentiment probably caused by the state of the Christian and Jewish sects, with which he was acquainted. The description of his paradise is voluptuous and glowing. The language of the Koran is considered the purest Arabic, and contains such charms of style and poetic beauties, that it remains inimitable. Its moral precepts are pure. A man who should observe them strictly, would lead a virtuous life. "From the Atlantic to the Ganges," says Gibbon, "the Koran is acknowledged as the fundamental code, not only of theology, but of civil and criminal jurisprudence; and the laws which regulate the actions and the property of mankind, are guarded by the infallible and immutable sanction of the will of God." The Koran repeatedly enjoins belief in one God, and implicit obedience towards him, charity, mildness, abstinence from spirituous liquors, toleration, and ascribes particular merit to death in the cause of religion. It is about equal in size to the New Testament. It differs greatly from the Bible by forming one whole, instead of being a collection of very different books, unconnected with each other. The divisions sometimes have strange inscriptions. Many elevated passages adorn the Koran, but it often becomes tedious by its repetitions. The Koran is daily read once through in the mosques of the sultan and the adjoining chapels. (See *Islam*, and *Mohammed*.) It was first printed by Alex. Paganinus Brixiensis, at Venice, according to some about 1509, according to others in 1518, or as late as 1530. In *Thesei Ambr. Albonensis Introd. in Chaldaic. Linguam* (Pavia, 1539), this edition is mentioned, and a passage cited, with reference to the sheet and the page; it has, therefore, certainly existed, but no copy is to be found in any library. The earliest edition, at present known,

is by Abr. Hinkelmann (Hamb., 1694, 4to); another, with a Latin translation (Padua, 1698, fol.); and another was published by order of Catherine II., by Mollah Usman Ismael (Petersburg, 1787, small folio; new edition, 1790, and 1793; reprinted, Kasan, 1809, fol.; another ed., Kasan, 1803, large 4to); Latin translations after that of Robertus Kettenensis (Ketenensis) (Bale, 1543, fol. new ed., Zurich, 1550, fol.); one also by Reineccius (Leipsic, 1711); an Italian translation, made after the Latin (Venice, 1547, 4to); French translations by And. du Ryer (Paris, 1649; Leyden, 1672, 12mo, and the Hague, 1683 or 1684, 12mo), with the introduction by Sale, (2 vols., Amsterdam, 1770 or 1775, 12mo); by Savary, (Paris, 1782, 2 vols.; new ed., Amst., 1796, 2 vols.; and Paris, 1798 (an VII.); English version, by Sale (London, 1734, 4to, 1764, 1801, and 1812.) The edition of London (1649, 4to; new edition, 1688) is merely translated from the French translation of Du Ryer; German translation by Schweigger (Nuremberg, 1616; 2d edit., 1623). The Italian translation has been followed in that of Mezerius (Frankfort on the Maine, 1772), that of Boyss (Halle, 1775), and that of Augusti (Weissenfels and Leipsic, 1798). A Dutch translation of the Koran appeared at Hamburg (1641), (after Schweigger's German Koran), and another by Glasemaker (Rotterdam, 1698). A *vocabularium* of the Koran was published by Willmet and Nodcockum ool Fourtzen (Calcutta, 1811, 4to).

KORNACH, in the East Indies; an elephant driver and keeper.

KORNER, THEODORE; a German poet, particularly celebrated for the spirited poems which he composed in the campaign against Napoleon (1813, in which he fell. He was born in 1791. His father often received Schiller and Goethe in his house at Dresden. Korner first studied mining at Freyburg. In 1810, he went to the university of Leipsic, where his ardent temperament led him into acts of impudence, which obliged him to leave Leipsic. He went to Vienna, where he wrote several dramas. In 1813, when all Germany took up arms against Napoleon, Korner served in the corps of Lutner, a Prussian officer. In the battle of Kitten, he was severely wounded in the head, but recovered during the armistice, and, Aug. 26, 1813, fell on the field of battle, pierced by a ball. An hour before, he had finished his famous song, the Address to his Sword, and read it to his comrades. An iron monument shows the place where he rests under an oak tree, near the village of Wobbelin, in Mecklenburg. His father has published thirty-two of his war-songs, under the title *Leier und Schwert—Lyre and Sword* (Berlin, sixth edition, 1824). Many of these poems have been set to music by Weber, and, taken as a whole, are unique. They have all become national in Germany. Korner's father also published his other works.

KOSCIUSKO, THADDEUS, the last generalissimo of the republic of Poland, one of the noblest characters of his age, was descended from an ancient noble, though not rich family, in Lithuania, and was born in 1756. He was educated in the mathematics school at Warsaw. The prince Adam Czartoracki, perceiving his talents and industry, made him lieutenant in the corps of cadets, and sent him, at his own expense, to France, where he studied drawing and the military art. After his return, he was made captain. But the consequences of an unhappy passion for the daughter of Sosnowski, marshal of Lithuania (who was afterwards married to the prince Jos. Lubomirski), obliged him to leave Poland. Saditary studies, particularly in history and mathematics, and an elevated character, prepared him for the

struggle for freedom, in which he engaged under Washington, who made him his aid. He distinguished himself particularly at the siege of Ninety-Six, and was very highly esteemed by the army and the commander-in-chief. He and Lafayette were the only foreigners admitted into the Cincinnati. Kosciusko received the rank of general, and, in 1786, returned to Poland. When the Polish army was formed (1789), the diet appointed him a major-general. He declared himself for the constitution of May 3, 1791, and served under prince Joseph Poniatowski. In the campaign of 1792, he distinguished himself against the Russians at Zielonek and Dubienka. At the latter place, under cover of some works which he had thrown up in the course of twenty-four hours, he repulsed, with 4000 men, three successive attacks of 18,000 Russians, who prevailed only after the loss of 4000 men. Kosciusko retired without having suffered severely. When king Stanislaus submitted to Catherine, he, with sixteen other officers, left the army, and was, therefore, obliged to retire from Poland. He went to Leipsic; and the legislative assembly of France, at this time, gave him the rights of a French citizen. The Poles becoming impatient under the oppression of Russia, some of Kosciusko's friends in Warsaw determined to make an effort for the liberation of their country. They chose Kosciusko their general, and made him acquainted with their plans. He imparted them to the counts Ignatius Potocki and Kolontai in Dresden, who thought the enterprise injudicious. Kosciusko, however, went to the frontier, and sent general Zajonczek and general Dzialynski into the Russian provinces of Poland, to prepare every thing in silence. But when the Polish army was merged, in part, in the Russian, and the remainder reduced to 15,000 men, the insurrection broke out before the time fixed on. In Posen, Madalinski forcibly opposed the dissolution of his regiment. All now flew to arms; the Russian garrison was immediately expelled from Cracow. Just at this moment, Kosciusko entered the city. The citizens now formed the act of confederation of Cracow (March 24, 1794), and Kosciusko, at their head, called upon the Poles to restore the constitution of May 3. Kosciusko then advanced to meet the Russian forces. Without artillery, at the head of only 4000 men, part of whom were only armed with scythes and pikes, he defeated 12,000 Russians at Racławice (April 4, 1794). His army was now increased to 9000 men, and he formed a junction with general Grochowski. In the mean time, the Russian garrisons of Warsaw and Wilna had been put to death, or made prisoners. Kosciusko checked the outbreak of popular fury, sent troops against Volhynia, and organized the government at Warsaw. He marched out of the city, with 13,000 men, to oppose 17,000 Russians and Prussians, attacked them at Szezakocini, June 6, but was defeated after an obstinate conflict. He retreated to his entrenched camp before Warsaw. The Prussians took Cracow. Disturbances broke out, in consequence, in Warsaw, June 28. The people murdered a part of the prisoners, and hung some Poles who were connected with the Russians. But Kosciusko punished the guilty, and restored order. The king of Prussia now formed a junction with the Russians, and besieged Warsaw with 60,000 men. Kosciusko, however, kept up the courage of his countrymen. After two months of bloody fighting, he repelled, with 10,000 men, a general assault. All Great Poland now rose, under Dombrowski, against the Prussians. This circumstance, together with the loss of a body of artillery, compelled the king of Prussia to raise the siege of Warsaw. Thus this bold general, with an army of 20,000 regular troops and

40,000 armed peasants, maintained himself against four hostile armies, amounting in all to 150,000 men. His great power consisted in the confidence which his fellow citizens reposed in him. The nephew of the king, once his general, served under him. Kosciusko had unlimited power in the republic, but he displayed the integrity of Washington and the activity of Cæsar. He attended to procuring supplies, superintended the raising and payment of money, and prevented plundering and fraud, and was equally active in the council and the field. His days and nights, all his powers were devoted to his country. He secured the administration of justice, abolished bondage, and finally restored to the nation, May 29, in the supreme national council which he established, the great power which had been delegated to him. Catharine at length decided the contest by an overwhelming superiority of numbers. Suwaroff defeated the Poles under Sierakowski at Brzec, in Volhynia, September 18 and 19. Repnin penetrated through Lithuania, and formed a union with Suwaroff; general Fersen was to support them with 12,000 men. To prevent this, Kosciusko marched from Warsaw with 21,000 men. Poninski was to have supported him with his division; but the Russians intercepted the messenger. The united Russian armies under Fersen attacked the Poles, who were not more than one third as strong as the Russians, October 10, at Maciejowice (about fifty miles from Warsaw); they were three times repulsed, but, on the fourth attack, they broke through the Polish lines. Kosciusko fell from his horse covered with wounds, exclaiming, "*Finis Polonia!*" and was made prisoner by the enemy. In losing him, his country lost all. Suwaroff stormed Prague, November 4; Warsaw capitulated on the 9th; Madalinski left Great Poland; an Austrian army appeared before Lublin. But the noble efforts of the conquered had awakened the regard of Europe towards the unhappy country, and the dearest hopes of the nation—the restoration of their monarchy, with a free constitution—found a powerful support in public opinion. Catharine caused the hero and his noble colleagues, who were prisoners of war, to be thrown into a state prison. Paul I. gave them their liberty, and distinguished Kosciusko by marks of his esteem. He presented his own sword to the general, who declined it with these words—"I no longer need a sword, since I have no longer a country." To the day of his death, he never again wore a sword. Paul then presented him with 1500 peasants, and his friend Niemcewicz, the poet, with 1000. When on the Russian frontier, Kosciusko declined this present by a letter. He and his friend now went by the way of France and London, where Kosciusko was treated with distinction, to America (1797). His fortune was very small. On his return to his native country after the war of the revolution, he had received a pension from America, and he now found there such a reception as he deserved. In 1798, he went to France. His countrymen in the Italian army presented to him the sabre of John Sobieski, which had been found (1799) at Loretto. Napoleon afterwards formed the plan of restoring Poland to its place among the nations, and thus, at the same time, injuring Russia and extending his own power over the east of Europe. But Kosciusko would take no part in this struggle, which was conducted by Dombrowski, in 1807 and 1808, being prevented less by ill health than by having given his word to Paul I. never to serve against the Russians. To Napoleon's proposals he answered, that "he would exert himself in the cause of Poland, when he saw the country possessed of its ancient territories, and having a free constitution." Fouché tried every means to carry him to Poland. An appeal to the

Poles, which appeared under his name in the *Moniteur* of November 1, 1806, he declared to be spurious. Having purchased an estate in the neighbourhood of Fountainebleau, he lived there in retirement till 1814. April 9, 1814, he wrote to the Emperor Alexander to ask of him an amnesty for the Poles in foreign lands, and to request him to become king of Poland, and to give to the country a free constitution, like that of Britain. In 1815, he travelled with Lord Stewart to Italy, and, in 1816, he settled at Soleure. In 1817, he abolished slavery on his estate of Siemowice, in Poland. He afterwards lived in retirement, enjoying the society of a few friends. Agriculture was his favourite occupation. A fall with his horse from a precipice, not far from Vevay, occasioned his death, October 16, 1817, at Soleure. He was never married. In 1818, prince Jablonowski, at the expense of the emperor Alexander, removed his body, which, at the request of the senate, the emperor allowed to be deposited in the tomb of the kings at Cracow. A monument was also erected to his memory, and the women of Poland went into mourning for his loss.

KOSEGARTEN, LOUIS THEOBALD, a poet and preacher, was born February 1, 1758, at Grevesmühlen, a small town of Mecklenburg, studied at Griefswald, was for a long time a tutor in the family of a nobleman in Pomerania, became, in 1792, a preacher at Altenkirchen, in the island of Rugen, and was made, in 1793, doctor of theology. Upon this patriarchal island he lived in the enjoyment of nature, his family, poetry, literature, and in a faithful discharge of the duties of his office, a number of happy years, till he received, in 1807, an invitation to a professorship at Griefswald. He died there, October 26, 1818, rector of the university, in the sixty-first year of his age. The fruits of his leisure hours—his romances, for instance, *Ida von Plessen* (2 vols.); his rhapsodies, his legends, his epic-idyllic poems *Jukunde*, and *Inselfahrt*; his patriotic songs; several translations, of which Richardson's *Clarissa* is the most distinguished—have obtained for him no mean rank in German literature. His muse, often full of natural power and fire, frequently runs into bombast and prolixity. His collected poems appeared at Griefswald, 1824, in twelve volumes.

KOSLOFF, IWAN, a Russian nobleman, born about 1780, passed his youth in the great world. In the social circles of the nobles of Moscow and St Petersburg, he led an animated, rather than a busy life. His genius was not as yet awakened; still he loved literature, was master of the French and Italian languages, and familiar with their classics. But he had recourse to these studies only when in want of occupation, and to recruit his mind exhausted by dissipation. His activity was mainly devoted to the pleasures of this world, and the care of his family. When about forty years old, he was attacked with a severe sickness, which deprived him of the use of his feet. Removed thus at once from the company which he loved, loneliness compelled him to seek in himself an indemnification for the loss of worldly pleasure. This stroke did not prostrate him: on the contrary, his mind took a higher flight. He became a poet. The ideal world which he now inhabited indemnified him fully for the reality of which he was deprived. Upon his bed of pain he learned to know himself, and discovered in himself a talent hitherto unknown to him. In a short time he made himself familiar with the English language and literature. Yet a more severe trial awaited him: he lost his sight. This misfortune did not depress his courage: on the contrary, he made it a means of moral and spiritual elevation. With his blindness burst forth his poetic spirit. He soon commenced

the study of the German language, and made himself acquainted with the classical poetry of Germany. Since then Kosloff has lived in the world of recollection and of fancy. He is endowed with an extraordinary memory, and retains every thing which he learns. He writes poetical epistles to his friends, who gather around him, not to cheer him, but to delight themselves with his conversation. This providence which veiled his eyes, said to his soul, "Let there be light." His conversation is rich and full of spirit. Notwithstanding the trifling character of his early life, he takes a lively interest in all that is noble, great, and manly. Kosloff has made some very good translations from English and Italian poetry. His *Monk*, in poetic power, resembles Byron's *Glaucou*. His translation of the *Bride of Abydos* was published at St Petersburg, 1826. Kosloff has of late been employed on a great work, the materials of which are taken from Russian history, at the time of the empress Anne.

KOTTAH (Sanskrit, for *dwelling*); the ending of a great number of Hindoo geographical names, like the German *Heim* (q. v.) and the English *ham* (q. v.)

KOTZEBUE, AUGUSTUS FREDERICK FRIEDRICH VON, a prolific German writer, was born May 3, 1761, at Weimar. At the age of sixteen years he entered the university of Jena, where his inclination for drama, already awakened at Weimar by the celebrated company of players in that city, was confirmed by his connexion with a private theatre. The marriage of his sister to a gentleman of Duisburg induced him to enter the university, then at that place; but, in 1779, he returned to Jena, and studied law; without, however, ceasing to compose for the theatre. On leaving the university he was admitted a lawyer. He imitated Schiller, Goethe, Wieland, Herder, Brandes, and Musæus. In 1781, he went to St Petersburg, at the suggestion of the Prussian minister at that court, and became secretary to the governor-general, Von Bawr, who died two years afterwards. He had, however, recommended Kotzebue to the empress, and she became his patroness. He was finally appointed president of the government of Esthonia, and, as such, was ennobled; in consequence of which he wrote his work *On Nobility*, in which he defended this institution, after having else attacked it as a poet. In 1790, on a journey to Pyrmont, he published his notorious *Doctor Bahrdt and the Iron Forehead*, under the name of *Kugge*, by which he sank greatly in public esteem. In 1793, he retired to a country place about thirty-five miles from Narva, in Esthonia, but soon after removed to Weimar, with a pension of 1000 guilders, and again returned to Petersburg, where his sons were educated in the imperial military school. Although he had a passport, yet, on his arrival at the frontier, he was arrested, and sent to Siberia, without knowing the reason. A small drama of his, an indirect subject of Paul I., was translated into Russian, and had a manuscript, before the emperor, who was so delighted with it, that he recalled Kotzebue, and took him into favour. After the death of this emperor, he again went to Germany. In 1802, he was chosen member of the academy of sciences of Berlin,—by what intrigues we do not know,—and, with Merkel, formed a party against Goethe and Schlegel, in which cause the latter, of course, were much superior. In 1805, he went again to Russia, to avoid the French, and lived, from 1807, on his estate Schwartze, in Esthonia, never ceasing to write against Napoleon. In 1813, as counsellor of state, he followed the Russian head quarters, constantly writing to excite the nations against Napoleon, and published, in Berlin, the Russian-German National Gazette (*Volkshaus*

In 1814, he produced a very poor history of the German empire. He had already proved himself totally unfit for a historian by his Early History of Prussia (Riga, 1809). In 1817, he received a salary of 15,000 roubles, with directions to reside in Germany, and to report upon literature and public opinion. Kotzebue, who, during the whole campaign, had written in favour of the Russians, even at the expense of his native country, was now considered by most Germans as a spy. He established the Literary Weekly Paper, in which he passed judgment on the publications of the day, and advanced political opinions equally dishonourable and obnoxious to Germany, ridiculing every attempt at liberal institutions. The state of things before the French revolution, was his standard of perfection. Kotzebue was regarded with aversion by the liberal party in Germany, as an enemy to the freedom of his country; and among the young and ardent, his ridicule of their noblest sentiments and most cherished hopes awakened bitter hatred. This feeling was so strong in the case of a young enthusiast named Sand (q. v.), that he formed the plan of putting Kotzebue to death, as the enemy of his country, and deliberately murdered him, March 23, 1819, after which he immediately gave himself up to justice. Kotzebue was three times married, and left thirteen children. His best productions are his comedies, which seem to be much more popular with foreigners than with Germans. A sickly sentimentality in his graver dramas, and the insipidity of his comedies, are seldom redeemed by higher excellences. He wrote ninety-eight dramas. As an historian, he deserves to be mentioned only for a few documents reprinted in his Prussian History.

KOULI KHAN. See *Nadir Shah*.

KOURD; strong, robust; a Persian word. Hence the name of *Kurdes*, *Kourdes*, or *Curdes*, and *Curdestan*.

KRAKEN, KRAXEN or, as some call it, KRAB-BEN; that word, says Pontoppidan, bishop of Bergen, being applied, by way of eminence, to the fish otherwise called *horven*, *see-horven*, *anker-troll* and *krausfisch* "incontestably," as observes the same naturalist (whose description of it we shall give in a translation of his own words), "the largest sea-monster in the world. It is round, flat, and full of branches. The Norwegian fishermen unanimously, affirm, and without the least variation in their accounts, that, when they row out several miles to sea, particularly in the hot summer days, and, by their situation (which they know by taking a view of certain points of land), expect to find 80 or 100 fathoms water, it often happens that they do not find above twenty or thirty, and sometimes less. At these places, they generally find the greatest number of fish, especially cod and ling. Their lines, they say, are no sooner out, than they may draw them up with the hooks all full of fish; by this, they judge that the kraken is at the bottom. They say this creature causes these unnatural shallows mentioned above, and prevents their sounding. These the fishermen are always glad to find, looking upon them as a means of their taking abundance of fish. There are sometimes twenty boats or more got together, throwing out their lines at a moderate distance from each other, and the only thing they have to observe is, whether the depth continues the same, which they know by their lines, or whether it grows shallower, by their seeming to have less water. If this last be the case, they find then the kraken is raising himself nearer the surface, and then it is no time for them to stay any longer; they immediately leave off fishing, take to their oars, and get away as fast as they can. When they have reached the usual depth of the place, and find themselves out of danger, they lie upon their oars, and, in a few minutes

after, they see this enormous monster come up to the surface of the water. He there shows himself sufficiently, though his whole body does not appear, which, in all likelihood, no human eye ever beheld, excepting in the case of one of the young of this species, which shall afterwards be spoken of. Its back or upper part, which seems to be in appearance about an English mile and a half in circumference—some say more, but I choose the least for greater certainty—looks at first like a number of small islands, surrounded with something that floats and fluctuates like sea-weed. Here and there, a large rising is observed, like sand-banks, on which various kinds of small fishes are seen continually leaping about, till they roll off into the water from the sides of it. At last, several bright points or horns appear, which grow thicker and thicker the higher they rise above the surface of the water, and sometimes they stand up as high and large as the masts of middle-sized vessels. It seems these are the creature's arms; and it is said, if they were to lay hold of the largest man-of-war, they would pull it down to the bottom. After this monster has been on the surface of the water a short time, it begins slowly to sink again; and then the danger is as great as before, because the motion of his sinking causes such a swell in the sea, and such an eddy or whirlpool, that it draws every thing down with it." The arms above described are conjectured to be tentacula, and the kraken itself to be an enormous polypus. Besides these arms, "the great Creator has also given this creature a strong and peculiar scent, which it can emit at certain times, and by means of which it beguiles and draws other fish to come in heaps about it." During many months, the kraken is continually employed in eating; during many others, in carrying on the very last process which succeeds digestion; and this operation is so peculiarly agreeable to the "smell and taste of other fishes, that they gather together from all parts to it, and keep for that purpose directly over the kraken: he then opens his arms or horns, seizes and swallows his welcome guests, and converts them, after the due time, by digestion, into a bait for other fish of the same kind. I relate what is affirmed by many; but I cannot give so certain assurance of this particular as I can of the existence of this surprising creature, though I do not find any thing in it absolutely contrary to nature. As we can hardly expect an opportunity to examine this most enormous sea-animal alive, I am the more concerned that nobody embraced that opportunity, which according to the following account, once did, and perhaps never more may offer, of seeing it entire when dead. The reverend M. Friis, consistorial assessor, minister of Bodoen, in Nordland, and vicar of the college for promoting Christian knowledge, gave me, at the latter end of last year, when he was at Bergen, this relation, which I deliver again on his credit. In the year 1680, a kraken, perhaps a young and careless one, came into the water that runs between the rocks and cliffs in the parish of Alstahoug, though the general custom of that creature is to keep always several leagues from land, and therefore, of course, they must die there. It happened that its extended long arms or antennæ, which this creature seems to use like the snail, in turning about, caught hold of some trees standing near the water, which might easily have been torn up by the roots; but, besides this, as it was found afterwards, he entangled himself in some openings or clefts in the rock, and therein stuck so fast, and hung so unfortunately, that he could not work himself out, but perished and putrefied on the spot. The carcass, which was a long while decaying, and filled great part of the narrow channel, made it almost impassable by its intolerable stench." The animal seen by

the reverend Donald Maclean, of Small Isles, and attested by him in a letter to the Wernerian Natural History Society of Edinburgh, though not quite so large as the Norwegian kraken, certainly tends to confirm a belief that, with due allowance for exaggeration, monsters of a larger size than philosophy has dreamed of, really do exist in the northern seas, or, in the well-expressed phrase of doctor Barclay, in his paper relating to this animal, that there are "grounds sufficient to awaken the curiosity of naturalists, who, it were to be wished, were always men of accurate discrimination and sound judgment, not prone to indulge in a passion for the marvellous, nor apt to be infected with the silly conceit, that their knowledge of nature is already so complete, that little of importance remains to be discovered." (*Transactions of W. N. H. S.*, 430.) Mr Maclean's account is not a little curious. "According to my best recollection," says he, "I saw it in June, 1808, not on the coast of Eigg, but on that of Coll. Rowing along that coast, I observed, at about the distance of half a mile, an object to the windward, which gradually excited astonishment. At first view, it appeared like a small rock. Knowing there was no rock in that situation, I fixed my eyes on it close. Then I saw it elevated considerably above the level of the sea, and, after a slow movement, distinctly perceived one of its eyes. Alarmed at the unusual appearance and magnitude of the animal, I steered so as to be at no great distance from the shore. When nearly in a line betwixt it and the shore, the monster, directing its head, which still continued above water, towards us, plunged violently under water. Certain that he was in chase of us, we plied hard to get ashore. Just as we leaped out on a rock, taking a station as high as we conveniently could, we saw it coming rapidly under water towards the stern of our boat. When within a few yards of the boat, finding the water shallow, it raised its monster-head above water, and, by a winding course, got, with apparent difficulty, clear of the creek where our boat lay, and where the monster seemed in danger of being embayed. It continued to move off with its head above water, and with the wind, for about half a mile, before we lost sight of it. Its head was rather broad, of a form somewhat oval; its neck somewhat smaller; its shoulders—if I can so term them—considerably broader; and thence it tapered towards the tail, which last it kept pretty low in the water, so that a view of it could not be taken so distinctly as I wished. It had no fin, that I could perceive, and seemed to me to move progressively by undulations up and down. Its length I believed to be from seventy to eighty feet. When nearest to me, it did not raise its head wholly above water, so that, the neck being under water, I could perceive no shining filaments thereon, if it had any. Its progressive motion under water I took to be rapid, from the shortness of time it took to come up to the boat. When the head was above water, its motion was not near so quick; and when the head was most elevated, it appeared evidently to take a view of distant objects. About the time I saw it, it was seen about the island of Canna. The crews of thirteen fishing boats, I am told, were so much terrified at its appearance, that they, in a body, fled from it to the nearest creek for safety. On the passage from Rùm to Canna, the crew of one boat saw it coming towards them with the wind, and its head above water. One of the crew pronounced its head as large as a little boat, and each of its eyes as large as a plate. The men were much terrified, but the monster offered them no molestation." (*Id.* 442).—The appearance described by Mr Maclean calls to mind the sea-serpents which have been so often reported, of late years, as seen on the coast of New

England. Whatever may be the animal which has given rise to these stories, the kraken described by Pontopidan can hardly be supposed to be a real existence. The story probably grew out of the appearance of islands which have risen above the surface of the sea, and become again submerged, or of rocks only visible at particular seasons, or of floating islands, &c. The young kraken which he describes was probably some large sea-monster, whose appearance had become much exaggerated in the course of narration.

KRANACH, LUCAS. His proper name was *Sander* or *Sünder*, but he was called *Kranach*, from the place where he was born (1472), in the bishopric of Bamberg. He went to Coburg, after having learned a little of the art of painting from his father, who was a form-cutter and card painter. The elector Frederic the Wise admitted him to his court. He accompanied him on his journey to Palestine, in 1500. In 1504, he was appointed painter to the elector and his brother, duke John Frederic, was made a knight, and, in 1537, burgo-master of Wittenberg, accompanied the elector John Frederic in his captivity to Inspruck, returned with him, and died in 1553, at Weimar. He painted much, and the *quod pro quo* of the stone-cutter, who put on his tomb-stone *pater celerrimus* (the quickest painter), instead of *pater celeberrimus* (the most famous), was not inappropriate.—His son, of the same name, who was also burgo-master at Weimar, where he died in 1586, may have painted many of the pieces ascribed to *Kranach*. We are most indebted to *Kranach* for his portraits of Luther, Melancthon, and other persons, famous at the time of the reformation. His historical paintings always seemed to us dull histories indeed, and his numerous representations of Adam and Eve are little better than libels on the work of creation.

KRASICKI, IGNATIUS, count of Sietona, archbishop of Gnesna, a poet and author, was born at Dobiecko, February 3, 1735. When the partition of Poland, in 1772, obliged him to give up his office in the senate of the republic, he turned his attention to science. He excelled in describing the ridiculous in the national customs of his country. His conversation was agreeable and witty. Frederic the Great once said to him, "I hope, Mr Archbishop, you will carry me under your episcopal cloak into Paradise."—"No, sire," answered *Krasicki*, "your majesty has cut it too short, that it will not serve for smuggling." Among the works of this poet are his mock-heroic poems *La Mycheide*, or *La Soudade*, in ten cantos, translated into French, the subject of which is from the ancient chronicle of bishop Kadlabek, which describes how mice and rats ate up king Popiel; also his *War of the Monks* (*La Monomachie*), in six cantos, perhaps his masterpiece. Frederic the Great is said to have induced him to write it, when he lodged him in the room in Sans Souci, where Voltaire had lived, with the intimation that it would doubtless inspire him with poetical ideas. His *Antimonarchie*, also a six cantos, has less merit. Several of his fables are classic; not so his satires. The *War of Chacma*, a twelve cantos, describing the victory of Chacma over Sultan Osman, under the reign of Sargiamma, has too much of an historical character. His prose works are full of spirit. The writings of *Kranach* are classical among the Poles. He died at Butta, March 14, 1801. *Dmochowski* collected most of his works, and published them at Warsaw, 1803 in six, in ten volumes.

KREML, in the Tartar language, signifies a fortress. Hence the name of *Kremlin*.

KREMLIN; part of Moscow, in the centre of the city, containing only the royal edifices and churches, particularly the residence of the emperor. It is an

rounded by three thick walls and a deep fosse, with batteries. In the Kremlin are two convents, and many churches, particularly the cathedral, in which the coronation of the Russian emperors is performed. In the church of the archangel Michael is the sepulchre of the emperors, and behind it the house of the former patriarch, where the synod now assembles, and a library is kept, which is rich in Greek and Russian manuscripts. In the castle, the imperial colleges have their sessions; the arsenal is also there. In 1812, when Moscow was burnt by the Russian authorities, part of the Kremlin was also destroyed. When Napoleon left Moscow, marshal Mortier received orders to blow it up. Alexander restored it.

KREMnitz. See *Cremnitz*.

KRONSTADT. See *Cronstadt*.

KRUDENER, JULIANA, baroness of; born about 1766, in Riga. Her father, baron Vietinghoff, one of the richest landed proprietors in Courland, gave her a careful education. When a young girl, her parents took her to Paris, where her father's house was the resort of men of talents, and her wit, beauty, and cheerfulness were admired. In her fourteenth year, she was married to baron Krudener, a Livonian, about thirty-six years old. She accompanied her husband to Copenhagen and Venice, where he was Russian minister. In these places, and in Petersburg, Madame Krudener, placed by rank and wealth in the first circles, was one of their most brilliant ornaments. She was surrounded by admirers of her talents and beauty; but she was not happy. She became the mother of two children; but, as she herself indicates in a letter to her son-in-law, her natural liveliness of temperament and the allurements of the world led her into levities, which finally caused a divorce from her husband. In 1791, she returned to her father's house in Riga, where she was universally considered one of the most amiable and accomplished ladies, with a feeling heart and lively imagination. But Riga did not satisfy her, and she lived alternately in Paris and Petersburg in Russia. Her love of dissipation involved her, in Paris as well as in Petersburg, in many difficulties. In the former place, the fierce Garat is said to have been master of her heart. In the midst of these circumstances, she wrote a novel, of which she had formed the plan at an earlier period, *Valérie, ou Lettre de Gustave de Linar à Ernest de G.*, in which she delineated certain scenes of her own life. The disasters of Prussia arrived, and Madame Krudener, being then about the person of the queen of Prussia, and participating in her affliction, turned her mind from the pleasures of the world to the subject of religion, though, perhaps, as is often the case, little change may have been produced in the essentials of her character. Ambition, a lively sensibility, and love of excitement, seem to have remained the great springs of her actions. She was now attracted by the principles of the Moravians. She again went to Paris, where she found many disciples—a fact easily explained, from the circumstance, that the highest circles of Paris always contain a number of persons who, having been accustomed to live on excitements from early youth, and having become sickened with those of fashionable life, turn with pleasure to those of devotion. On the commencement of the war of the northern powers against Napoleon, Madame Krudener went to Geneva (1813). At Carlsruhe, she became connected with the mystical Jung. (q. v.) She began to believe herself called to preach the gospel to the poor. She therefore went into the prison at Heidelberg, and preached to the criminals condemned to death. In 1814, she returned to Paris. Here she became acquainted with Alexander, emperor of Russia, who had already for some time shown a disposition to religious contem-

plations. According to a late publication of a companion of Madame Krudener, M. Empeytas, her conversations with the emperor had a great influence on him. In Paris, she had prayer-meetings, attended by distinguished personages, where she was seen in the background of a suite of rooms, in the dress of a priestess, kneeling in prayer. It is very generally believed, that her conversations, in Paris, with Alexander, were mainly instrumental in suggesting the idea of the holy alliance (q. v.); it is certain, that, in her later sermons, she held it up almost as a new covenant. She gave a description of the feast celebrated by the Russian army in the plains of Chalons, under the title *Le Camp de la Ferté* (Paris, by Normand), in which she gives her views respecting the history of the time. In 1815, she went to Bale, where a small community of devout mystics was already collected. Here a young clergyman of Geneva, the above-mentioned Empeytas, followed her, and preached in the prayer-meetings which the baroness held every evening. Women and girls went ardently to these prayer-meetings, and gave liberally to the poor, often to a degree much beyond what they could afford. These meetings, as is too often the case under circumstances of similar excitement, had a bad moral effect. Cases were reported which excited great scandal, and a preacher named Fasch finally denounced the priestess. The magistracy of Bale obliged her to leave the city. She experienced the same treatment in Lorrach, Aarau, &c.; yet, according to the common course of things, the number of her followers increased, particularly among young females. At the same time she carried on an extensive correspondence; money was sent her from great distances. In 1816, with her daughter, she went to reside not far from Bale, in Baden, on the Horn of Grenzach. Besides M. Empeytas, she was accompanied by professor Lachenal, of Bale, and a Mr Kellner. Here she assembled many poor people, great numbers of whom were vagabonds, whom she provided with food and lodging, without labour. These were very ready to profit by the kindness of the good, benevolent lady, who preached against the cold-heartedness of the rich, as the source of all evil. The public peace was so much disturbed by these proceedings, that the Horn was surrounded by soldiers in 1817, and the disciples of Madame Krudener carried away to Lorrach. She wrote, in consequence, a remarkable letter to the minister at Carlsruhe, in which she spoke of the "desert of civilization" through which she was obliged to wander, and reminded him of the law of God, requiring the authorities to take care of the poor. She now travelled about, preaching in the open air, often surrounded by 3000 people, and giving bountifully to the poor. Wherever she arrived, she was under the surveillance of the police. In Leipsic, police officers were at length even placed at her door, so that nobody could be admitted to see her. Mr Krug, professor of philosophy in the university of that city, published *Gespräch unter vier Augen mit der Frau von Krudener* (Leipsic, 1818), according to which she appeared as an estimable enthusiast, pouring out pious effusions, mingled with arrogant prophecies. At length the police transported her to the Russian frontier, where she received orders not to go to Petersburg, nor to Moscow. In 1824, she went, with her daughter and her son-in-law, to the Crimea, and died there the same year, December 13, at Karafubasar. Madame Krudener is one more instance that ardent zeal and good intention (for it is probable that she considered herself to be doing right) are by no means sufficient to render one capable of effecting a great reformation.

**KRUNITZ, JOHN GEORGE**, physician at Berlin, was born 1728, studied at Göttingen and at Frankfurt on the Oder. In 1759, he returned to Berlin, devoted his whole life to literary pursuits, and died in 1796. A great number of useful publications upon medicine, natural history, geography, and other subjects, original and translated from various languages, are the fruits of his industry. His chief work is the (*Ökonomisch-technologische Encyclopädie*, which he began in 1773. It amounted to seventy-three volumes, and had just reached the article *Leiche* (corpse), when he was removed by death. The work is valuable, as containing much matter carefully selected. There is, however, a want of method and proportion in it. After his death, the brothers Florke, and, since 1815, J. W. D. Korth, have continued the work, which, in 1828, amounted to 142 volumes, and reached as far as *SCH*. The abridgment of the large work, thus far, amounts to 32 volumes.

**KUH, EPHRAIM MOSES**, born 1731, of Jewish parents, showed early uncommon strength of memory, vivacity of mind, and a restless desire of knowledge. His father, a rich trader, intended at first to educate him in Jewish learning; and, when the result by no means answered his expectations, he desired to make him a merchant. He allowed him to receive instruction in the French, Italian and English languages, by which means he attained a knowledge of modern literature and poetry. After his father's death, he went to Berlin, as first clerk in the counting-house of his uncle. Here his talents gained him the friendship of Mendelssohn, Ramler, Lessing, and other learned men, by intercourse with whom his poetical talent began to be developed. He possessed considerable property, besides a good salary; but his easy good nature, which made him often the prey of the fraudulent, united with an extravagant love of books, in a few years exhausted his means. He left Berlin, travelled through Holland, France, Italy, Switzerland, and Germany, and became, at last, dependent on his family. These circumstances produced in him a fixed melancholy, which at length increased to insanity, from which he was restored only by the activity of a skilful physician. In his lucid intervals, he produced the best of his poems. In 1785, he was deprived of strength and speech by apoplexy, in which state he died, 1790. Posthumous Poems, by Ephraim Moses Kuh, appeared at Zurich, in 1792.

**KULM.** See *Culm*.

**KUNERSDORF.** See *Cunersdorf*.

**KURDS.** See *Curds*.

**KURILES**; a long range of small islands at the eastern extremity of Asia, extending from the southern point of Kamtschatka to the isle of Jesso, or Matsmai, which belongs to Japan. The whole length of the chain amounts to nearly 900 miles. Some of the islands are not inhabited, and several are even uninhabitable, on account of the absolute want of water. Others are fertile, well wooded, full of game and fish. Some contain volcanoes; and they are all subject to frequent earthquakes. The number, without reckoning Jesso, is twenty-five. They were successively discovered, in the eighteenth century, by the Russians, and have been accurately known only since Krusenstern's voyage. The inhabitants are perhaps a thousand, and are known by the name of *Kuriles*, which is applied also to the people of the neighbouring coasts of Asia, and of the southern part of Kamtschatka. They are heathens, and some of them resemble, in language, shape, and manners, the Japanese. Others, on the contrary, resemble the people of Kamtschatka, many of whom, on the conquest of Kamtschatka by the Russians, fled to the

Kurile islands. Some of the islands have inhabitants descended from each of these stocks. The southern Kuriles are under Japanese government: the northern (21), on the contrary, are subject, in some measure, to Russia, and furnish, mostly under compulsion only, a tribute of sea-otter skins, fox skins, and other peltry. The chain extends from lat. 42° to 51° N.

**KUTUSOFF (GOLENISSCHTCHOFF, prince Smolensky)**, a Russian field-marshal, was born in 1745, entered the army in 1760, served in Poland from 1764 till 1769, and afterwards against the Turks, under Romanoff. He stormed the fortress Szumla, and, at a later period, contributed greatly to the subjugation of the rebel Pugatschew. In 1788, he was present at the siege of Oczakow, having been appointed governor-general of the Crimea the year before. At the siege of Oczakow, he was wounded near the right eye. He assisted the prince of Coburg to gain the victory of Fockschani, and, in the memorable conflict of Rimnik, December 31, 1790, he performed miracles of bravery. After the storming of Ismail, under Suwaroff, he was advanced to the rank of lieutenant-general, and, in the negotiations with Turkey, which took place shortly after, he gained the fame of an able diplomatist. In 1793, he was appointed ambassador at Constantinople, and, in the subsequent Polish war, we find him in the Russian army, under Suwaroff. He was particularly conspicuous during the memorable day of Frau (q. v.). After the restoration of peace, Kutusoff was first appointed commander-in-chief of Finland; but afterwards named him governor-general of Lithuania. He resided several years at Wilna, and endeavored to retrieve, by study, the deficiencies of his early education. For a short time, he filled the station of ambassador to Berlin, but soon returned to Wilna, to his governor-generalship. After this, he was appointed chief of the corps of cadets, and, in 1801, governor-general of St Petersburg. In 1805, when he was at the age of sixty, the emperor Alexander gave him the chief command of the first Russian corps against the French. He led it towards the Inn, but did not arrive there until after the capitulation of Ulm, upon which he united himself with the small Austrian corps of general Kienmayer, and checked the whole of the French army. On the right bank of the Danube, to which he had crossed over, he was closely pursued by the French, and had several engagements with them, especially that near Durnstein, where he encountered marshal Mortier. On the 18th and 19th November, the issue of which contest was fortunate for him. The emperor of Germany sent him, on this occasion, the grand cross of the order of Maria Theresa. Hereupon, having joined the other Russian corps, he commanded the allied army, under Alexander, at Austerlitz, where he was wounded. In the Turkish war, he received orders from Alexander to close the campaign on the Danube. This being done, Kutusoff returned to Russia, and, when Barclay de Tolly resigned the command, after the first retrograde movement, he received, at the age of seventy, the chief command of the Russian army, in the war of 1812. After the battle of Mosaik, he adopted a new plan of warfare (See *Russian-German War*). To commemorate his victories, he received from Alexander the surname of *Smolenskoi*. Foreseeing the fate which awaited the retreating enemy on the banks of the Berezina, he pursued but slowly, and the campaign was already at an end, when he reached Wilna, where he received his emperor. This campaign had exhausted Kutusoff's strength. He was not in favour of a continuation of the war; for to him, a man beyond seventy years of age, it appeared too bold an enterprise to attack the enemy in the seat of his power. After having been

the celebrated Russian proclamation from Kalisch, he died at Buntzlau, April 28, 1813. After the death of his widow, the emperor continued the pension of 86,000 roubles annually to her five daughters.

KUYP, or CUYP, ALBERT, a painter of great originality and merit, was born at Dort, in 1656. He was the son of an able landscape painter, whom, however, he far exceeded, and became one of the most agreeable artists that ever lived. He particularly excelled in the purity and brilliancy of light; and he was not surpassed, even by Claude or any other painter, in an accurate representation of the atmosphere, and of the lightsome effects of sunshine. The works of this artist, of whose life very little is known, embellish some of the finest collections in Britain; and as they are very highly finished, that circumstance, added to the number of them, implies a long life. The gallery of the marquis of Stafford, in particular, contains some highly valued pictures by Kuypp.

KYAU, FREDERIC WILLIAM, BARON OF; remarkable as a man who owed his success to his wit. Kyau was born in 1654, and, when seventeen years old, entered

the Brandenburg army, in which he rose, after ten years, to the rank of ensign. Some imprudences obliged him to leave Brandenburg. He went to Saxony, where the elector and king of Poland, Augustus II., became acquainted with his humour, took him into favour, made him his aid-de-camp, and, at length, adjutant-general and commandant of Konigstein (q. v.), which he always used to call his *stone wife*. He remained faithful to her until his death, in 1733. He was an honest man, hating all flattery. He was a real scourge of the court nobility. There are two biographies of this man, whose memory is still popular in the north of Germany, and of whom a thousand sayings are afloat among the people.

KYRLE, JOHN; surnamed by Pope the *man of Ross*; an English gentleman, who possessed an estate of £500 a-year, at Ross, in Herefordshire, where he died in 1754, at the age of ninety. Doctor Warton, in his *Essay on the Writings and Genius of Pope*, says Kyrle was the Howard of his age, and that he deserved to be celebrated beyond any of the heroes of Pindar. The splendid eulogium of the poet on the man of Ross is well known.

## L

L, in the English alphabet; the twelfth letter and the eighth consonant; one of those called *liquids*, or *semi-vowels*, because, like vowels, they may be pronounced for any length of time, which is not the case with the other consonants, called *mutes*, as, for instance, *p. k*. The sound represented by *l* is produced by placing the end of the tongue against the fore part of the roof of the mouth, opening the jaws, and gently breathing out the air, which thus escapes from the corners of the mouth. The pronunciation of *l*, therefore, is not dependent upon the teeth; yet there are individuals, and even whole tribes, who do not pronounce it; the former in consequence of some defect in their tongue; the latter, because they always use *r* instead of *l*, whilst others always use *l* instead of *r*. It must be observed, that the rolling *r* is different from the *l* only in this, that the former is pronounced with a vibration of the tongue. Hence the constant interchange of *r* and *l*, in many languages, which it is important for the etymologist to observe. Thus the French *orme*, from the Latin *ulmus*; from the Latin *peregrinus*, the Italian *pellegrino*, the French *pelerin*, the German and English *pilgrim*. Of the German word *kirche* (Scotch, *kirk*), the Swiss make *kilche*. The much more frequent change, we presume, is from the *r* to the *l*, as from the more difficult to the easier, yet not always. Thus the lower classes in Rome say, instead of *repubblica*, *repubblica*. How frequent the change of *λ* and *ε* is, in Greek, particularly in the Ionian dialect, every philologist knows. In Greek, the letter was called *lambda*, analogous to the *lamed* of the Phœnicians and the Hebrews. It is remarkable, that, in all these alphabets, and in the Celtic ones, *l* is always composed, in some way, of two straight lines. We find, in most ancient Greek alphabets, the lambda *λ*, *Λ*, *λ*; in the Etruscan alphabet, *λ*; in the Celtic, *λ*, *λ*. The Greek is *λ*; the Latin, *L*; the Hebrew, *ל*. In short, two straight lines always form this letter. In Spanish, *ll* are pronounced liquid, like the Italian *gl* before *i*; and it is peculiar to this language, that it begins words with this sound, as,

*llaneros*. In Portuguese, the same sound is expressed by *lh*. The French *ll*, if preceded by *ai, ei, oui*, is liquid (*mouillée*), which, in most parts of France, is pronounced like the Italian *gl* in *egli*; but the Parisian pronunciation, originally a mere provincialism, is almost like our *y* in *you*, as in *travailler, veiller*; and probably this pronunciation will finally prevail, though it is arbitrary, and against the practice of the majority of the people. In Polish, *l* before *t* is sounded by thrusting the tongue between the teeth. The Polish has also the common *l*, and another with a somewhat guttural sound, produced by pressing the tongue against the roof of the mouth, farther back than in the case of the common *l*. For the latter it has a proper sign. In English, *l* is not pronounced at all in some monosyllables, where it intervenes between a vowel and a subsequent consonant, as in *calm, half, balk, chalk, would, could, folks*.

As a numeral, *L* signified, in Hebrew, 30; in Greek, *λ* = 11, and *λ* = 30,000. *L*, in Latin, signifies 50; hence two *L*s, put upon each other, forming *℥* = 100, which being rounded became *C*, = 100. *Λ*, on Greek coins, means *Locris, Laconia, Lamp-sacus, Lacædæmonia*, &c.; on Roman coins, it means *Lucius, Lepidus, libertas, libra, ludos, libens*, &c. *L*, with a dash over it, meant among the Romans, 50,000. *L*, on French coins, signifies the mint of Bayonne. On Dutch cloths, *L* signifies *Leyden*. On French hats, *L* means *laine* (made of wool only). *L. A. Q. M.* is an abbreviation of *literarum artiumque magister*; *£*, the English abbreviation for *pound* (sterling), from *libra*, the Latin for *pound*. In citations, *l* is often used for *book* (*liber*). See *Abbreviations*.

*LA*, in music; the syllable by which Guido denotes the last sound of each hexachord. If it begins in *C*, it answers to our *A*; if in *G*, to *E*; and if in *F*, to *D*.

LAALAND, or LALAND; an island of Denmark, at the entrance into the Baltic from the Greater Belt, about sixty miles in length, and twelve in its mean breadth, and reckoned the most fertile spot in the Danish dominions. This island produces plenty of

all sorts of grain, particularly very fine wheat, and excellent peas. It is also famous for a kind of red fruit called *manna*. The country lies low, the soil is damp, and the air is very unhealthy. Of all the inhabitants of this island, the clergy are the best provided for, according to their rank. The nobility are numerous here, and many of them have very fine seats, and considerable estates. Naskow is the capital. Population, 38,000; square miles, 459. Laaland, united with Falster, forms a bishopric. Lon.  $10^{\circ} 59'$  to  $11^{\circ} 52'$  E.; lat.  $54^{\circ} 40'$  to  $55^{\circ}$  N.

LAAR, or LAER, PETER VAN, surnamed *il Bamboccio*, a painter, born in 1613, at Laaren, a village near Naarden, in Holland, enjoyed, during sixteen years, the society of the most distinguished artists, viz., Poussin, Claude Gelée (Lorraine), Sandrart, &c., and had considerable influence on the taste of the Italians. In 1673 or 1674, he put an end to his life, probably from hypochondria. He received his surname during his residence at Rome, according to some, on account of his deformity; according to others, from his humorous representations of objects of common life, which he brought into favour. Even in his earliest youth, it was his constant occupation to draw every thing which he met with. His memory served him so admirably, that he could represent objects most strikingly, which he had only seen once, or a long time previous. He was also one of the greatest musicians of his time. He only attempted minor objects, such as fairs, children's games, hunting scenes, landscapes, &c., but his paintings possess great power and animation. The museum of Paris possessed several of his pieces.

LABARRE, JOHN FRANCIS LEFEVRE, CHEVALIER DE, grandson of a lieutenant-general in the French service, was one of the latest victims of religious fanaticism in France. His father having spent his fortune, his aunt, the abbess De Villancourt, took charge of his education, and the youth made much progress in his studies. The command of a company of cavalry had been promised to him, when the following horrible event put a stop to his career. In the year 1765, a wooden crucifix, on the bridge of Abbeville, had been defaced, and the bishop of Amiens, De la Motte d'Orléans, issued a proclamation, demanding a disclosure of the perpetrators of the crime, under penalty of ecclesiastical censures and excommunication. Duval de Saucourt, counselor of the presidial of Abbeville, the private enemy of the abbess De Villancourt, accused the chevalier De Labarre of the crime. Several witnesses were heard. Labarre and Détallonde, a youth of the same age, were ordered to be arrested. The latter fled, and entered the service of Prussia, in which he distinguished himself; but Labarre was apprehended and brought to trial. The indictment charged him with having passed a procession without taking off his hat, of having spoken against the eucharist, and of having sung impious and licentious songs. The tribunal sentenced the young man to have his tongue cut out, his right hand cut off, and to be burned alive. A decree of the parliament of Paris, of June 5, 1766, passed by a small majority, commuted the sentence into decapitation before burning. This decree was executed July 1. Labarre, hardly nineteen years old, was carried to the place of execution in a cart, with the words *impious, blasphemous, sacrilegious, abominable, and execrable*, written on his breast. Voltaire exerted himself as zealously against this infamous act as he had against the execution of Calas. (q. v.) Under the name of M. De Casen, advocate of the royal council, he published a Relation of the Death of the Chevalier De Labarre, which may be found in vol. xxxvi. of his works, ed. Beaumarchais. "A Dominican," he says, "was appointed to attend him as

confessor, a friend of his aunt, the abbess, and whom he had often supped in the convent. This good man wept, and the chevalier comforted him. Dinner was brought to them; but the Dominican was unable to eat. 'Let us take a little food,' said the chevalier to him; 'you will need strength to support the spectacle which I am going to exhibit.' He ascended the scaffold with calmness, without complaints, without anger, and without ostentation, merely saying to the monk who assisted him, 'I did not think that a young nobleman could be put to death for such a trifle.'

LABARUM; the name given to the imperial banner, upon which Constantine, after his conversion, blazoned the monogram of Christ. Eusebius has described it with much particularity. After the ransom, in which the luminous cross was exhibited to the emperor, and while he was yet meditating on the meaning of that apparition, a sudden night came on, "at which time," as he said, "the Christ of God appeared to him, when asleep, with that sign which had been shown him in the heaven, and ordered him to get a standard made, in imitation of that which he had seen in the heaven, which he should use as a protection in his engagements with his enemies. As soon as it was day, he arose, and declared the whole secret to his friends. Then he called together the workers in gold and precious stones, in the midst of whom he himself sat, and gave them a description of that standard, and ordered them to express its likeness in gold and precious stones, which standard we ourselves, also, happened some time to have a sight of."

LABAT, JEAN BAPTISTE, a Dominican missionary and traveller, born at Paris 1663, took the vows at the age of nineteen. He afterwards taught mathematics and philosophy at Nancy, where, at the same time, he performed the duties of a preacher. In 1683, he returned to Paris, to the Dominican convent, at the street St Honoré. A letter arriving shortly after, from the superior of the Dominicans in the French Antilles, in which this ecclesiastic urged his brethren in Europe to come to his aid, an infectious disease having carried off many of the members of the order, Labat determined to carry into execution the plan he had long entertained of becoming a missionary. As the superiors of the order expected great benefit from his services in France, it was with difficulty that he succeeded in carrying his intention into effect. He embarked, with several brethren of the order, at Rochelle, in 1693, landed at Martinique in 1694, and immediately undertook the care of the parish of Macouba, which he superintended for two years, after which he was sent to Guadaloupe, for the purpose of building a mill, on an estate belonging to the order. His mathematical knowledge recommended him to the governor there, whom he accompanied during a tour through the island, to assist him in selecting the points best adapted for works of defence. On his return to Martinique, Labat found his care assumed by another, and he received the office of *procureur général* of the mission, in which an opportunity was afforded him of displaying the whole extent of his useful activity, at the same time that he served the government by his mathematical knowledge. During several voyages in the service of the mission, he visited all the Antilles, and, on the attack of Guadaloupe, by the English, in 1703, he rendered his countrymen important services as an engineer. In 1705, he was sent to Europe on business of the order, and, landing at Cadix, he embraced the opportunity to survey, geometrically and scientifically, the environs and the whole coast of Andalusia, as far as Gibraltar. He likewise went to Italy, and finally returned to Paris in 1716, where he occupied himself

with the publication of a part of his works, and where he died Jan. 6, 1738. His *Voyage aux Iles de l'Amérique*, of which several editions have appeared, and which has been translated into several languages, contains an account of the natural history, particularly of some of the smaller and less frequented islands; of their productions; the origin, customs, religion, and governments of the inhabitants, as well as the chief political events which occurred during the author's residence there. He also published a Description of the Countries on the Senegal, and between Cape Blanco and Sierra Leone; Travels in Spain and Italy; and a translation of Cavazzi's work on Western Ethiopia. Besides these, Labat edited the *Voyage of the Chevalier Demarchais to Guinea and to Cayenne*, and the *Memoirs of the Chevalier d'Arvieux*, containing his Travels in Palestine, Syria, and Barbary.

LABE, LOUISA, known by the name of *la belle cordière*, was born at Lyons, in 1526 or 1527. Her father had her instructed in music, in several languages, and also in riding and military exercises. This excited in her a desire to enter the army, and, in 1543, she served at the siege of Perpignan, under the assumed name of *captain Loya*. She was commended for her strength and courage. The French being obliged to abandon the siege of Perpignan, Louisa renounced the military service, and devoted herself to literature and poetry. She married a rich rope-maker, Ennemond Perrin, by which means she acquired an opportunity to follow freely her bent for literature. With many agreeable accomplishments, she combined a knowledge of the Greek, Latin, Spanish, and Italian. Her house became the resort of men of learning, rank and wit. She excited the admiration of the poets, but at the same time the envy of the ladies of Lyons. Some contemporary writers have praised her for her virtue, while others have accused her of licentiousness. Several of her poetical effusions, particularly the 18th sonnet, certainly afford cause for suspecting her virtue. She appears to have passed through all the degrees of love: commencing with faithful affection, she became a coquette, and finally an *intrigante*. We may find some excuse for her conduct in the character of the age, when gallantry was not considered dishonourable, and she herself was surrounded by a crowd of amiable but licentious admirers. Her generosity, her taste for learning, and her acquirements, so extraordinary for the times, effaced this stain in the eyes of most of her contemporaries. The tribute which contemporary authors pay her, and the circumstance that the street in Lyons, where her house was situated, was named after her, prove how much she was esteemed. The charm of her conversation, her accomplishment, her talents, the verses which she composed and sung to the lute, contributed to fascinate her numerous and distinguished admirers. Her works are, *Epistle to Clemence de Bourges* (written with great talent); the *Dispute between Love and Folly*, in prose (full of interest and originality); three elegies; twenty-four sonnets, the first of which is in Italian. The first edition of her works appeared in 1555.

LABIALS are letters chiefly pronounced by the lips, as *b, p, f, m*.

LABORATORY (*laboratorium*); a place fitted up for the researches of the chemist. It bears the same relation to the science of chemistry as an observatory does to that of astronomy. Although the simple observation of nature is sufficient to teach us the properties of numerous compounds, and to enable us to develop, in part, those forces which produce chemical changes, still the science of chemistry must ever be remained exceedingly defective in facts, and faulty in theory, but for the light derived from experi-

ment. It is by means of artificial fixtures and processes, that the chemist obtains the elements in a state of freedom, and recombines them so as to produce, in many instances, not only their original compounds, but such as are altogether new. It is no exaggeration to say, that nine tenths of the facts of the science, and a majority of the arts depending upon it, have been derived from the laboratory. The constructions which first received this name consisted of underground apartments, secluded from light and wholesome air of day—a situation it is impossible to account for, except upon the idea that it was copied from the alchemists, who are known to have preferred such places for the purpose of secrecy. The inconveniences attending these situations, from the want of light and facilities for ventilation, as well as from the prevalence of moisture, caused them gradually to be exchanged for apartments above ground; and although, for a time, an unnecessarily gloomy and mysterious aspect was imparted to them, from their being built of stone or brick, and but imperfectly lighted, they have at length come to resemble, in their general appearance, other structures intended for the cultivation of science. Besides laboratories intended for scientific research, there are those which are devoted to articles of chemical manufacture, as the alkaline, earthy, and metallic salts, pigments, &c.; but as these possess considerable diversity in their construction, according to the kinds of manufacture for which they are employed, and cannot well be conceived of without the aid of drawings, we shall omit their description, and confine the present article to a very general account of a laboratory fitted up for the researches of one or two philosophical chemists, in connexion with a theatre, or lecture room, for the public illustration of the science. A building wholly devoted to this purpose, should be but one story in height, in order to facilitate access to the apartments, and to render more easy the bringing in of heavy articles, as wood, water, coals, and carboys, and, at the same time, to allow of openings in the roof for skylights and for ventilation. In some laboratories, the theatre and working-room are united in the same apartment; in others, they are separated by a partition. The advantage of the former construction is, that the furnace operations before a class are rendered more easy; but the disadvantages are, that the size of the room renders it an inconvenient place for private researches, especially in the winter, and the seats are continually subjected to the dust and litter of ordinary operations. We shall treat of a laboratory in which these apartments are distinct. The buildings may vary in length from fifty to eighty feet, and in breadth from twenty-five to fifty feet. It should be well pierced with windows laterally, and also with sky-lights and openings in the roof. The lecture-room should occupy two-thirds of the length of the building; and the partition which separates it from the working-room and other apartments, must contain the flues that are requisite for the furnaces of the whole establishment: these may be spread over the wall on both sides, and finally be carried out of the roof in one general chimney. The floor, from eight to twelve feet in advance of this wall, should be paved with stone, or brick; in front of which, and immediately before the seats for the class, a table, with occasional breaks for passages, gasometers, and a pneumatic cistern, should extend quite across the room, from side to side. At the ends of this space, enclosed by the table, cupboards should be erected against the wall, with glass doors, for the reception of the jars of the pneumatic cistern, measures, retorts, flasks, receivers, and the bottles and vials containing the chemicals employed for demonstration. The table should be abundantly provided with drawers of

different sizes, in some places extending down to the floor, for the reception of substances employed in a course of demonstration, and which it is not necessary to keep in vials and bottles, such as the common metals and many earthy and metallic salts; besides for the numerous tools, as knives, files, gimlets, forceps, and other indispensable articles, as corks, valves, or glass plates, stirrers, strings, bladders, tow, matches, sand, tapers, glass, metallic, and earthen tubes, stop-cocks, &c., &c. Two or three portable furnaces, of different sizes and shapes, may have a place near the wall for ordinary furnace operations; and a recess in the wall, centrally placed, and about four feet from the floor (similar in shape to a common fire-place), should be provided, with a strong draught, for those experiments which are attended with dangerous exhalations. The seats may be arranged as is usual in other lecture-rooms. The floor room upon the other side of the partition may be divided, lengthwise of the building, into two apartments, separated by a narrow space-way, one of the rooms having double the dimensions of the other; the larger is the working-room; the smaller, an apartment for receiving delicate articles of apparatus, as balances, electrical machines, air-pump, &c., and which would be liable to injury if exposed to the attacks of the damp and corrosive vapours that are continually floating about in the other rooms. The entry communicates with the theatre by a door; a double door, also, connects the working-room and the lecture-room. The whole floor of the working-room is paved with brick or stone. The first fixture of importance in this room is the general working furnace. Its use is partly domestic, partly chemical; for it is intended to warm and air the place, occasionally to heat water, as well as to supply the means of raising a crucible to ignition, or of affording a high temperature to flasks and evaporating basins, through the agency of a sand-bath. It is built with a table top. The fire-place itself is constructed of brick-work, with iron front and fittings, and the flue, being carried horizontally for three or four feet, is afterwards carried off to, and connected with, the main flue existing in the wall. The fire-place and horizontal flue are covered with a large plate of cast iron, of from two to three feet in width; this is formed, in the middle, over the heated part, into sand-baths; a round, moveable one over the fire itself, and a long, fixed one over the flue. The sand-baths supply every gradation of heat, from dull redness, if required, down to a temperature of 100°, or lower, whilst on each side of them exists a level surface, which answers every purpose of an ordinary table, and supplies extraordinary facilities to experiments going on in the sand-bath or furnace. This furnace may be advantageously placed directly against the wall which separates the working-room from the theatre. A large, flaring, wooden hood should be suspended over the sand-bath, to receive the fumes evolved during the digestions and solutions made upon it, and to conduct them away into the chimney. (For a particular description of this furnace, see Faraday, *On Chemical Manipulations*, p. 90.) Near by may be placed another furnace for heating a large copper boiler, intended to supply the laboratory with hot water; the boiler should also be fitted with a head, worm, and refrigerator, in order to provide an occasional supply of distilled water. The tables should be as extensive as the room will allow, and be so placed as to admit of ready access; hence a large one, placed towards the middle of the room, and in such a situation as to be well lighted, is very useful. It should be made strong, and furnished with drawers, unless it be closed in with doors, so as to form cupboards. To protect it from corrosive fluids, as acids

and alkalis, it should be covered with sheet lead. In a corner, and as much out of the way as possible, a sink of stone, or of strong wood-work lined with lead, must be provided. It must be supplied with water, if possible, from a cistern or aqueduct, since an unlimited supply of water is demanded in a laboratory. A place in its immediate neighbourhood is to be appropriated to the cleansing accompaniments of a sink, such as pails, pans, sponges, brushes, &c. Between the table and the working furnace may be placed the pneumatic cistern, which should be of larger dimensions than that employed in the theatre. If the surface of water be 19 inches by 28, and a well be formed at one end of 14 inches by 10, and 12 inches in depth, so as to leave a continuation of shelf surface, on three sides of the well, of 2½ inches in width, it will be found sufficiently large for almost any purpose. It should have a room sufficient to hold several jars of gas at once. It should be filled with water until it is 1½ inch or 1 inch above the shelf, and should be provided with a stop-cock, by which the water may be drawn off when it has become acidified or dirty. Such a trough is best made of japanned copper, and supported on a wooden frame, so as to stand about 39 inches from the floor; or it may be made of wood, and lined with sheet lead. Unless the establishment is very extensive, one mercurial cistern will answer for both rooms: it may be shaped out of marble or soap-stone, or be made of cast iron, and mounted upon a firm frame, fitted with rollers. Cupboards are very useful; and at least two large ones, with shelves, ought to be provided, in order to preserve chemical preparations, and the neater sort of apparatus, from the dust and dirt which are constantly moving and settling in the laboratory. All parts of the walls within reach should be fitted up with shelves, in a firm manner, to receive bottles and jars; also a tube-rack should be provided, to hold pieces of glass tube, from one to three feet long. A part of the wall should be furnished with long spikes, to hold retort and flask stands, large bent tubes, siphons, coils of wire, iron hoops for holding flasks, &c. Among other indispensable furniture may be enumerated the following articles: one or two large wooden blocks, to serve as bases on which to put heavy mortars; an anvil, or spike with its foot-block; a vice affixed to a side table; hammers; cold chisels; a screw-driver; saws; cutting chisels; gimlets; brad-aws; half-round, flat, and small three-square files; forceps; a trowel; a soldering iron, with its appendages; a glue pot; nails; screws; spatulas of silver, ivory, steel, and wood; corkscrew; shears; blow-pipes; scratching diamond &c. A number of filtering stands, supports for retorts and flasks, and wooden forms for holding glass evaporating basins, flasks and receivers, should be provided; also a great variety of common kitchen open furnaces. The cellar beneath the working-room should contain the more bulky articles, and such as do not receive injury from a slight degree of moisture, as lute-sand, charcoal, bricks, carbons of animal voltaic troughs, &c. We do not go into a description of the common glass apparatus which is essential to a laboratory, as, retorts, adapters, receivers, manometers, flasks, precipitating glasses, &c., &c., since these articles have come to be well known, under their appropriate names, in every large city where philosophical apparatus is manufactured. Doctor Henry recommends that the painting of that part of the laboratory furniture which is exposed to the action of acids, be done with the sulphate of lead.

*Laboratory*, in military affairs, signifies that place where all sorts of fireworks are prepared, both for actual service and for experiments, viz. quick matches, fuses, port-fire, grape-shot, case-shot, carcasses, and

grenades, cartridges, shells filled, and fuzes fixed, wads, &c., &c.

LABORDE, JEAN JOSEPH DE, a merchant distinguished for activity, enterprise, wealth, and benevolence, was born of an ancient family in Bearn, in 1724, and amassed a large fortune at Bayonne, by commerce with the West Indies and Spain. When, in 1758, the French court wished to obtain a loan of 50,000,000 of livres from the Spanish court, the latter would not close the transaction without Laborde's guarantee. Upon this, Laborde was made court banker, and the first minister, Choiseul, gave him his entire confidence. After the fall of this statesman, Laborde retired from the greatest part of his business. At the breaking out of the American revolution, he alone was able to furnish the government 12,000,000 livres in gold, at Brest, which enabled the expedition under Rochambeau to set sail. At a later period, Laborde employed his fortune in useful and splendid buildings. The palaces of St Onen (since the property of Mons. Ternaux), of St Leu (afterwards belonging to the duke of Orleans), of La Ferté Vidame (belonging to the duke of Penthièvre), and that at Méréville, near Paris, were built by him, as well as the finest houses in the Chaussée d'Antin, a street of Paris, which, in his time, was a large garden, belonging to his hotel. He devoted 24,000 francs, yearly, to the support of the poor. Towards the erection of four large hospitals, at Paris (1788), he contributed 400,000 francs. With this truly royal beneficence he combined the most delicate manners. He never spoke of the good he had done, nor suffered those whom he had served to feel oppressed by the obligation. Satisfied in the possession of the love and esteem of his fellow citizens, he declined external marks of distinction. Louis XVI. raised his estate of Laborde (his family name was *Dort*; his ancestors, who, in 1620, had purchased the small domain Laborde, called themselves *Dort Laborde*) to a marquisate; but he made no use of this title. During the period of terror, Laborde lived in retirement on his estate at Méréville, but, like Malesherbes and Lavoisier, who resembled him in nobleness of character, he fell a sacrifice to the fury of the popular leaders. Gendarmes dragged the venerable old man to the tribunal of blood. His whole commune, consisting of 1200, offered to defend their father and benefactor; but he declined it, and exhorted them to keep the peace. These worthy people sent a deputation to the convention, but in vain; the benefactor of thousands fell, at the age of seventy (April 18, 1794), under the guillotine. His crime was being rich. Laborde had four sons. Three of these served in the navy; two accompanied the unfortunate La Peyrouse. They met their death, before the loss of La Peyrouse's vessel, in an act of heroism, which the navigator relates in the account of his voyage, and for which he had a monument erected to their memory, at Port François, on the coast of California. The oldest of these three, after having retired from the navy, was appointed treasurer, and, in 1799, member of the constituent assembly. His reports on the state of the finances were printed by order of the chamber. He died, 1801, a voluntary exile at London.

LABOUR. See *Birth*.

LABOUR, AND LABOURERS. The two great sources of income, in all communities, are labour and capital. The means of production are the land, utensils, stock, and all which constitutes capital, and the labourers who use this capital. In this general division of the means of production, the term *labour* is used in its broadest sense; for the labour of the mind, or that of the artist, which depends more upon skill than muscular exertion, is to be included in the general estimate of the productive

power, if a price or market value is put upon its products in the general estimate. Nor should we, in estimating the general productive capacity, confine ourselves to the species of labour which results in the production of articles of necessity or convenience merely; since, in the products consumed by any community, it is not practicable to draw a distinction between articles of mere utility and those of taste; utility and luxury being combined in a great part of the things used or consumed by a people, whatever may be its stage of civilization and refinement. The land and the greater part of the utensils of production, are estimated, it is true, in a great degree, and, in many instances, wholly, by their mere utility for production. But it is otherwise with respect to the products intended, not merely as the means of producing others, but as ultimate objects of use or consumption. Dwellings, furniture, clothing, food, all combine, in different degrees and proportions, both luxury and utility. The quantity of wool and cotton worn and used by two persons in different ranks of life and of different means of consumption, may be the same, and answer equally well as a protection of the person against the climate; and yet that used by one, owing to the better quality of the material, and the greater labour bestowed in fabricating it, may cost three or ten times as much as that used by the other; and yet something is paid to taste and luxury even by this latter. The abstract utility of any article is of difficult estimation, and, though it is a proper subject of inquiry and speculation, still, in estimating the productive power of labour, in comparison with capital, the more practical rule seems to be, to take the estimate put upon it by the community itself. If, for instance, the labour of a sculptor is, in the estimation of a community, worth that of twenty day-labourers, the distribution of the annual products of the labour and capital of that community will be governed by this rule of comparison, and the sculptor will be able to consume as much in value as the twenty common labourers. Hence the proportion of the income of labour and capital will vary in different communities, according to the different arts or kinds of production encouraged. To take the same examples, though the labour of a sculptor may be equal in value, as estimated by a community to that of twenty labourers,—and the same may be equally true of the painter,—yet the capital or stock required for each of these twenty labourers may be, and, if they are employed in agriculture, will be, greater than is required for either of those artists. The proportion, then, of the value of the whole capital of a community, to that of the whole estimated annual value of the labour of all sorts, performed by its members, will depend upon the kind of arts pursued, so that the proportions will not be uniform in different communities. The estimated annual market value of the labour, will, however, in any community, be greater, in proportion to its capital, than it would at first view appear to be. It has been estimated to be nearly one fifth, exceeding or falling short of that ratio, according to the circumstances and pursuits of a community; that is, supposing the capital to be stationary, the value of the whole capital, including lands, buildings, animals, furniture, utensils, and every vendible thing whatsoever, is consumed and reproduced every five years. It is evident, then, what a rapid change may be made in the wealth of a community, either for the better or the worse, by an impulse or check to its industry, or a general tendency to economy or prodigality in consumption. The arts, and employments, and habits of a people, then, are every thing, in respect to their prosperity; and the actual amount of their present capital is of

less importance, since, if it be too small, that is, if the people are in want of a sufficient stock to employ themselves to the greatest advantage, industry and economy may very soon supply the deficiency. The aggregate annual products of the same labour and capital are greater in one country than another. This is a distinction of great importance, which is overlooked in some economical speculations, or which, at least, has not always its just weight. The fact is, perhaps, too obvious to need proof or illustration. If, for instance, the people of one country have better lands, domestic animals, roads, utensils, or are more skilful and ingenious than those of another, the same amount of manual labour bestowed upon corresponding materials, with corresponding instruments of production, will produce greater results. The wages of labour, and the interest of money, may both, therefore, be higher in one country than in another. This we know to be a fact. In the United States, for instance, the interest of money, and the wages of common labour, are both higher than in European countries. It does not follow, then, that if the condition of the mere labourer is better in one country than in another, that of the capitalist will necessarily be worse. To ascertain the condition of these two classes, possessing the productive capacity and means of a community, we first inquire into the aggregate productiveness of capital and industry, and next into the distribution of the aggregate products between the two classes. And, in examining into the condition of the members of a community, the next inquiry relates to the proportionate share of each industrious class in the whole portion of the aggregate products allotted to industry, as distinguished from that which is allotted to capital. This distribution among the labouring classes themselves, of the products of their labour, will, of course, depend upon the estimation in which the various kinds of labour are held; and its effect on their condition will also depend very materially upon the arrangements, improvements, and facilities possessed by the community, to render their labour effective; for the compensation to labourers, individually, may be small, and yet the expense of the whole class of the community to which they belong, very great. To take a familiar instance, if, from the thinness of the population, or other cause, the receivers and distributors of the articles of production and consumption among the people, that is, the retail dealers, can transact but a small amount of business each, though the earnings of each one may be small, their aggregate compensation must be large. In countries half civilized, and in which the arrangements and facilities for exchanges are rude and imperfect, the usual profits of trade are at an enormous rate per cent.; and yet the wealth of these traders will be very trifling, in comparison with that of the merchants and traders of a more civilized, improved, and populous community, though the per centage of profit of these latter may be much lower. The same distinction will hold good in respect to every other pursuit and employment in a community,—the proportion of the whole products awarded to any one class, may not correspond at all, to the individual advantage or disadvantage of the members of that class, in their pursuits, in comparison with that of those of any other class. The compensation of any one class of a community, in comparison to any other, will evidently depend upon the course taken by the taste and luxury of the community; for we may assume it as a general doctrine, that when the taste and passions of a community lead to a large consumption of the articles produced by any class, or if the services of its members are considered particularly beneficial, those members will be liberally compensated. If, for

instance, as is, or, at least, has been, the fact in some countries, the inhabitants suppose that their future welfare does not depend so much upon their own characters and conduct as upon the prayers and good offices of their spiritual guides, they will deem it impossible to reward these spiritual guides too liberally, seeing they have the salvation of the rest at their disposal. The same principle will hold true in respect to any other class: in proportion as an employment goes along with the tastes and passions of the community, will its members be rewarded for their labours. The effect will not, however, necessarily extend itself to all the members of the class. Suppose, for example, that the taste and vanity of a people appear very much in their apparel and personal ornaments; it will not follow that all cloth makers, tailors, jewellers, hatters, and shoemakers will have the highest wages in the community; but the result will be, that a high price will be paid for excellence of material or superiority of skill, in the manufacture of those articles. The moment, therefore, in which civilization commences,—and some degree of it is coeval with the existence of every society,—excellence in some arts or employments will meet with extraordinary rewards. As arts and civilization advance, the objects of passion and taste will be multiplied, and with them the kinds and varieties of excellence of materials or skill, which will be esteemed of extraordinary value. The effect necessarily is to produce a comparative depression in the value of all ordinary products and unskilful labour. Accordingly, the ordinary labourers, as in the arts, become by degrees a distinct class. In a refined community, abounding in arts, this class necessarily becomes numerous, and the condition of its members is a subject of solicitude to the philanthropist, and of interest to the economist and statesman. The security and welfare of the whole community, will depend very materially upon the character and condition of this part of the population. The greater the distance between this class and the rest, the more effectually they are set off from the others, the more unnatural and distorted will be the state of society, and the more frequent will be scenes of disorder, distress, and vice. It is one of the first and most important maxims of policy and of economy then, to sustain the members of this class, not by giving them the control and management of others, for which, of course, they are not the best fitted,—but by using all possible means, whether by legislation or social influence, to give them education, good habits, and good morals; to inspire and maintain in them a respect for themselves, and secure to them the respect of others.

**LABOUR-SAVING MACHINES.** Mississippi somewhere regrets the introduction of the use of water-mills for grinding corn, instead of the hand-mills formerly in use, as it throws a great many labourers out of employment, besides diverting the water from the purposes of irrigation. Upon the principle of throwing labourers out of employment, our hand-loom weavers were opposed to the use of power looms. It is not remarkable that labourers themselves, who, for a time, feel the inconvenience of the introduction of any improvement, should oppose its introduction; but it is singular that any man of enlarged and philosophical views should fall into such a notion. Nobody certainly would think it a misfortune to a community, that, in consequence of some improvement in agriculture, the same labour would produce a greater quantity of grain; on the contrary, every one consents to the praise bestowed by Johnson, upon the man who makes two blades of grass grow where only one grew before. And an improvement in machinery, whereby the same labour

will produce twice the quantity of cloth, is precisely the same in its general effects upon the condition of the community, as an improvement in agriculture. But in a case of improvement in machinery, the effect is more apparent and more sudden, as it will spread rapidly, and, accordingly, the inconvenience to the labourers is, in fact, greater, though it can last only for a time. However, the circumstance that its effect in discharging labourers is only temporary, though it shows that the inconvenience to the community is very limited, while its advantages are permanent, yet affords no great consolation to the labourers themselves, if the population is dense, and employment difficult to be obtained, since, while this temporary effect is passing off, they may starve. To avoid producing distress, and consequent disorder, labour-saving machinery, therefore, should be introduced gradually among a community of labourers, like those of Britain, to whom it is ordinarily difficult to find full employment, and who, if unemployed, are immediately reduced to distress. Hitherto no inconvenience has been experienced in North America in consequence of the introduction of improvements in machinery, since it is, as yet, the more general habit of all classes to save something, so that very few are reduced to immediate distress, though thrown out of employment; and there is usually less difficulty in obtaining full employment for the industrious classes than in most other countries; and, accordingly, all classes are in favour of improvements and inventions whereby labour may be saved, or its products augmented.

LABOURING of a ship implies pitching or rolling heavily in a turbulent sea—an effect by which the masts and hull are greatly endangered; because, by the rolling motion, the masts strain upon their shrouds with an effort which increases as the sine of their obliquity; and the continual agitation of the vessel often loosens her joints, and makes her extremely leaky.

LABRADOR; an extensive country of North America, lying between Hudson's bay, the Atlantic ocean, and Canada, and extending from the fiftieth to the sixtieth degree of north latitude, or nearly 700 miles in length, from north to south. It is about 500 miles in breadth, but has never been fully explored, and is little known, the severity of the climate and the barrenness of the region confining the visits of foreigners principally to the coasts. These are bordered by innumerable islands, so close together as to bear the appearance of main land, broken by inlets: this has given rise to much confusion in the charts. The summer is short, but extremely hot, and the winters are very rigorous. Great numbers of fish, of various kinds, particularly cod and salmon, are found on the shores, and in the small rivers. The islets are covered with flocks of sea-fowl, particularly eider ducks. Bears, wolves, foxes, hares, martens, &c., are numerous. The population is small. The natives of the coast are Esquimaux. The tribes of the interior are little known. Labrador belongs to Great Britain, and is annexed to the government of Newfoundland. The Labrador fishery, in 1829, was calculated to employ 2108 vessels, and 4,100 seamen; 600 of the vessels, manned with 110 men, and producing 678,000 cwt. of fish, and 730 hhds. of oil, were British; and 1500 vessels, manned with 15,000 men, and producing 1,100,000 wt. of fish, and 11,000 hhds. of oil, were from the United States. See *Fisheries*.

LABRADORITE, or LABRADOR FELDSPAR. his mineral scarcely differs from feldspar (q. v.) in the properties of its crystalline structure, except in being one of its cleavages somewhat less distinct. hardness, also, it is nearly identical with that

species; but its specific gravity is somewhat higher, being 2.75. The remarkable opalescent and iridescent tints which it exhibits, constitute its most striking character. Its ordinary colour is a dark gray. Its reflections, which, for variety and intenseness of colour, vie with those of the opal, are visible only upon two opposite sides of any crystal or mass. Blue and green colours are the most common; but occasionally these are intermingled with rich flame-coloured tints. It is sawed into slabs by the lapidaries, and employed in inlaid work. The finest pieces are very highly esteemed. A square table, composed of two pieces of this stone, and whose dimensions were thirteen inches by twenty, and eight lines in thickness, was sold, in Paris, for 1800 francs. The Labradorite is composed of 54.6 silica, 29.0 alumine, 11.8 magnesia, and 4.6 soda. It was first distinguished by the reverend B. Latrobe, among a number of specimens sent to him from Labrador by the Moravian missionaries. It occurs, not only in pebbles on the shore, but in spots in the rocks about Nain, and particularly near a lagoon about fifty or sixty miles inland. Its colours, darting through the limpid crystal of the lake, and flashing from the cliffs, more especially when moistened by a shower of rain, changing continually with every alteration in the position of the spectator, are described as almost realizing a scene in fairy land. Labrador feldspar is also found upon the borders of the gulf of Finland, and at Fredericksværn, in Norway, and at some other places.

LABYRINTH, with the ancients; a building containing such a number of chambers and galleries, one running into the other, as to make it very difficult to find the way through it. The Egyptian labyrinth, the most famous of all, was situated in Central Egypt, above lake Mœris, not far from Crocodilopolis, in the country now called *Fajoom*. According to some writers, it was built by the Dodecarchs (650 B. C.); according to others, by Psammethichus; according to others, by Ismandes, who is also said to have been buried there. In all probability, it was a sepulchre. The building, half above and half below the ground, was one of the finest in the world, and is reported to have contained 3000 rooms, the arrangement of which seems to have been symbolic of the zodiac and solar system. All these rooms were encircled by a common wall and by columns; but the passages were so intricate, that no stranger could find the way without a guide. It is said, that, in the lower rooms, the coffins of the builders of this immense fabric, and of the sacred crocodiles, were deposited, and that the upper rooms excelled, in splendour and art, all human works. At present, only 150 rooms are reported to be accessible: the others are dark, and choked with rubbish. Respecting the interior construction and the destination of the labyrinth of Crete, we know still less. The ancient writers consider this subterranean cavern to have been built by Dædalus, in imitation of that of Egypt, but on a smaller scale, by order of Minos, who confined there the Minotaur. According to others, it was a temple of the latter. The labyrinth at Clusium was erected by king Porsenna, probably for his own sepulchre. It was a square building of stone, fifty feet in height, and thirty on each side. At each corner stood a pyramid, and also one in the centre, each 150 feet high, and at the base, seventy-five feet wide. These edifices were not built for the purpose of making people lose their way; this was merely an accidental peculiarity, on account of which every confused mass of things, difficult to be disentangled, has been called a *labyrinth*. The same name is also given to a part of the ear (q. v.).

LAC, LAK, LAAK, and LAK'HI, are different

ways of spelling the vulgar derivatives from the Sanscrit words *laksha* and *laksha*, i. e. one hundred thousand; a name given by the Hindoos to the *coccus lacca* and *gum-lac*, for which they have six different terms; "but they generally call it *laksha*," says Sir William Jones, (*As. Res.* ii. 364), "from the multitude of small insects which, as they believe, discharge it from their stomachs, and at length destroy the tree on which they form their colonies." The *gum-lac* is probably discharged by the *coccus*, as a defence for its eggs, which are deposited on the bihar tree. Four kinds are known—stick-lac, seed-lac, lump-lac, and shell-lac. The first is the gum before its separation from the twigs, which it incrusts; and the best is of a red purplish colour: the second is the gum in a granulated form, stripped from the twigs, and perhaps boiled, by which a portion of the colour is lost: the third is the seed-lac, melted into cakes; and the fourth, the common form in which it is known in Europe, is the purified gum. The best is amber-coloured and transparent. In the East, it is much used for trinkets. It is the basis of sealing-wax. It forms varnishes, furnishes a brilliant red dye, and, mixed with thrice its weight of fine sand, is made into polishing stones. (See *Coccus*.) *Lac*, in its original meaning, is applied to the computation of money in the East Indies. Thus a *lak* of rupees is 100,000, which, supposing them to be *sicca*, or standard, equal £12,500.

LACAILLE. See *Caille*.

LACCADIVE ISLANDS; a group of small islands in the Indian sea; the nearest is about 120 miles from the coast of Malabar; lon. 71° 15' to 73° 30' E.; lat. 10° to 12° 40' N. These islands are supposed to be what Ptolemy called *Insula Numero XIX*; but, in fact, they are thirty-two, all of them small, and covered with trees. They are rocky on their sides, mostly as if laid on a bottom of sand, attended with reefs, and the channels between them very deep. They are commonly visited by British ships, in their way from India to the Persian gulf or Red sea. The principal traffic of the inhabitants is in the produce of the cocoa palm, such as the oil, the cables and cordage prepared from this plant; and in fish, which is dried and sent to the continent of India, from whence they get rice, &c., in return. They also trade to Mascat, in large boats, and bring back, in return for their commodities, dates and coffee. Ambergis is often found floating off these islands. The inhabitants are mostly Mohammedans, called *Moplays*.

LACE; a delicate kind of net-work, formed of silk flax or cotton thread, used for the ornamenting of female dresses. Its meshes are of a hexagonal or six sided figure, and formed by twisting together the threads of the substances just mentioned. Thicker threads are also interwoven to form the figures or patterns, according to some regular design, and these (called technically the *gimp*), form the ornaments of the lace. There are several different kinds of lace, which are more or less esteemed according to the fashion of the day, and valued in proportion to their rarity more than from any real difference in their quality and appearance. That of England is generally called Buckinghamshire, Bedfordshire, or Devonshire, according to the several counties in which it is made. It is also called pillow or bobbin lace, from being woven upon a pillow or cushion by means of bobbins. It consists of hexagonal meshes, four of the sides of each mesh being formed by twisting two threads round each other, and the other two sides by the simple crossing of two threads over each other. This is the kind manufactured at Lisie in France, and Nottingham in England. Another kind is made at Honiton in Devonshire, and called

Honiton or Devon lace. It is of the same kind as that made at Brussels. Two sides of each mesh of this are plaited of four threads, and the four other sides by threads twisted together. The plaiting renders it much more durable than the twist lace, and it therefore bears a much higher price. There is also a third sort of lace manufactured at Valenciennes, but which is not made in England at all. In this all the six sides of the mesh are plaited, but two of the sides of each mesh are so small that they appear like lozenges. At Nottingham imitations of lace are produced by machines, called *point net* and *warp net*; from the names of the machines in which they are made. They are both a species of chain work, and the machines are varieties of the stocking frame. The warp frame makes a very close imitation of the Brussels lace, but has very little durability. The Buckinghamshire lace is woven on a pillow or cushion, which the woman or child who makes the lace, places on her knees. The threads are wound upon bobbins, or small round pieces of wood, each about the size of a pencil, having round their upper ends a deep groove, so formed as to receive the bobbin to a thin neck, and on which the thread is wound; a separate bobbin being used for each thread. To form the meshes pins are stuck into the cushion, and the threads are woven or twisted round the pins, a piece of parchment being first fixed down upon the cushion, pierced previously through with small pin holes in regular order to show the proper places for the pins; and on this parchment the design for the gimp is also traced, so that it may be interwoven with the finer threads, and form the figures. The work is begun at the upper part of the cushion, by tying the threads together in pairs; and each pair is then attached to a pin, which is stuck through the parchment into the cushion; the round form of which allows the threads to hang down and remain steadily on whichever side the bobbins are placed. The woman taking one pair in each hand with her finger and thumb, twists the bobbins round each other three times, the effect of which is to twist the threads of each pair together, and this is done by both hands at the same instant of time. The twisting, which forms the two sides of the mesh being completed, the adjacent bobbins of each pair are interchanged in order to cross the threads of those bobbins over each other, and then from the bottom of the neck. Thus, for instance, supposing the bobbins numbered one, two, three, and four. No. 1 is twisted round 2, and 3 is twisted round 4. Then in order to cross, 2 and 3 are interchanged, so that 1 and 3 come together, and 2 and 4; and the next time that the twisting operation is performed, these pairs of threads will be combined together. When a mesh, or half mesh is made, it must be secured by putting a pin into the cushion; and in order to draw the twist work close, the pin is introduced between the recently crossed threads, and carried up towards the top of the pillow, so as to drive the twists and cross before it, and draw the twists into a closer compass. The pin is then inserted into its proper hole in the parchment, and will prevent the threads from returning. These four bobbins are now laid apart for the present on one side of the cushion, when two other pairs are brought forward in front, and twisted and crossed in the same manner; and in this way the work proceeds till a row of meshes is formed all across the breadth of the intended piece of lace, and then the same bobbins are worked over again to make another row. In general the number of bobbins is equal to 20 or 60 to each inch of breadth. These operations are performed with the greatest dexterity, but the work goes on very slowly, so many meshes being required

for a very small piece of lace. Thus, taking the threads at 50 per inch, if the lace be one inch wide, it will have 25 meshes in its breadth, or 625 meshes in each square inch of length, or 22,000 meshes in a yard; and yet the price given for a yard of lace of this description is seldom more than one shilling and sixpence.

The point net frame was invented by Mr J. Morris of Nottingham in 1764, and forms lace out of one continued thread, which is laid across a row of needles, and by the actions of jacks and sinkers, as in a stocking frame, is formed into loops; but before finishing the operation of the chain work, the row of points is plied between the needles of the frames and the points being only half the number of the needles, they take up every other loop, and by a particular motion cast them over the neighbouring needles, so as to gather the two loops together into pairs, and leave intervals between each pair, consequently when the usual operations of the stocking frame are resumed, the stitches will be found to be worked two into one.

The objection to this imitation is that it becomes loose and irregular after being worked, and if the thread breaks, the work will unravel like a stocking. Lace, made by another machine called a warp frame, is more durable, and is capable of being made of several different patterns.

The Nottingham lace, has been superseded by that made on a machine invented by Mr John Heathcoat in 1800, which can make lace of any required breadth. In this, the warp threads are wound upon a roller, at the bottom of the machine, and carried up to a work beam, or roller, situated at the top of the machine. There are also diagonal threads, wound upon small detached bobbins, and regularly interspersed between the warp threads. The bobbins are small flat wheels, about the size and thickness of a shilling, with a deep groove upon their edges, upon which the thread is wound. These being fitted into a small carriage or frame, which will turn round freely when the thread is drawn off, but guarded by a slight spring, so as to give some resistance and draw the thread tight. The bobbins and their carriages are so thin, that when placed side by side in rows, they merely occupy the same breadth as the lace. The longitudinal threads are stretched in a perpendicular direction, from the thread to the lace-roller, forming a row of parallel threads, arranged equally distant from each other; and to guide them, each thread is conducted through a small eye, in a wire resembling a needle. Two rows of such guides are fixed on two bars, placed horizontally, each capable of a small side movement, so as to carry these threads along with them. On each side of these, is a horizontal or *comb-bar*, having its upper surface cut into grooves, to receive the bobbin carriages. These run along the upper side, and across the length of the bar. Behind the row of threads is another comb-bar, precisely similar to that in front. The bobbin carriages can pass freely to and fro between these two comb-bars, but there is only such space between them, as to allow them to enter the grooves of one while still playing in those of the other. By means of two thin bars or rollers, the bobbin carriages are repeatedly moved backwards and forwards, and transferred alternately from the front to the back comb-bar, and in so doing, pass between the perpendicular threads—at each transfer, the bar sustaining the guides is moved sideways through a distance equal to the interval between the grooves of the combs, by which movement the perpendicular threads, come to be placed alternately on each side of the moving bobbin carriages, so that a twist is made every time, and the sides of the meshes are thus formed.

The operations of drawing the twist close, and giving the necessary form to the meshes, is done by means of a row of sharp pin points, which are suspended in a frame, so as to be brought down, and introduced between the threads beneath the crossings, and being moved upwards, the points carry the twists and crossings before them, draw them close, and give the requisite form. There are two rows of points, one used as above, and the other to relieve them, and hold fast the newly formed meshes, whilst the other respects the action.

This machine is most ingenious, and works with great rapidity. The operator is seated in its front, and employs both hands and feet in imparting the required motions. The machines are of various widths, from one to two and a-half yards, and the bobbins are from ten to twelve per inch in each row, or (being double), twenty to twenty-four per inch, so that if the machine be two yards wide, their number will be from 1440 to 1728, but all these are passed between the perpendicular threads in an instant, and it is rarely that any confusion takes place.

Most of the Nottingham machines at present, are upon the principle of Mr Heathcoat's, and work by license under his patent. His invention has been lately carried over to France, and manufactories are established both at Calais and Douay.

*Lace made by Caterpillars*; a most extraordinary and ingenious species of manufacture, which has been contrived by an officer of engineers residing in the city of Munich. It consists of lace and veils, with open patterns in them, made entirely by caterpillars. The following is the mode of proceeding adopted:—Having made a paste of the leaves of the plant, on which the species of caterpillar he employs feeds, he spreads it thinly over a stone, or rather flat substance, of the required size. He then, with a camel-hair pencil, dipped in olive-oil, draws the pattern he wishes the insects to leave open. This stone is then placed in an inclined position; and a considerable number of the caterpillars are placed at the bottom. A peculiar species is chosen, which spins a strong web; and the animals commence at the bottom, eating and spinning their way up to the top, carefully avoiding every part touched by the oil, but devouring every other part of the paste. The extreme lightness of these veils, combined with some strength, is truly surprising. One of them measuring twenty-six and a-half inches by seventeen inches, weighed only 1.51 grains—a degree of lightness which will appear more strongly by contrast with other fabrics. One square yard of the substance of which these veils are made, weighs four grains and one third; whilst one square yard of silk gauze weighs one hundred and thirty-seven grains, and one square yard of the finest patent net weighs two hundred and sixty-two grains and a half.

LACEDÆMON. See *Sparta*.

LACEPEDE, BERNARD GERMAIN ETIENNE, count Delaville sur Ilon de, naturalist, peer of France, born at Agen, 1756, was from his youth, passionately attached to natural history and music: he consequently abandoned the military profession, for which he was destined, and devoted himself to the study of natural history. His teachers and friends, Buffon and Daubenton, procured him the important situation of keeper of the collections belonging to the department of natural history in the *jardin des plantes*. At the breaking out of the revolution, he was elected member of the legislative assembly, and belonged to the moderate party. To withdraw from the storms of the period of terrorism, he resigned his situation, and retired to his country seat, Lieuville. He again made his appearance under the directory, and was appointed one of the first members of the institution. Napoleon

made Lacépède a member of the conservative senate, and conferred on him the dignity of grand chancellor of the legion of honour. Lacépède became one of the most zealous adherents of the emperor, and during the ten years of the imperial reign, few public celebrations occurred at which he did not appear as an orator. His benevolence and his inattention to his own affairs involved him in debt. Napoleon, therefore, gave him a salary of 40,000 francs. After the first restoration, Lacépède lost his situation of grand chancellor of the legion of honour, but was raised to the peerage by the king. During the hundred days, the emperor appointed him grand master of the university; but he declined this office, and devoted himself solely to the sciences. In 1817, he published a new edition of Buffon's works, and announced, at the same time, that, at the desire of his deceased friend Lagrange, he intended to publish his *Theory on the Formation of Comets*. He likewise published a continuation of the work on the Cetacea, commenced by his great predecessors. His *History of Fishes* (5 volumes, 4to.), is considered his principal work. The complete collection of his works, in which are included two small novels, which appeared anonymously, and the opera *Omphale*, is voluminous. Lacépède could adorn the driest subjects with the graces of a brilliant style. He died Oct. 6, 1825, at his country-seat Epinay, near St Denis, of the small-pox. Villeneuve wrote his *Éloge Historique* (Paris, 1826). Of Lacépède's very defective *Histoire Civile et Militaire de l'Europe* (from the end of the fifth, till the middle of the eighteenth century), in eighteen volumes, the two first volumes appeared after his death Paris, 1826.

LACHAISE, FRANÇOIS D'AIX DE, confessor of Louis XIV., member of the congregation of Jesuits, was born in the *château d'Aix*, in August, 1624. The family D'Aix de Lachaise was one of the most respectable in France, and a grand uncle of François de Lachaise, father Cotton, had been confessor of Henry IV. In the Jesuit college at Rohan, which had been founded by one of his ancestors, Lachaise commenced his course of studies, and finished it at Lyons. He was the provincial of his order, when Louis, on the death of his former confessor, father Ferrier, appointed Lachaise his successor. This appointment occasioned surprise, because, on the one hand, the disputes between the parties of Jansenists, Molinists, &c., divided the court of Louis XIV., already infected, by the example of the king, with a sickly kind of devotion, as also the capital, which fluctuated, in imitation of the court, between licentiousness and bigotry; and, on the other hand, no Jesuit, since father Cotton, had been chosen to this important situation. The new confessor was soon involved in a web of court intrigues. Mme. de Montespan and Mme. de Maintenon, the Jansenists and Jesuits, stood opposed to each other, and Louis, moved by sensuality and superstition, wavered like a reed between these parties. Nevertheless, Lachaise maintained his ground, although he was equally obnoxious to Mme. de Montespan and Mme. de Maintenon, who frequently expressed their dislike to him in bitter sarcasms. On every occasion—at the famous declaration of the French clergy respecting the liberties of the Gallican church, at the revocation of the edict of Nantes, on occasion of the disputes of the Quietists, at the marriage of Mme. de Maintenon with the king (1686), and similar important events of the time—father Lachaise, in consequence of his office, was more or less forced to play a part; and, although he reflected well on every step he took, he constantly received the severest reproaches from both parties. The most intelligent men, however, never judged unfavourably of his pri-

vate character and his conduct; and St Simon, who was no friend to the Jesuits, as well as Voltaire, in his account of the age of Louis XIV., De Bion, Spon, and others, acknowledge, that the confessor of the vainest monarch, and the mediator between the most exasperated parties, knew how to conduct himself, under all circumstances, with address, comeliness, and sagacity, and that, although a Jesuit, he never allowed himself to be drawn into violent measures against his opponents. That Louis formally married Mme. de Maintenon, Voltaire attributes principally to the counsels of Lachaise; but that this marriage remained secret, and was not publicly acknowledged, according to the desire of that ambitious woman, may likewise be attributed to Lachaise, who, on this account, had constantly to endure her hatred. Lachaise, maintaining his ground in the favour of his monarch till his end, and acting as his counsellor, even when age and weakness had almost converted him into a living skeleton, and weakened his faculties, died January, 1700, at the age of eighty-five. He left philosophical, theological, and archeological works. His taste for the study of numismatics, and the great share which he had in the improvement of this branch of science in France, are well known. Louis XIV. had a country-house built for him at the end of the present *Boulevard neuve*, which, at that time, owing to its situation on a hill, received the name of *Mount-Louis*. Its extensive garden now forms the cemetery of *Père Lachaise*, the largest in Paris. (See *Cemetery*.) Many splendid monuments now adorn the place, where, formerly, the courtiers of Louis XIV. used to meet, to pay their respects to the confessor of their absolute master. The situation of the burying-place, on the declivity of a hill, affords one of the most delightful views of a principal part of the city and its suburbs. At the approach of the allies, in 1814, this burial-place was fortified, and defended by the students of the polytechnical and veterinary school. The Russians, in storming it, did a great injury: the shaded walks, particularly, suffered by the bivouac of the troops, but have since been repaired. A short time previous to the second taking of Paris (1815), viz. from June 24 till July 8, no burials took place in the cemetery of *Père Lachaise*, on account of the troops which surrounded the capital. During this time, the dead were buried in the cemetery of Ste. Marguerite, situated in the town, which had been long out of use.

LACHRYMÆ CHRISTI (*Latin*, tears of Christ; a superior kind of Italian wine, so called, it is said, because it drops like tears from the press, before the grapes are subjected to any pressure except their own weight. It is dark-red, and the grape grows at the foot, and to a certain height, on the sides, of mount Vesuvius. On several of the Greek islands, also, a kind of wine is produced in the same way.

LACHRYMATORIES (i. e. *tear-bottles*; from *lachryma*, *Latin*, a *tear*); small glass or earthen vessels found in tombs, so called, because they were supposed to have been used by the ancient Romans to collect the tears of the friends of the deceased. Some of them contain the impression of one or of two eyes. They are now considered to have been used for containing aromatic liquors, to be poured upon the funeral pile.

LACLOS, PIERRE-FRANÇOIS CHODERLOS DE, author of the famous romance *Les Liaisons dangereuses*, which first appeared in 1782, was born at Amboise, in 1741, and, before the revolution, was a French officer of artillery, and secretary to the duke of Orleans. Laclos was considered, when he was young, as one of the most talented and agreeable, and, in a moral point of view, as one of the most

dangerous men. His enemies have maintained that he has drawn his own character in that of the viscount de Valmont in his romance. Others celebrate the simplicity, honesty, and good nature of his character, at least in the latter part of his life. He was one of the leaders of the Orleans faction, as it was called. Being implicated in the affair of the 5th and 6th of October, he followed the duke of Orleans to London. After the return of the king from Varennes, Laclos endeavoured, by means of the Jacobin club, to effect the foundation of a republic, as he conceived that this step would lead eventually to the elevation of the house of Orleans to the French throne. At the breaking out of the war, Laclos was transferred as an assistant to the old Luckner, and, after the fall of the house of Orleans, he disappeared from the stage. It is difficult to explain how Robespierre came to spare a man who was one of the firmest adherents of this proscribed house; and thus the report originated, that Laclos prepared the speeches of the tribune of the people. After the 9th Thermidor, Laclos returned to the military profession, and was advanced to the office of inspector-general of artillery. He died at Tarentum, in 1803.

LACONIA. See SPARTA.

LACRETELLE; two brothers well known as authors, but entirely opposed to each other in principles.

1. *Pierre Louis Lacretelle*, the elder (commonly called *Lacretelle aîné*), was born in 1751, at Metz, where his father was an advocate, and died Sept. 5, 1824, at Paris. Animated, by the masterly works of the advocate-general Servan, to the study of the law, ethics, and literature, he went, in 1778, to Paris, where he became parliamentary advocate, and by his writings—*Eloge de Montausier* (which obtained the second prize in 1781), *Mémoires du Comte de Saunois* (a work new and unique in its kind), and the *Discours sur le préjugé des Peines infamantes* (which received the prize of the academy)—rendered himself worthy of a place in the institute, where he succeeded La Harpe, with whom he was concerned in editing the *Mercur*—an occupation which he undertook anew, in 1817, under very different circumstances, in conjunction with Jouy, Jay, B. Constant and others. Lacretelle embraced the principles of the revolution with the ardour of a noble mind, but without concurring in its excesses. In the legislative assembly, in 1792, he was one of the leaders of the constitutional party, in opposition to the Girondists, who were in favour of republicanism. After the 10th of August, Lacretelle devoted his attention wholly to literature. We find him again in public life in 1801, when he was a member of the legislative body of Napoleon. Here he retained his independence in the midst of political revolutions. When the government of Napoleon destroyed his hopes of the establishment of a liberty founded on the laws, he again retired. His poverty, which he neither complained of nor regretted, was honourable to him. The aristocratical reaction, which took place in France, after the second restoration, and was particularly memorable in the chamber of 1815 (see *Chambre Introuvable*), threw him into the opposition, which the liberal party at that time began to form, and in support of which they had undertaken the direction of the *Mercur de France*. But this journal, which appeared on fixed days, becoming subject, in consequence of a new law, to the inspection of the censor of the press, was given up, and the *Minerve Française*, which appeared irregularly, took its place. Lacretelle, in conjunction with Aignan, had the direction of this literary and political journal. The *Minerve Française* obtained so decided an influence upon public opinion, that this was also subjected, by a new ordinance, to

the censorship, after eight volumes had been published, upon which it was immediately discontinued. Lacretelle, who was now a bookseller, hazarded a continuation of it in the form of small pamphlets; but he was subjected to a prosecution, in which he defended himself with great energy and ability. He was condemned, however, to imprisonment; but Louis XVIII. remitted the sentence on account of his age and infirmities, and the general esteem in which he was held. From that time, Lacretelle employed himself upon a collection of his works, which appeared at Paris, in 1823, in four parts. He was the author of many logical, metaphysical, and ethical articles in the *Encyclopédie méthodique*. Many of his scattered essays and treatises appeared in 1802, under the title of *Œuvres diverses*, in five volumes, to which, in 1817, he subjoined *Fragments politiques et littéraires*, and, in 1822, *Œuvres, and Portraits et Tableaux* (among them those of Mirabeau, Bonaparte, and Lafayette), in two volumes. His theatrical romance *Malherbe, ou le Fils naturel* (D'Alembert), is an excellent dramatic poem. His *Soirées avec Guillaume Lamoignon de Malesherbes*, and his *Études sur la Révolution Française*, are also highly esteemed. Both have been published since his death.

2. *Charles Lacretelle*, the younger brother of the preceding, went, when very young, to Paris, at the breaking out of the revolution. He soon attracted attention by his logical acuteness, and the editorial department of the *Journal des Débats*, which was established at that time, was committed to him in connexion with another individual by the name of H. Ducos. His second literary production was his *Précis de la Révolution*, which was a continuation of the work of Rabaud St Etienne. On the occasion of the opposition of the Parisian sections to the decree of the national convention retaining two-thirds of their number in the new legislature, Charles Lacretelle composed, in the name of the sections, the caustic addresses to the convention, as well as to the electoral assemblies of France; but, on the 13th Vendémiaire, Bonaparte put an end to these commotions. Being, however, attached to the then existing opposition, and using his influence in its favour, he was, on the 18th Fructidor, arrested, and retained prisoner for two years. After the 18th Brumaire, however, Napoleon employed his talents in various occupations. In 1813, he received Esme-nard's place in the national institute, and, in 1816, the presidency of the French academy, or the third class of the institute. The historical lectures, which, as professor of history, he delivered before the university of Paris, were among the most frequented in that city. As an historical writer he has a peculiarly brilliant diction, although his ideas want force and profundity. His *Histoire de France pendant les Guerres de Religion* is more highly esteemed than his *Histoire de France pendant le dix-huitième Siècle* (14 volumes, 1826). Lacretelle has now renounced his former philosophical views. In his *L'Histoire de l'Assemblée constituante*, he takes part entirely with the ultras and obscurants. During twenty-six years, he was censor of the department of the drama. He has been termed the chief support of the *Société des bonnes Lettres*, so called. He was likewise honoured with the dignity of nobility by Louis XVIII. In 1827, the ministry deprived him of his censor's office, because he favoured, in the academy, the petition to the king against the laws respecting the censorship of the press. In 1829 appeared his *Histoire de France depuis la Restauration*.

LACTANTIUS, LUCIUS CÆLIUS FIRMIANUS, a celebrated father of the Latin church, distinguished as an orator and author, is commonly supposed to have been an African. He lived for a long time at

Nicomedia, as a teacher of rhetoric, until Constantine the Great committed to his care the education of his eldest son, Crispus. He died about 325. His writings (published by Sparke, at Oxford, 1684; by Bunemann, at Leipsic, 1739; by Dufresnoy, at Paris, 1748, 2 volumes, 4to; and by Oberthur, at Wurzburg, in 1783, 2 volumes) are characterised by a clear and agreeable style, and he is, on account of his pure and eloquent language, frequently called the *Christian Cicero*. His seven books, *Institutiones divinæ*, are particularly celebrated, and worthy of notice.

**LADIES' SLIPPER** (*cypridium*); a beautiful genus of orchideous plants, conspicuous for its large, inflated flowers. The roots are perennial; the stems simple, bearing entire sheathing leaves; and the flowers are solitary or few in number. The species are confined to the northern regions of the globe: six inhabit the Alleghany mountains, Canada, and the northern parts of the United States; and five are found in Siberia, and the northern and mountainous parts of Europe.

**LADOGA, or LADOZSKOI**; a lake in Russia, between the Baltic and the lake Onega, surrounded by the governments of Petersburg, Viborg, and Olo-nets. The south-west extremity lies thirty miles east of Petersburg. It is 140 miles long, and 75 broad, containing 6200 square miles, and is the largest lake in Europe. It contains an abundance of fish, particularly salmon. The shores are flat, but the navigation dangerous on account of quick-sands.

**LADRONES**; a cluster of islands in the Northern Pacific ocean, discovered by Magellan. Their number is stated by some authorities as fourteen, by others as sixteen. They occupy a space of 450 miles; lon. 145° to 148° E.; lat. 13° to 21° N. Magellan called them *Islas de Ladrones* (islands of thieves), because the natives stole every thing made of iron which they could find. Towards the end of the seventeenth century, they received the name of *Mariana, or Marianne* islands, from the queen of Spain, Marianne of Austria, the mother of Charles II., at whose expense missionaries were sent over thither, to propagate the Christian faith. In almost all books of history and voyages, as well as in maps, we find them styled the *Ladrones*; notwithstanding which, the above-mentioned name has gradually gained ground. These islands lie in the torrid zone; and yet so much is the heat of the sun tempered by the air, and by breezes of the sea, that the climate is generally serene, salubrious, and pleasant: in some seasons of the year only they are liable to hurricanes, which, though they do sometimes a great deal of mischief, yet clear and refresh the air in such a manner that, before they were visited by the Europeans, the people commonly lived to a great age. The inhabitants are tall, robust, active, and ingenious. They wear little clothing. Both sexes stain their teeth black, and paint their bodies red. Their religion is an ignorant superstition. That most extraordinary and useful plant, the bread-fruit tree, was first discovered here.

**LADY-BIRD**; a pretty species of beetle, belonging to the extensive genus *coccinella*, having the elytra red, bordering on yellow, and adorned with two black spots, one on the middle of each. It appears, however, that almost all the small and spotted beetles of this genus are indiscriminately known under the name of *lady-bird*. All these insects deposit their eggs on the leaves of trees, and the *larvæ* produced are great devourers of plant-lice (*aphis*). They continue in the chrysalis state about a fortnight. Their wings, when they first burst their covering, are soft and dusky, but soon

become hard, and assume the various colours appropriate to the species. The lady-bird is celebrated for its reputed powers in the cure of tooth-ache; for which purpose one of these insects is to be crushed between the finger and thumb, which are then to be several times applied to the suffering part. Their virtue in effecting a cure depends on the same cause as that of Perkins's metallic tractors and other means of animal magnetism—the imagination of the patient.

**LAERTES**, son of Acrisius and Chalconesthen, was one of the heroes engaged in the chase of the Caledonian boar, and in the expedition of the Argonauts. He afterwards married Euryclæa, the daughter of Autolycus, by whom he had several daughters and one son, Ulysses. He attained a great age. The long absence of his son, in the Trojan war, plunged him into deep melancholy; but his return restored the old man's energies, and he took part in the fight with the Ithacans.

**LÊTARE**; the fourth Sunday after Lent. The ancient Christian church used to begin its service, on this day, with the words *Letare, sterilis, or Letare, Jerusalem*.

**LAFAYETTE**, GILBERT MOTTEZ (formerly *marquis de*), was born at Chavagnac, near Brionne, in Auvergne, Sept. 6, 1757, was educated in the college of Louis le Grand, in Paris, placed at court, as an officer in one of the guards of honour, and, at the age of seventeen, was married to the grand-daughter of the duke de Noailles. It was under these circumstances, that the young *marquis de Lafayette* entered upon a career so little to be expected of a youth of vast fortune, of high rank, of powerful connexions, at the most brilliant and fascinating court in the world. He left France secretly for America, in 1777, and arrived at Charleston, South Carolina, April 25, being then nineteen years old. The state of America, it is well known, was, at that time, most gloomy; a feeble army, without clothing or arms, was with difficulty kept together before a victorious enemy; the government was without resources or credit, and the American agents in Paris were actually obliged to confess that they could not furnish the young nobleman with a conveyance. "Then," said he, "I will fit out a vessel myself;" and he did so. The sensation produced in America, by his arrival, was very great: it encouraged the almost disheartened people to hope for success and sympathy from one of the most powerful nations in Europe. Immediately on his arrival, Lafayette received the offer of a command in the continental army, but declined it, raised and equipped a body of men at his own expense, and then entered the service as a volunteer, without pay. He lived in the family of the commander-in-chief, and won his full affection and confidence. He was appointed major-general in July, and, in September, was wounded at Brandywine. He was employed in Pennsylvania and Rhode Island in 1778, and, after receiving the thanks of the country for his important services, embarked at Boston, in January, 1779, for France, where it was thought that he could assist the cause more effectually for a time. The treaty concluded between France and America, about the same period, was, by his personal exertions, made effective, and he returned to America, with the intelligence that a French arm would soon be sent after him. Immediately on his arrival, he entered the service, and received the command of a body of infantry of about 2000 men, which he clothed and equipped, in part, at his own expense. His forced march to Virginia, in December, 1780, raising 2000 guineas at Baltimore, on his own credit to supply the wants of his troops; his rescue of Richmond; his long trial of generalship

with Cornwallis, who boasted that "the boy could not escape him;" the siege of Yorktown, and the storming of the redoubt, are proofs of his devotion to the cause of American independence. Desirous of serving that cause at home, he again returned to France for that purpose. Congress, which had already acknowledged his merits on former occasions, now passed new resolutions, Nov. 23, 1781, in which, besides the usual marks of approbation, they desire the American ministers to confer with him in their negotiations. In France, a brilliant reputation had preceded him, and he was received with the highest marks of public admiration. Still he urged upon his government the necessity of negotiating with a powerful force in America, and succeeded in obtaining orders to this effect. On his arrival in Cadix, he found forty-nine ships, with 20,000 men, ready to follow him to America, had not peace rendered it unnecessary. A letter from him communicated the first intelligence of that event to congress. The importance of his services in France may be seen by consulting his letters in the *Correspondence of the American Revolution* (Boston, 1831). He received pressing invitations, however, to revisit the country. Washington, in particular, urged it strongly; and, for the third time, Lafayette landed in the United States, Aug. 4, 1784. After passing a few days at Mount Vernon, he visited Baltimore, Philadelphia, New York, Boston, &c., and was every where received with the greatest enthusiasm and delight. Previous to his return to France, congress appointed a deputation, consisting of one member from each state, "to take leave of him on behalf of the country, and assure him that these United States regard him with particular affection, and will not cease to feel an interest in whatever may concern his honour and prosperity."

After his return, he was engaged in endeavouring to mitigate the condition of the Protestants in France, and to effect the abolition of slavery. In the assembly of the notables, in 1787, he proposed the suppression of *lettres de cachet* and of the state prisons, the emancipation of the Protestants, and the convocation of the representatives of the nation. When asked by the count D'Artois, afterwards Charles X., if he demanded the states-general—"Yes," was his reply, "and something better." Being elected a member of the states-general, which took the name of *national assembly* (1789), he proposed a declaration of rights, and the decree providing for the responsibility of the officers of the crown. Two days after the attack on the Bastille, he was appointed (July 15) commander-in-chief of the national guards of Paris. The court and national assembly were still at Versailles, and the populace of Paris, irritated at this, had already adopted, in sign of opposition, a blue and red cockade (being the colours of the city of Paris). July 26, Lafayette added to this cockade the white of the royal arms, declaring at the same time that the tricolor should go round the world. On the march of the populace to Versailles (October 5 and 6), the national guards clamoured to be led thither. Lafayette refused to comply with their demand, until, having received orders in the afternoon, he set off, and arrived at ten o'clock, after having been on horseback from before day-light. He requested that the interior posts of the *château* might be committed to him; but his request was refused, and the outer posts only were intrusted to the national guards. This was the night on which the assassins murdered two of the queen's guards, and were proceeding to further acts of violence, when Lafayette, at the head of the national troops, put an end to the disorder, and saved the lives of the royal family. In the morning he accompanied them to Paris. (See *Louis XVI.*)

On the establishment of the Jacobin club at Paris, he organized, with Bailly, then mayor of Paris, the opposing club of Feuillans. Jan. 20, 1790, he supported the motion for the abolition of titles of nobility, from which period he renounced his own, and has never since resumed it. The constitution of a representative monarchy, which was the object of his wishes, was now proposed, and July 13, 1790, was appointed for its acceptance by the king and the nation, and, in the name of 4,000,000 national guards, Lafayette swore fidelity to the constitution. Declining the dangerous power of constable of France, or generalissimo of the national guards of the kingdom, after having organized the national militia, and defended the king from the popular violence, he resigned all command, and retired to his estates. The first coalition against France (1792) soon called him from his retirement. Being appointed one of the three major-generals in the command of the French armies, he established discipline, and defeated the enemy at Philippeville, Maubeuge and Florennes, when his career of success was interrupted by the domestic factions of his country. Lafayette openly denounced the terrible Jacobins, in his letter of June 16, in which he declared that the enemies of the revolution, under the mask of popular leaders, were endeavouring to stifle liberty under the excesses of licentiousness. June 20, he appeared at the bar of the assembly to vindicate his conduct, and demand the punishment of the guilty authors of the violence. But the Mountain had already overthrown the constitution, and nothing could be effected. Lafayette then offered to conduct the king and his family to Compiègne. This proffer being declined, he returned to the army, which he endeavoured to rally round the constitution. June 30, he was burned in effigy at the Palais-Royal, and, Aug. 5, was accused of treason before the assembly. Still he declared himself openly against the proceedings of August 10; but, finding himself unsupported by his soldiers, he determined to leave the country, and take refuge in some neutral ground. Some persons have charged general Lafayette with a want of firmness at this period; but it is without a full understanding of the situation of things. Conscious that a price was set on his head at home, knowing that his troops would not support him against the principles which were triumphing in the clubs and the assembly, and sensible that, even if he were able to protract the contest with the victorious faction, the frontiers would be exposed to the invasions of the emigrants and their foreign allies, with whom he would have felt it treason against the nation to have negotiated, he had no alternative. Having been captured by an Austrian patrol, he was delivered to the Prussians, by whom he was again transferred to Austria. He was carried, with great secrecy, to Olmütz, where he was subjected to every privation and suffering, and cut off from all communication with his friends, who were not even able to discover the place of his confinement until late in 1794. An unsuccessful attempt was made to deliver him from prison by Dr Bollman, a German, and Mr Huger (now colonel Huger of Charleston, S. C.). His wife and daughters, however, succeeded in obtaining admission to him, and remained with him nearly two years, till his release. Washington had written directly to the emperor of Austria on his behalf, without effect; but after the memorable campaign of Bonaparte in Italy, the French government required that the prisoners at Olmütz should be released, which was done Aug. 25, 1797, after a negotiation that lasted three months. Refusing to take any part in the revolutions of the 18th Fructidor, or of the 18th Brumaire, he returned to his estate at La Grange, and, declining the dignity of senator,

offered him by Bonaparte, he gave his vote against the consulate for life, and, taking no further part in public affairs, devoted himself to agricultural pursuits. On the restoration of the Bourbons, in 1814, he perceived that their principles of government were not such as France required, and he did not therefore leave his retirement. The 20th of March, 1815, again saw Napoleon on the imperial throne, and endeavouring to conciliate the nation by the profession of liberal principles. Lafayette refused, though urged, through the mediation of Joseph, to see him, protested against the *acte additionnel* of April 22, declined the peerage offered him by the emperor, but accepted the place of representative, to which the votes of his fellow-citizens called him. He first met Napoleon at the opening of the chambers: the emperor received him with great marks of kindness, to which, however, he did not respond; but, although he would take no part in the projects of Napoleon, he gave his vote for all necessary supplies, on the ground that France was invaded, and that it was the duty of all Frenchmen to defend their country. June 21, Napoleon returned from Waterloo, and it was understood that it was determined to dissolve the house of representatives, and establish a dictatorship. Two of his counsellors informed Lafayette that, in two hours, the representative body would cease to exist. Immediately on the opening of the session, he ascended the tribune, and addressed the house as follows:—"When, for the first time, after an interval of many years, I raise a voice which all the old friends of liberty will still recognise, it is to speak of the dangers of the country, which you only can save. This, then, is the moment for us to rally round the old tri-coloured standard, the standard of '89, of liberty, of equality, of public order, which we have now to defend against foreign violence and domestic usurpation." He then moved that the house declare itself in permanent session, and all attempts to dissolve it high treason; that whoever should make such an attempt, should be considered a traitor to the country, &c. In the evening, Napoleon sent Lucien to the house, to make one more effort in his favour. Lucien, in a strain of impassioned eloquence, conjured the house not to compromise the honour of the French nation by inconstancy to the emperor. At these words, Lafayette rose in his place, and, addressing himself directly to the orator, exclaimed, "Who dares accuse the French nation of inconstancy to the emperor? Through the sands of Egypt, and the wastes of Russia, over fifty fields of battle, this nation has followed him devotedly; and it is for this that we now mourn the blood of three millions of Frenchmen." This appeal had such an effect on the assembly, that Lucien resumed his seat without finishing his discourse. A deputation of five members from each house was then appointed to deliberate in committee with the council of ministers. Of this deputation, general Lafayette was a member, and he moved that a committee should be sent to the emperor to demand his abdication. The arch-chancellor refused to put the motion; but the emperor sent in his abdication the next morning (June 22). A provisional government was formed, and Lafayette was sent to demand a suspension of hostilities of the allies, which was refused. On his return, he found Paris in possession of the enemy; and, and, a few days after (July 8), the doors of the representatives' chamber were closed, and guarded by Prussian troops. Lafayette conducted a number of the members to the house of Lanjuinais, the president, where they drew up a protest against this act of violence, and quietly separated. Lafayette once retired once more to La Grange, where he remained till 1818,

when he was chosen member of the chamber of deputies. Here he continued to support his constitutional principles, by opposing the laws of exception, the establishment of the censorship of the press, the suspension of personal liberty, &c., and by advocating the cause of public instruction, the organisation of a national militia, and the inviolability of the charter.

In August, 1824, he landed at New York, on a visit to the United States, upon the invitation of the president, and was received, in every part of the country, with the warmest expressions of delight and enthusiasm. He was proclaimed, by the popular voice, "the guest of the nation," and his presence was every where the signal for festivals and rejoicings. He passed through the twenty-four states of the Union in a sort of triumphal procession, in which all parties joined to forget their dissensions, in which the veterans of the war renewed their youth, and the young were carried back to the doings and sufferings of their fathers. Having celebrated, at Bunker hill, the anniversary of the first conflict of the revolution, and, at Yorktown, that of its closing scene, in which he himself had borne so conspicuous a part, and taken leave of the four ex-presidents of the United States, he received the farewell of the president in the name of the nation, and sailed from the capital in a frigate named, in compliment to him, the *Brandywine*. Sept. 7, 1825, and arrived at Havre, where the citizens, having peaceably assembled to make some demonstration of their respect for his character, were dispersed by the *gendarmérie*. In December following, the congress of the United States made him a grant of 200,000 dollars, and a township of land, "in consideration of his important services and expenditures during the American revolution." The grant of money was in the shape of stock, bearing interest at six per cent., and redeemable Dec. 31, 1834. In August, 1827, he attended the obsequies of *Monroe*, over whose body he pronounced a eulogy. In Nov. 1827, the chamber of deputies was dissolved. Lafayette was again returned a member by the new elections. Shortly before the revolution of 1830, he travelled to Lyons, &c., and was enthusiastically received—a striking contrast to the conduct of the ministers towards him, and an alarming symptom to the despotic government. During the revolution of July, 1830, he was appointed general-in-chief of the national guards of Paris, and, though not personally engaged in the fight, his activity and name were of the greatest service. When the national guards were established throughout France, after the termination of the struggle, he was appointed their commander-in-chief, and his activity in this post was admirable. Aug. 17, he was made marshal of France. He however, sent in his resignation in December, 1830, which was accepted, and count Lobau appointed chief of the national guards of Paris. Lafayette declared from the tribune, that he had acted thus in consequence of the distrust which the power accompanying his situation seemed to excite in some people. On the same occasion, he also expressed his disapprobation of the new law of election. Shortly before his resignation, he exerted himself most praiseworthy to maintain order during the trial of the ex-ministers. The Poles made him first guardian of the Polish national guards. He died on the 20th of May, 1834. The French Chamber of Deputies attended his funeral, and at Washington, the halls of the representatives and of the senate were closed in black.

Very few men have acted so conspicuous a part in life as Lafayette for so long a period. He was the heroic assertor of liberty, both in the new and old world,—in his youth and in his age; always, an ardent

supporter of freedom and the rights of mankind, and, at the same time, a friend of law and order. Without entering into judgment on his political doctrines, it may safely be said, that history scarcely possesses a name, which has passed through the ordeal of public opinion, even in the darkest and most tempestuous times, more pure and unsullied than his. Regnault-Warin's *Mémoires sur le Général Lafayette* (Paris, 1824) contains many facts relative to his political life in France. His secretary, M. Levasseur, published an account of his tour in the United States (Paris, 1825), which has been translated in America.

LAFAYETTE, MARIA MAGDALENA, countess de; a lady of literary celebrity, daughter of the governor of Havre de Grace, Aymar de la Vergne. A careful and classical education had given her a great love for literature. In 1655, she married count Francis de Lafayette, and her house now became a place of meeting for the most distinguished men in her time. The famous duke of Rochefoucauld was one of her intimate friends. Among the learned men who surrounded her, the most distinguished were Huet, Ménage, Lafontaine and Ségrais. She died 1693. Her works entitle her to an honourable place among French writers. The most distinguished of them are *Zaide*, *La Princesse de Clèves*, and *La Princesse de Montpensier*.

LAFAYETTE MOUNTAIN. See *Haystack*.

LAFFITTE, JACQUES, a banker in Paris, member of the legion of honour, and, in 1816, elected to the chamber of deputies, a man equally distinguished for his talents, his wealth and his virtues, was born at Bayonne, in 1767, and, by his own diligence and merit, acquired a fortune in the banking-house of the senator Perregaux. In 1805, he became the head of the house, which he made one of the first houses in France. In 1809, he was appointed director of the bank of France, and, in 1814, president of the same establishment. He discharged the duties of this important office without accepting the large salary connected with it. In 1809, he was made president of the chamber of commerce in Paris, and, in 1813, judge of the tribunal of commerce. When the credit of France, in 1815, was at a very dangerous crisis, Laffitte advanced 2,000,000, in ready money, by which means a necessary article in the capitulation of Paris was settled. It was owing to his counsels, that France was enabled to support the burden of the military contributions imposed on her, without injury to the credit of the state. But when Laffitte joined the left side in the chamber of deputies, and opposed the encroachments of the infatuated absolutists, the laws of exception and the clergy, he became an object of hatred to the ultras, and of suspicion to the ministry. In 1819, he was deprived of the presidency of the bank, which was bestowed on the duke of Gaeta, with a large salary; yet he was, in 1822, unanimously re-elected to the office of *régent de la banque* (director). His eloquent speeches in the chamber, some of which were extemporaneous, proved his talent and knowledge, especially in the department of finance. He also spoke with energy on the occasion of the disturbances in Paris in 1819, when the young Lallemand was shot in the street by one of the watch, and old men, women, and children were trampled down by the *gendarmes*. He was not re-elected for the session of 1824. By favouring the reduction of the *rentes*, he appears to have lost his popularity. The chamber of deputies accepted the proposal for the reduction of the interest on the public securities then in circulation, but the chamber of peers rejected it. To prove the justice and advantages of this plan, and to justify his own conduct in the project, he wrote his *Réflexions sur la Réduction de la Rente et sur l'Etat du Crédit*, a financial work of much merit.

The second edition was published at Paris, in 1824. How great the confidence reposed in Laffitte was, the following fact will serve to show. When Louis XVIII. was compelled to flee, in 1815, he intrusted his private property, for safe keeping, to Laffitte; three months after, Napoleon, under the same circumstances, showed him the same confidence, and, at St Helena, named him his executor. As Napoleon, in the hundred days, had respected the private property of Louis, so Louis XVIII. respected that of the emperor, and put no obstacles in the way of the execution of his last will. Among the merits of Laffitte, his great benevolence to the poor ought not to pass unnoticed. The publishers of the Latin classics, at Paris, were also assisted by him in carrying on their useful undertaking. Laffitte was, in 1827, again elected to the chamber of deputies. His only daughter was married, in 1828, to the prince of Moskwa, eldest son of the celebrated marshal Ney. He took an active part in the revolution of July, 1830, being one of the deputies who signed the protest, and declared themselves deputies of France, in spite of Polignac's order to annul the election. Laffitte was also one of the deputies, who, during the fight on July 29, went to marshal Marmont, in order to put a stop to the conflict. November 3, 1830, he was made minister of finance and president of the council, in which situation he remained until March 14, 1831, when he was succeeded by M. Casimir Perrier, belonging to the left centre. Laffitte suffered immense losses in consequence of the fall of stocks since the revolution of July, 1830.

LAFITAU, JOSEPH FRANCIS; a French Jesuit, who was a native of Bordeaux, and was employed as a missionary among the savages of North America. On his return to Europe, he published a work, entitled *Mœurs des Sauvages Américains comparées aux Mœurs des premiers Temps* (Paris, 1724, 2 volumes, 4to); and another on the Discoveries and Conquests of the Portuguese in the New World (1733, in 2 vols., 4to). In the former, he maintains that the North American savages are descended from the barbarians who inhabited Greece at an early period. He died in 1740.

LAFITTE; a Bordeaux wine. See *Bordelais Wines*.

LAFONTAINE, JEAN. See *Fontaine, la*.

LAFONTAINE, AUGUSTUS HENRY JULIUS, the most fertile and one of the most popular novelists of Germany, was born in 1756, in Brunswick. He studied theology, and, in 1792, accompanied the Prussian army into Champagne, in the capacity of chaplain. He lives now at Halle. His novels are entertaining, but not distinguished by merit of a high order. Of late, he has occupied himself with *Æschylus*, and published *Agamemnon* and the *Cœphori*, with judicious notes (Halle, 1821 et seq., 2 vols.), in which he sets forth some peculiar views respecting the text of this author.

LAGO MAGGIORE, or LAKE MAJOR, or LOCARNO (anciently *Verbanus*); a large lake in Italy, separating the Austrian government of Milan from the Sardinian Milanese, extending from Sesto to Locarno; about forty-five miles long, and seven broad. It is 636 feet above the level of the sea, according to Saussure, and, in some places, 1800 feet deep. It is traversed by the Ticino. Its waters, which are as clear as crystal, contain various fish. Its banks abound in every Alpine beauty, and are adorned with a number of picturesquely situated villages and towns. On all sides it is surrounded by hills, planted with vineyards and plantations of chestnuts, interspersed with villas. There are several islands, two of which, Isola Bella and Isola Madre, called *Borromean islands*, are laid out in gardens

and pleasure grounds, with palaces erected on them, adorned with paintings, sculptures, &c. *Isola de' Pescatori* is inhabited by fishermen. See *Borromee Islands*.

**LAGO NERO, or NEGRO;** a town in Naples, in Basilicata, at the foot of the Appenines, near a lake from which it receives its name; twelve miles north-east of Policastro; population, 5000. In March, 1806, a battle was fought here between the French and the troops of the king of Naples, in which the former were victorious.

**LAGOON** (from the Latin *lacuna*, a ditch) means a *morass*. The name is given particularly to those creeks which extend along the coast of the Adriatic, in the present government of Venice, and which are formed by water running up in the land. They contain many islands; Venice, for instance, is built on sixty of them. In some places, they are deep; in others so shallow, that their exhalations are offensive and dangerous. The Austrian government does less towards clearing them out than the former Venetian government did; and Venice, in consequence, is considerably less healthy than it was. Towards the sea, the islets are secured by dams, natural or artificial.

**LAGRANGE, JOSEPH LOUIS**, a celebrated mathematician, was born in 1736, at Turin, and originally directed his attention to philosophy. But his natural taste for mathematics soon unfolded itself, and he studied with such ardour, that, in his eighteenth year, in a letter to the celebrated Pagnano, he communicated to him a number of mathematical discoveries which he had made. He also solved the questions, which had been proposed a long time before, by Euler, on the calculation of isoperimetrical figures, and on the theory of the least action. When scarcely nineteen years of age, Lagrange was made mathematical professor in the artillery school at Turin; and the memoirs of the scientific association, which he established with the approbation of the government, and in conjunction with the celebrated Cigna and the marquis of Saluces, excited such attention in the literary world, that he was elected a fellow of the academy at Berlin, and Euler, and D'Alembert entered into a constant correspondence with this young man. During a journey to Paris, which he made in company with his friend Caraccioli, who was sent as an ambassador to London, Lagrange became personally acquainted with the Parisian *savants*, and was received with general respect. But ill health soon obliged him to return home, where he applied himself with renewed diligence to his scientific labours. At this time, he obtained the prize of the academy of sciences in Paris, for a treatise on the theory of the satellites of Jupiter, and, at the same time, by his exposition of the leading features of his doctrine in regard to the planetary system, rendered his name immortal. He soon after received an invitation from Frederic the Great, to go to Berlin, with the title of director of the academy, in place of Euler, who had gone to St Petersburg. The king of Sardinia was, however, very reluctant to permit his distinguished subject to depart. Esteemed by the great Frederic, who preferred his independent spirit to the somewhat too submissive character of Euler, and valued highly by all who became acquainted with him, Lagrange lived in Berlin in pleasant circumstances (which were interrupted, however, by the continual sickness of his wife), during the lifetime of the king. After Frederic's death, the regard which had been paid to men of genius and talent at the Prussian court declined, and Lagrange began to look about for another situation. At this period, Mirabeau saw him in Berlin, and resolved to obtain this renowned geometer for France. Lagrange accepted the offer

made him from Paris, and declined the proposals of the ambassadors of Naples, Sardinia, and Tuscany. He was received at Paris, in 1787, with the highest tokens of respect. But a deep melancholy seemed to have taken entire possession of him, and to have palsied his mind, notwithstanding all the efforts which his friends made to remove it. He suffered the same inconvenience which D'Alembert had once before experienced, viz. of having lost all love for his science. Lagrange now zealously employed himself upon the history of religion, the theory of ancient music, languages, and even the medical sciences. His own favourite science alone had no attraction for him, and he even suffered his most celebrated work, *La Mécanique analytique* (for which Du Châtelet, to whom Lagrange had given the manuscript, was for a long time unable to find a publisher, as it was untouched for two years after its publication. At the proposal of Du Séjour, he was, in 1791, commissioned by the national assembly in his pension of 6000 francs, and, in order to indemnify him for the depreciation of the paper currency, he was first appointed a member of the committee for rewarding useful inventions, and, afterwards (in March, 1792), one of the directors of the mint. Dissatisfied with this station, although Cicero and Newton had discharged similar offices, he soon resigned it, considering it as an oppressive burden. In the same year, he was married, for the second time, to a daughter of the *sensu* Lemonnier, hoping to lead a tranquil life in the midst of the storms of the revolution. The decree of October 16, 1793, commanding all foreigners to leave France, and the execution of Bailly, Lapointe, and other distinguished men, soon, however, destroyed his illusions. Through the instrumentality of Guyon Morveau, the severe law of banishment from the country was not put in force against him; but the danger of becoming a victim to the rage of the exasperated populace remained. Herault de Sechelles offered to procure him a place in an embassy to Prussia, but Lagrange, who had conceived a warm affection for his new country, preferred to remain there in spite of the danger. Peace and quiet at length returned. It was proposed to restore the institutions for the promotion of learning, which had been destroyed during the reign of anarchy, and Lagrange was appointed professor in the newly established normal school at Paris. In this new sphere of influence, his former love for his science returned with all its strength. At the formation of the institute, the name of Lagrange was the first on the list of members, and he was, likewise, the first member of the newly constituted bureau of hospitals. His fame now increased from day to day, and France, feeling honoured in the possession of such a son, determined to give him a public mark of her esteem. By the command of the directory, the minister of foreign affairs, Talleyrand, commissioned the French chargé d'affaires in Turin, citizen D'Eymar, to visit Lagrange's father, and congratulate him, in the name of France, in having such a son. This commission was performed by D'Eymar in the most brilliant manner, accompanied by several generals and other distinguished persons. Napoleon respected the talents and services of Lagrange not less than the republic had done; and while consul and emperor, he never ceased to show him distinguished tokens of his favour in every possible way. Member of the senate, grand officer of the legion of honour, and count of the empire, Lagrange saw himself surrounded with every external honour; but neither this, nor the confidence reposed in him by the head of the state, could make him vain, and, as modest and retiring as ever, he devoted himself with the same zeal and industry to his studies. His application

probably hastened his death. Notwithstanding his advanced age, he could not be content to relax his exertions, and had superintended the publication of the second edition of his *Théorie des Fonctions analytiques*, enriched with annotations, when, exhausted by his labours, he died, April 10, 1813. His remains were interred in the Pantheon. Lacépède and La Place pronounced funeral addresses over his body.

Lagrange was no less amiable than modest, and was never led by the honours bestowed upon himself, to underrate the merits of others. His respect for Euler was unlimited, and he was frequently accustomed to say to his scholars, "Study Euler, if you would become geometers." His works have been partly published separately, and are partly contained in the memoirs of the academies of Turin, Berlin, and Paris, in the Journal of the Polytechnical School, the *Connaissance des Temps*, and in the *Ephémérides*. The most important are his *Mécanique analytique* (Paris, 1787; new editions, 1811, and 1815); *Théorie des Fonctions analytiques* (Paris, 1797, and 1813); *Résolutions des Equations numériques* (Paris, 1798, and 1808); *Leçons sur le calcul des Fonctions* (there are several editions of this work, but the latest is that of Paris, 1806), and *Essai d'Arithmétique politique* (to be found in the collections edited by Reeder, *id* 1796). A part of Lagrange's posthumous papers were, in 1815, given to the institute, by Carnot, minister of the interior; and by a subsequent vote of the academy of sciences, they were incorporated with the library of that learned society.

LAGUS. See *Ptolemy*.

LAHARPE, JEAN FRANÇOIS DE; a French dramatic poet, critic, and philosopher of the last century, born at Paris, November 20, 1739. His father, a Swiss officer in the French service, dying in indigence, Asselin, president of the college of Harcourt, admitted him into that seminary, where he received an excellent education. A lampoon on his benefactor, which was, in all probability without foundation, attributed to him, occasioned the confinement of the suspected satirist for some months in the Bastille. This circumstance disgusted him with his situation, and, at a very early age, he threw himself on his own talents as an author for support. In 1762, he published a collection of poems. The tragedy of *Warwick* (1763) was very beneficial to him in a pecuniary point of view, and procured him considerable reputation. It still remains on the stage. His *Timoleon* and *Pharamond* met with less success; but a series of *éloges* on Charles V., Catinat, Fénelon, Voltaire, and Henri Quatre (especially the latter), gained him much credit, in a different department of literature. On the breaking out of the revolution, Laharpe embraced the principles of republicanism; but, during the reign of terror, his moderation rendering him an object of suspicion to those then in power, he was thrown into prison in 1793, and, while in confinement, is said to have owed his conversion to Christianity to the arguments of his fellow-captive, the bishop of St Brieux. Though sentenced to deportation, the changes of the times finally restored him to liberty, and he passed the remainder of his days in literary retirement. A short time before his death, his remarks on the measures of the government excited the displeasure of the first consul, and he was banished to Orleans. He soon returned, however, and died in 1803, in his 64th year. His principal work is the *Lyce*, or a complete Course of Literature (8vo, 12 vols). Among the rest are *Gustavus Vasa*, *Timoleon*, *Pharamond*, and *Philoctetes*, tragedies; the latter an elegant translation from the Greek of Sophocles. *Tungu et Féline* (a poem, 1779); *Translations of Camoens's Lusiad* (2 vols); the *Palms*

of David, and the works of Suetonius (2 vols); a Commentary on the dramatic Works of Racine (7 vols, 8vo); the Correspondence with the Czar Paul the First (4 vols, 8vo), and a refutation of the opinions of Helvetius.

LA HOGUE; the north-western point of the peninsula, near Cherbourg, in the department La Manche. A naval battle was fought here May 29, 1692, between the French, under Fourville, and the British and Dutch, under Russel. The French were beaten. James II. beheld the battle from the land, and was obliged to witness the defeat of his party.

LAHYRE (properly *Etienne Vignoles*); a brave knight in the reign of Charles VII. of France, and the faithful companion of the maid of Orleans. Lahyre hated the English bitterly, as his family had been ruined by their invasions. In 1418, when Coucy was surrendered to the Burgundians, the allies of the English, in consequence of the treachery of the mistress of the commandant, Lahyre and the equally brave Peter de Xaintrailles placed themselves at the head of the remnant of the garrison, and successfully led their little band, in the midst of constant skirmishes, through a country filled with enemies. After many valiant deeds in Valois, and in Champagne, Lahyre hastened to the relief of Orleans. The government of the town sent him with a petition to the dauphin, Charles VII., to implore his assistance. He found the weak and pleasure-loving prince preparing for an entertainment. "What are your thoughts?" said Charles to the knight, who viewed with indignation the frivolity of the court. "I think," replied Lahyre, "that a kingdom could not be lost more merrily." Returning to Orleans, he did his utmost to save the town, and to assemble the relics of the beaten army. In 1429, the maid of Orleans appeared. Lahyre joined her, and was with her at her entrance into the town. He followed the defeated English, and distinguished himself in the battles of Jargeau and Patay. In the middle of winter, he stormed Louviers, and advanced to Rouen with the intention of liberating the imprisoned Joan; but the English took him prisoner. He soon, however, obtained his liberty, and renewed his exertions, with Xaintrailles, against the enemy. To his death, Lahyre was the most inveterate enemy of the invaders of his country, and injured them greatly. He was repeatedly taken prisoner, often by the treachery of false friends; but he always succeeded in liberating himself: for a time, he even braved his own king, continuing a petty warfare against the English and the Burgundians, and garrisoning several towns, although Charles had concluded a peace. On a journey to Montauban, where he accompanied Charles VII., in 1442, he died in consequence of his wounds. His romantic valour, together with his attachment to the maid of Orleans, procured him, after his death, the honour of having his name added to the knave of hearts in the French playing cards; the pictures of which are, as it is well known, designated by the names of different heroes.

LAING, MAJOR ALEXANDER GORDON, one of the many unfortunate explorers of Africa, was born at Edinburgh on the 27th of December, 1793. His father was a popular classical teacher in that city, and young Laing, after receiving a good education, employed himself, for some time, in taking charge of the commercial department of his father's academy.

In 1800, volunteering was very general in Edinburgh, and Laing attached himself to a corps then forming. In 1810, he was made an ensign in the Prince of Wales's volunteers, and from that period the academy had no more charms for him. In his eighteenth year he set off for Barbadoes with his maternal uncle, then colonel Gordon, who at that time held the

office of deputy quarter-master-general in Barbadoes, and who gave him a situation as clerk in his counting-house. While in this situation he obtained, unsolicited, an ensign's commission in the York light infantry, and joined his regiment in Antigua: in two years he was made a lieutenant, and shortly after, on the reduction of the regiment, was put on half-pay. Dissatisfied with the inactivity consequent on such a measure, he exchanged into the 2nd West India regiment, and proceeded to Jamaica. Here over-exertion caused him to suffer much from disease on the liver. He retired to Honduras for the recovery of his health, where he was appointed fort major. His distemper, however, returned with increasing violence, and compelled him to seek relief in the air of his native land.

During eighteen months that he remained at home, the division of the 2nd West India regiment to which he belonged, was reduced, and he was again put on half-pay. Restored, however, to health, he could not remain inactive. Towards the end of 1819, he went to London, and having been appointed lieutenant and adjutant of his regiment, he proceeded to Sierra Leone.

From the beginning of the year 1822 his history as an *African traveller* may properly be dated. In that year he was despatched on two several important embassies to Kambia and the Mandingo country. Having been led to believe, during his last embassy, that the Soolimas were in possession of quantities of gold and ivory, he suggested to the governor of Sierra Leone the propriety and probable advantages of the colony opening up a commercial intercourse with them; and the suggestion having been approved of, he left Sierra Leone on the 16th of April, 1822, with the view of furthering such an object, accompanied by two Europeans, and thirteen natives of Africa. On his arrival at Komato, the last town of the Koorankoes, on his route, he found a messenger from the king of Soolimana, with horses and carriages to convey him to Falaba, the capital of that nation. Not long after reaching Falaba, lieutenant, now captain Laing (for about this time he was promoted), was seized with a fever which brought on delirium for several days. While in this state he was cupped by one of the Soolima doctors, and this so effectually as to satisfy him that it was the means of saving his life. Although within three days' journey of the source of the Niger, he was not permitted to visit that often sought spot, and deep was the grief which the loss of such an opportunity cost him. On the 17th of September he quitted Falaba, and had no sooner reached Sierra Leone than he was ordered to join his regiment on the Gold coast without delay, in the war with the Ashantees, which order he obeyed, after having transmitted details to his friend, captain Sabine in London, of the geographical determinations of the latitude, longitude, and elevation of the places he had lately visited.

In 1824 he was sent home, to acquaint government of the state of the Ashantee country, and the circumstances of the war. An opportunity having unexpectedly presented itself to him, of proceeding under lord Bathurst's auspices, in the discovery of the course and termination of the Niger, he gladly embraced it; and it was arranged, that he should accompany the caravan from Tripoli to Timbuctoo, in the ensuing summer. Our traveller, now promoted to a majority, left London for Tripoli, in the month of February, 1825. While in the latter city he had occasion to have frequent intercourse with the British consul, Mr Warrington; a close intimacy was formed between them, and the bond was strengthened by the major's marrying Emma Maria, the daughter of the consul. This event was celebrated on the 14th of

July, 1825; and two days after the marriage the major proceeded on his pilgrimage to Timbuctoo.

He left Tripoli in company with the sheik Baham whom he afterwards discovered to be no less a personage than the governor of Ghadamis. After a tedious and circuitous journey of nearly a thousand miles, they arrived at Ghadamis; and on the 31 of December reached Ensala, a town said to be thirty-five days' journey from Timbuctoo, and from which he wrote the last letter to his relations in Scotland, which they ever received from him. He quitted Ensala on the 10th of January, 1826, and on the 29th of the same month entered on the sandy desert of Tenesarooff. Hitherto the elements only had been his foes; but in the desert he was to enter on a different course of experience, and bitter assuredly it was. In an engagement with the Tuaricks he received no less than twenty-four sabre wounds, and on recovering from his wounds, he was seized with fever.

On the 18th of August he arrived at Timbuctoo, and made himself acquainted with many interesting particulars regarding that capital of central Africa. After remaining there about two months, he set out on his return, but was assassinated on the way, Sept. 1826, and all his valuable papers stolen. Much mystery for some time existed regarding the death of this unfortunate and enterprising traveller; but from facts elicited at Tripoli in 1829, it would appear that the very guide (Bahani), who set out with him on his expedition, was under the secret direction of Hassunah D' Ghies, son of the prime minister of the Tripolitan bashaw, and the conspirator against the major's life—that by his (D' Ghies') instructions the ferocious Bourabouschi, the eventual murderer, was appointed to be the conductor of the major from Timbuctoo, and that into his (D' Ghies') hands the major's papers were put by another of his associates shortly after the murder.

It would further appear that the documents referred to were given by D' Ghies to the French consul at Tripoli, the baron de Rousseau, and that during the greater part of the major's journey this official from France had been in secret correspondence with the conspirators—that he exerted himself in securing the flight of Hassunah D' Ghies after the treachery had been discovered, and gave protection to, and assisted with his brother Mohammed, who made the disclosure. It were out of place, in this memoir, to detail the strong chain of evidence by which these allegations are supported. A masterly summary of it will be found in the Quarterly Review, No. 84.

LAING, MALCOLM, a Scottish lawyer and historian, was born at Strynnia, his paternal estate, on the island of Orkney, in 1762. He was educated at Kirk wall, whence he was removed to the university of Edinburgh, after which he studied law, and was called to the bar. His first literary production was a completion of the last volume of Dr Henry's History of Britain (1793). He afterwards published a History of Scotland from the union of the crowns to the union of the kingdoms, in 4 vols. 8vo. This work contains many searching investigations on disputed points of history, in which the author, with a generous liberality, always adopts the unpopular or unpopular view of the subjects. His last literary undertaking was an edition of the poems of Ossian, to which he prefixed a dissertation, which is generally considered to have set the question at rest as to their want of authenticity. Mr Laing served in parliament under the short administration of Mr Fox, to whose politics he was attached. He died in 1819.

LAIRESSE. There was a family of Flemish painters of this name, of whom Gerard, son to the elder Lairese, has acquired by far the greatest reputation. He was born in 1640, at Lierge. His

particularly distinguished by the high finish with which his pictures are executed, and is considered the Raphael of the Dutch school; nor have any of his countrymen ever equalled him in historical painting. This talented artist was also a good engraver, and understood music scientifically, while of his literary abilities he has left a favourable specimen, in a treatise on the principles of his art. He survived the loss of his sight some years, and died, at length, at Amsterdam, in 1711. His book has been translated into English. His three brothers, *Ernest*, *John*, and *James Lairese*, were artists of some note, the two former excelling in the delineation of animals, the latter in flowers. Two of his sons also followed the profession of their father, but with inferior ability.

**LAIS**; a celebrated courtesan, daughter of Timandra, the mistress of Alcibiades, born at Hyccara, in Sicily. She was carried away from her native country to Greece, when Nicias, the Athenian general, invaded Sicily. She began to sell her favours at Corinth for 10,000 drachmas, and an immense number of princes, noblemen, philosophers, orators, and plebeians, did homage to her charms. The high price which she demanded of her lovers gave rise to the proverb *Non cuius homini contingit adire Corinthum*. Even Demosthenes himself visited Corinth for the sake of Lais; but when he heard the courtesan name her price (a sum equal to about £212, 10s.), the orator departed, and observed that he would not buy repentance at so dear a rate. The charms which had attracted Demosthenes had no influence upon Xenocrates, although Lais (Phryne?), seeing the philosopher unmoved by her beauty, visited his house herself. Diogenes the cynic was one of her warmest admirers, and, though slovenly in his dress and manners, yet he gained her heart. Lais ridiculed the austerity of philosophers, observing that the sages and philosophers of the age were found at her door as often as the rest of the Athenians. The success which she met at Corinth encouraged her to pass into Thessaly, particularly to enjoy the company of a favourite youth called Hippostratus; but the women of the place, jealous of her charms, and apprehensive of her corrupting the fidelity of their husbands, assassinated her in the temple of Venus, about 340 years before the Christian era.—Pausanias mentions another Lais, likewise a courtesan.

**LAÏUS**. See *Œdipus*.

**LAKE**. Lakes are large bodies of inland water, having no direct communication with seas or the ocean, or communicating with them only by rivers, by which they pour out their superabundant waters. Some lakes have no issue, and receive no streams; but these are generally very small. Some have outlets, but receive no running waters; these are fed by springs which are thus obliged to fill up a basin before their waters can find their way downward towards the lower country. Others receive and discharge large rivers, and sometimes a chain of lakes are connected with each other, and with the sea, by a series of rivers. This is the case with the great lakes on the northern frontier of Amiens, which are, in reality, a series of large basins or reservoirs, receiving the accumulated waters of the surrounding countries, and pouring them out through successive channels into other basins situated on a lower level. (See the articles *Superior*, *Huron*, &c.) Another class of lakes receive large streams or rivers, but have no visible or apparent outlet. The Caspian sea, lake Titicaca, &c., are examples of this kind. These masses of water are sometimes drained by subterraneous streams, and are sometimes kept at their ordinary level by the ordinary process of evaporation. Some lakes are raised to a great height above

the level of the sea. Lake Superior is 641 feet above the ocean. The waters of lakes are generally sweet, but there are some, such as the Caspian, &c., which are salt. All the great American lakes are of fresh water.

**LAKE OF THE WOODS, or DU BOIS**; a lake of North America, seventy miles long, and forty wide. Large quantities of oak, fir, pine, spruce, &c., grow on its banks; hence its name. It contains a few small islands, and communicates with lake Winnipeg, which discharges its waters into Hudson's bay. Lon. 95° 20' W.; lat. 54° 30' N.

**LANLANDE, JOSEPH JEROME LE FRANÇAIS DE**, one of the most distinguished astronomers of the last century, was born of a respectable family, at Bourgen Bresse, in France, July 11, 1732. Educated with a minute attention to religious duties, he displayed his abilities when very young, by composing sermons and mystical romances. The remarkable comet of 1744 first drew his attention to the heavenly bodies; and his taste for astronomy was fixed by the observations of father Beraud, mathematical professor at the college of Lyons, on the great eclipse of July 27, 1748. He wished to become a Jesuit, that he might devote himself entirely to study; but his friends, objecting to this plan, sent him to Paris, where he studied the law, and was admitted an advocate. He became acquainted with Delisle, who had established an observatory in the house in which he resided, and obtained permission to assist him in his operations. He also attended the lectures on astronomy delivered by Messier, at the *collège de France*, and obtained the friendly patronage of Lemonnier, who lectured on natural philosophy at the same college. The academy sent him to Berlin to make observations for the purpose of determining the parallax of the moon, while Lacaille went to the cape of Good Hope for the same purpose. At the sight of so young an astronomer (for he was scarcely nineteen years of age), Frederic the Great could not conceal his astonishment. Lalande, however, proved himself worthy of the choice of the academy at Paris, and was not only received at court, but was made a member of the academy of Berlin. After having finished his operations at Berlin, he was chosen member of the academy of sciences in Paris, in the year 1753. Thenceforward no volume of their transactions appeared which did not contain some important communications from him; nor did he confine his labours to astronomical subjects merely. The French are indebted to him also for an edition of Halley's tables, as well as for the historical account of the comet of 1759. For the identifying of this remarkable comet, he presented to Clairault the deepest and most ingenious calculations. As the editor of the *Connaissance des Temps*, he entirely changed the plan and management of this useful work, and thereby set a good example to his successors. In 1761, he produced a chart, which showed the phases of the remarkable transit of Venus over the sun's disk for all places on the globe. In 1764, he published his *Astronomie*—a classical work, which was afterwards printed in three volumes quarto, and reached the third edition, and of which he made an abridgment (*Abrégé d'Astronomie*, published at Paris in 1795)—a work which cannot be too highly recommended to lovers of this science. In 1765 and 1766, he made a journey to Italy; a description of which (in eight vols. 12mo) contains much valuable information. He composed all the astronomical articles for the great *Encyclopédie*, and also wrote them anew for the *Encyclopédie méthodique*. In 1761, he succeeded to his first instructor, Lemonnier, in the astronomical professorship of the *collège de France*, where he knew how to give to his lectures a peculiar

attraction. His lecture room was a kind of nursery, from which a multitude of his scholars were transplanted to the directorship and management of domestic and foreign observatories. His work *Des Canaux de Navigation et spécialement du Canal de Languedoc* (1778 folio) contains a general history of all the ancient and modern canals, which had previously been undertaken, accomplished, and even projected. Such a work had, till then, been a desideratum, and this is now of the greatest advantage to the engineer. His *Bibliographie astronomique* (1 vol. 4to.) is a copious catalogue of all the works that had ever appeared on the subject of astronomy. As he was a member of all the great academies, he formed, as it were, a common bond of union between them, while he communicated, from one to the other, whatever each one produced worthy of notice. His activity was remarkable. Lalande enjoyed for a long time a splendid reputation; but his imprudent freedom, the independence with which he expressed his opinion in the most turbulent times, the often offensive severity which he was accustomed to use against systems which deserved no notice, and the habit of publicly declaring his sentiments where he might better have been silent,—all this made him numerous enemies, who persecuted him, and succeeded so far, that his real merit has been called in question. His character was, in fact, a strange mixture of great and commendable qualities united with striking singularities, which may have proceeded from vanity and the desire to attract attention. Lalande, however, was kind, generous, full of feeling, and, in his own way, religious, although his enemies accused him of atheism. His death took place April 4, 1807.

LALLY, THOMAS ARTHUR, count; a brave, but imprudent and unfortunate Irish officer in the service of France. He was of a family which had followed the fortunes of James II., and, having entered the French army, he signalized himself so much in the battle of Fontenoy, that he was made a brigadier-general on the field of battle. He also drew up the plan of a descent upon Britain, which would have been tried but for the defeat of Charles Edward at Culloden. In 1756, he was selected to restore the French influence in India, for which purpose he was made governor of Pondicherry. It was soon perceived, however, that he wanted the prudence, moderation, and disinterestedness necessary for so distant and critical a scene of action; and, after a little partial success against the English, in the first instance, he was finally obliged to retire to Pondicherry, which was besieged and taken by the British, January 16, 1761, the garrison, with Lally, being made prisoners of war. On this catastrophe, a torrent of invective assailed the unfortunate leader from all quarters, he having offended every body concerned, by his haughty humour, and violent temper and conduct. He was even accused of having sold Pondicherry to the British, notwithstanding the avowed hatred which, as a Jacobite, he felt for them. He arrived a prisoner of war in Britain, in September, 1761, and, the following month, was allowed to return to France, where, after a long imprisonment, he was brought to trial for treachery, abuse of authority, and unjust exactions. Being found guilty, he was condemned to be decapitated, which sentence was executed May 6, 1766, in the sixty-eighth year of his age. In 1778, his son, Lally-Tollendal, obtained possession of the estates of his father, with a revival of the proceedings, which were manifestly unjust, count Lally being one of the victims to public clamour, like admiral Byng, and many more who have been sacrificed to the unpopularity of an incapable administration.

LALLY-TOLLENDAL, TROPHIME GERARD,

marquis of, son of the preceding, born at Paris, March 5, 1751, devoted himself to the military profession. He soon made himself known by his writings in defence of his father's memory, and embraced the cause of the revolution with alacrity, but, at the same time, with prudence. During the increasing popular excesses, he joined his friend Mounier in Switzerland. From hence he returned, but was arrested, and escaped almost by a miracle the massacre of September. He thereupon fled to England, and, while in that country, offered his services as the defender of Louis XVI., but was not accepted. After the 18th Brumaire, he returned to France, took an active part in public affairs, under Louis XVIII., and was by him called to the chamber of peers, where he has often defended moderate principles with true eloquence. He was also a member of the French academy. He died at Paris, in March, 1830.

LAMA (in the Tangutian dialect, *master of souls, pastor of souls*) is, among the Mongols, the appellation of all the members of the priestly order; but among the Calmucs it signifies only the most distinguished. Hence the religion of the Mongols and Calmucs is called *Lamaism*. In this religion the Shigemooni is honoured as the highest God, and the Dalai-lama (i. e. the great lama), as his representative. He is at the head of both ecclesiastical and secular affairs in Thibet, which may be considered as a theocratical state. He is considered not as a mere visible representative of the divinity on earth, but as a real divinity himself, dwelling among men. The belief in his eternal existence is connected with the doctrine of the transmigration of souls. His worshippers believe that the divinity, as soon as it leaves the body of the Dalai-lama, immediately takes possession of some other body in a supernatural way, so that he only changes his exterior form, and not his actual existence. Among a people who possess such a regular hierarchical system, it is a matter of small consequence who stands at the head. The usual residence of the Dalai-lama is in two monasteries situated in the vicinity of the capital, Lassa, in each of which he dwells alternately. He is surrounded in every direction by a vast number of priests; but no woman is permitted to pass the night in the building where he lodges. This arises, undoubtedly from the purity which is attributed to him; for he is called the *immaculate*. The natives, as well as a great crowd of foreigners (for all the Mongol tribes in Russia acknowledge him), undertake fatiguing pilgrimages in order to pay their homage to him, and obtain his blessing. He receives them sitting upon a kind of altar, upon a large and splendid seat, with his legs crossed. The Tartars, sent to the inhabitants of Thibet, pay him the greatest reverence. They come to him from the most distant regions, and the princes, to whom he shows no more respect than to others, submit to the same ceremonies as their people. He salutes no one, never touches his head, rises up before no one, and is satisfied with laying his hand upon the head of his worshipper, who believes that he has thereby obtained the pardon of his sins. His worshippers believe that the supreme divinity lives in him, that he knows and sees every thing in the deepest recesses of the heart, and never needs to make inquiry in regard to any thing. If he does this, it is only that unbelievers and the evil-minded may not have cause for complaint. He sometimes distributes, it is said, little balls of consecrated dough, which the Tartars use in many superstitious practices; but it is not true, that balls made from his excrement are distributed, preserved in golden boxes, and even mixed with articles of food. His power was once greater than it is now, and he

appointed and deposed the khans; but he is now more dependant on the emperor of China, although the latter, in a religious respect, is subjected to him. Two Chinese mandarins, with a garrison of 1000 Chinese, are maintained in his capital, and, in the palace at Pekin, the Chinese emperor supports a subordinate lama, who is sent as a nuncio from Thibet. When the Dalai-lama dies, it is then necessary to discover where his spirit has chosen to be born anew. In this case, all must submit to the opinion of some of the lamas, who alone are acquainted with the signs by which he may be known, or, rather, who know what child the deceased has appointed for his successor. The worshippers of the lama are divided, in general, into two sects, known by the titles of the *yellow* and *red caps*. Each sect is under three lamas; the former is under the Dalai, Teeshoo, or Bogao, and Taranaut lamas; the latter, under the three shammas. The Dalai-lama is the most distinguished of all, and next to him is the Teeshoo-lama, who dwells at Teeshoo-Loomboo ten days' journey from Lassa. The three shammas dwell in separate monasteries, the most distinguished of which is at Tassasudon, the capital of Bootan. Subordinate to them are numerous priests of different ranks, who are held in great respect, who superintend instruction, and some of whom live in a state of celibacy, according to certain rules, similar to those of the Christian monks. At Lassa alone there are 3000 monasteries. The religion of the lama sprung up in Thibet, and knows no eternal, self-existent being. Their idols or Boorchans, 108 in number, are created beings, who ascended into the rank of gods before the present world was created, on account of their holiness. Shigemooni, the chief object of worship, appeared in the world for the last time 1000 B. C., and instituted Lamaism, and now rules the world in its present state of misery. The earth is inhabited by degenerate spirits from the upper world. The human soul, after it has been subjected to a state of trial, and has passed a good or bad life, enters upon a higher or lower condition. This doctrine renders the worshippers of the lama benevolent and moral. Their idol worship consists in clamorous songs and prayers, accompanied with loud music, in splendid and festive processions, and in the solemnisation of certain festivals at fixed times, together with pilgrimages and personal castigations.

LAMA, in zoology. See *Llama*.

LAMARCK, JEAN BAPTISTE ANTOINE PIERRE MONET, chevalier de, was born in the year 1745, in Picardy, of a noble family, and was compelled, on account of an accident, to abandon the service, and devote his attention to study. He applied himself at first to medicine; afterwards, in consequence of hearing Jussieu's illustrations of botany, was led to the study of natural science. Jussieu, on a botanical excursion, in which Lamarck accompanied him, had remarked that the old method of instruction in this department left much to be wished for, and Lamarck determined to remedy this deficiency. He laboured with great diligence on a treatise in which he showed the defects of the old system, and proposed a new one, which met with universal approbation. He then applied his new system to the plants of France, and delivered to the academy his *Flore française, ou Description succincte de toutes les plantes qui croissent en France*. This work was adopted, by the recommendation of the academy, at the expense of the government, for the benefit of the year (1780, under the date of 1778, in three vols.; second edition, 1793; and the third enlarged and revised by DeCandolle, in 1805). Lamarck now devoted his whole attention to this science, and made several botanical excursions to Auvergne and into

Germany, in the last of which he was accompanied by the son of the great Buffon. On his return to Paris, he undertook the botanical department of the Encyclopædia, which Panckoucke was publishing, and applied himself to this task with such assiduity, that, in 1783, he produced the first half of the first volume, with an introduction, containing a sketch of the history of the science. He published the second volume in 1788. But a dispute between him and the publisher, in regard to the admission of certain articles, brought the undertaking to a stand, and there ended Lamarck's botanical career. Many of his botanical treatises were published in the *Memoirs of the Academy*, and in the *Journal d'Histoire naturelle*, edited by him, together with the abbé Haüy, Fourcroy, Bruquière, Oliver and Pelletier, which make us regret that their author ever abandoned this branch of science. At the breaking out of the revolution, he was the second professor in the royal *jardin des plantes*; but, in consequence of new arrangements, he was made professor in the department of zoology, in which he was soon as much distinguished as he had been in botany. His *Système des Animaux sans Vertèbres, ou Tableau général des Classes, des Ordres, et des Genres, de ces Animaux* (one vol., Paris, 1801), his *Philosophie zoologique*, and his *Histoire naturelle des Animaux sans Vertèbres*, are his principal works in this department of science. Lamarck's comprehensive mind was also directed towards physics, and he published, in 1794, *Recherches sur les Causes des principaux Faits physiques*, in which he exposes many false theories in this science. With the same view, he also wrote his *Refutation de la Théorie pneumatique*, &c., which appeared at Paris in 1796. He collected his meteorological observations in his *Annuaire météorologique*, which first appeared in 1799, and was continued to 1809.

LAMARQUE, MAXIMILIAN, was born at Saint-Sever, of rich and respectable parents, and, in 1792, entered the army as a private soldier, choosing to obtain promotion only by merit, and became captain of grenadiers in the celebrated corps of Latour d'Auvergne, known under the title of the *infernal column*. He was in the vanguard of the army of the Pyrenees, in 1793, under the command of general Moncey, and received, Feb. 3, two severe wounds, while, with a single company, he was sustaining the attack of a column of the Spanish army, that endeavoured to turn the French division. He afterwards marched against Fontarabia, at the head of 200 grenadiers, and, precipitating himself into the moat, drew down the drawbridge, and gained possession of the place. Eighty pieces of cannon, and 1800 prisoners, were the fruit of this *coup-de-main*, which procured Lamarque, then but twenty years old, the rank of adjutant-general. In 1801, he was made general of brigade, and distinguished himself at the battle of Hohenlinden. He then served in Spain, and in the campaign of 1805, so brilliantly terminated by the battle of Austerlitz. He was soon afterwards sent to Naples with the army under the command of Joseph Bonaparte, and, in crossing the mountains on the Neapolitan frontier, with eight soldiers, was attacked by a band of fifty robbers, under the orders of the ferocious Fra-Diavolo, against whom he successfully defended himself. He was sent, in 1807, against the insurgents of Calabria, and, near Marathea, defeated a body of 1200 British that were sent to support them. He took the town, and made 1800 prisoners, which exploit gained him the rank of general of division. He was employed by Murat in 1808, and took the island of Caprea from the British, which was considered impregnable, and was defended by a garrison superior in numbers to the assailants. He afterwards joined the army in Germany, and at the

battle of Wagram, had four horses killed under him. He served in Russia and in Spain in 1812, and, after the evacuation of the Peninsula, returned to France, and was created a knight of St Louis, July 27, 1814. On the return of Napoleon, he was appointed to the first military division, as commander-in-chief of the army of the Loire. In his operations against the insurgents of La Vendée, he distinguished himself not less by his forbearance and humanity than by his decision, and, after obtaining some successes at La Roche-Serviere, he effected a pacification at Chollet. After the return of the Bourbons, he was comprised in the second article of the law of July 24, 1815, and retired to Saint-Sever, under the inspection of the minister of police. He afterwards took refuge at Brussels, but was ordered from thence by the king of the Netherlands, upon which he passed into Austria. In 1815, he published a Defence of General Maximilian Lamarque, in a manly, bold and candid tone. In 1818, he was permitted to return to France, and, in 1820, produced an able pamphlet On the Necessity of a Standing Army. General Lamarque was afterwards a conspicuous member of the chamber of deputies, and, in the late revolution in France, zealously adopted popular principles. He died at Paris in May, 1832.

LAMBERT, JOHN HENRY, an eminent mathematician and astronomer, was born at Muhlhausen in the Sundgau, a town then in alliance with the Swiss cantons, August 29, 1728. His father was a tailor, in humble circumstances, who intended him for his own business; but, being sent to a public school, he so distinguished himself, that an attempt was made to provide him with the means of studying theology, which, however, proved unsuccessful, and he was obliged to follow his father's employment. In this situation, he spent the greatest part of the night in study, and, obtaining an old mathematical treatise, discovered so much ardour and ingenuity, that several learned men were induced to instruct him gratis. He acquired a knowledge of mathematics, philosophy, and the Oriental languages in his native place. He afterwards became clerk to some iron works, and amanuensis to M. Iselin of Basle, who conducted a newspaper, and became his sincere and constant friend. In 1748, this gentleman recommended him to baron Salis, president of the Swiss convention, to become tutor to his children; and, aided by the excellent library of his new patron, and the scientific intercourse which he met with in his circle, he enlarged the sphere of his acquirements in an extraordinary degree. After living eight years at Coire, during which period his talents as a philosopher and mechanic were rendered manifest by various scientific compositions and inventions, he repaired, in 1756, with his pupils, to Gottingen, and soon after published his first separate work, entitled *De la Route de la Lumière par les Aïrs*. In 1758, he visited Paris with his charge, and became acquainted with D'Alembert and Messier. In 1759, he went to Augsburg, where he published his celebrated work *On Perspective*; and in the following year appeared his *Photometry*, by which he added a new branch to the science of mixed mathematics. In the three or four following years, he published *Letters on the Construction of the Universe*; a *Treatise on the principal Qualities of the Orbits of the Comets*; *Novum Organon*. In 1764, he visited Berlin, and was introduced to Frederic the Great, who admitted him a regular member of the academy of that capital—an appointment which enabled him to devote himself wholly to his favourite studies. He enriched the transactions of various societies with his papers and treatises, all of which bear the stamp of eminent and original genius. Most of his mathe-

matical pieces were collected, in three volumes, by himself. His death took place September 25, 1777, in his forty-ninth year, owing to a decline, produced by over-application. Lambert forms one of the most conspicuous examples on record of the mastery with great genius and energy will sometimes exert over untoward circumstances. In mathematics, logic, and metaphysics, he was highly distinguished. He was accustomed to labour from five in the morning till midnight. He discovered the theory of the speaking trumpet. Philosophy, and especially analytic logic, are greatly indebted to him for his *Novum Organon*, or *Thoughts on the Examination and Relations of Truth* (Leipsic, 1764, 2 vols.), and his *Architektonik*, or *Theory of the first Principles in philosophical and mathematical knowledge* (Riga, 1771, 2 vols.).

LAMBETH; a village in Surry, England, on the borders of the river Thames, opposite to Westminster. Here is a palace belonging to the archbishop of Canterbury, a very large pile of building, containing a library of 25,000 volumes, and upwards of 1200 manuscripts. The kings of England, down to Henry VII., often resided at Lambeth, as a palace which no longer exists. Population in 1831, 67,365. See *London*.

LAMEGO; a city of Portugal, in Beira, is a plain near the Duero, surrounded by mountains, thirty-six miles E. of Oporto; long. 7° 27' W.; lat. 41° 7' N.; population, 9000. It contains two cathedral churches, a hospital, four convents, a theological seminary, and a library. In the year 1141, the estates assembled (1141) to confirm the election of Alphonso Henriques, first king of Portugal, and enacted the fundamental laws of the kingdom. See *Portugal*.

LAMENTATIONS. See *Jeremiah*.

LAMETTRIE, JULIEN OFFRAY DE, a materialist and medical charlatan, was born at St Malo, in 1732, and studied medicine in Holland, under Boerhaave. He then went to Paris, where the duke de Gramont, colonel of the guard, appointed him physician to his regiment. He followed his patron to the siege of Freyburg, and was here taken dangerously ill. He believed that the spiritual power, which is called the soul, perishes with the body, and wrote a *Naturelle de l'Ame*. This work, which every one breathes the grossest materialism and scepticism, procured him many enemies, and was burned by the executioner, at the command of Parliament. On the death of his patron, he lost his place. He then turned his arms against his Parisian colleagues, and wrote, under the signature Altheus Demosthenis, his satire of *Pénélope ou Machiavel en Médecine* (Berlin, 1748), on account of which he was obliged to fly to Leyden. Here he published his *L'Homme Machine*. The philosophy of the author consists in constant assumptions of what he is attempting to prove, in perfect comparisons or analogies instead of proofs, some just observations from which general conclusions are illogically drawn, and assertions instead of doubts. Being persecuted in Holland, where his book was condemned to the flames, he went to Berlin, in 1748, and was made a reader to the king, and a member of the academy. He died in 1751, of a fever, which he treated after his own absurd system. The king of Prussia himself wrote his *éloge*, which was read in the academy. We find, in the works of Lamettrie, spirit and a brilliant imagination, but little judgment, accuracy, or taste. His philosophical writings appeared at Berlin, in 1732, in two volumes. His writings, besides the above-mentioned, are *L'Homme Plante*, *L'Art de Jouir*, *Le Discours sur le Bonheur*, and others. In the latter work, Lamettrie is, according to Diderot, an author

without judgment, one who confounds the ills of the wise and good with the torments of the wicked, and the slight evils of knowledge with the destructive consequences of ignorance—who betrays his frivolity in what he says, and the corruption of his heart in what he dares not speak out—who in one place asserts that man is evil by nature, and elsewhere derives man's duties and his happiness from the nature of his being—who seems to labour to console the criminal in his crimes, the vicious in his vices—and whose gross sophisms, dangerous on account of the jests wherewith he seasons them, betray a man ignorant of the very rudiments of moral philosophy. Voltaire, who had at first favoured him, retracted his encomiums. On his death bed, Lametrie manifested strong marks of penitence.

LAMIA; the name of an Athenian courtesan, celebrated for the charms of her person, and the brilliancy of her wit. She was, by profession, a flute-player. Hearing that her favourite instrument was carried to great perfection in Egypt, she travelled into that country, where she became the mistress of Ptolemy Soter. On the defeat of that prince by Demetrius Poliorcetes, about three centuries before the Christian era, Lamia fell into the hands of the conqueror, over whom, the handsomest man of the age, she soon acquired a complete ascendancy. Her influence procured from Demetrius great concessions in favour of her countrymen, the Athenians, who, in their gratitude, went so far as to raise a temple to her honour, under the denomination of *Venus Lamia*. Plutarch and Athenæus both bear ample testimony to the qualities of her mind; and, if the antique engraving on an amethyst, in the king of France's collection, give a true portrait of her features, her beauty is still less questionable. The exact time of her decease is uncertain.

LAMIÆ; in fabulous history, certain monsters of Africa, who had the face and breasts of a woman, and the rest of the body like that of a serpent. They allured strangers to come to them, that they might devour them; and, though they were not endowed with the faculty of speech, yet their hissings were pleasing and agreeable. Some believed them to be witches, or rather evil spirits, who, under the form of a beautiful woman, enticed young children and devoured them. According to some, the fable of the *Lamia* is derived from the amours of Jupiter with a certain beautiful woman called *Lamia*, whom the jealousy of Juno rendered deformed, and whose children she destroyed; upon which *Lamia* became insane, and so desperate, that she ate up all the children that came in her way. These beings are also called *Lemures*. (q. v.)

LAMIAN WAR; a war carried on by the troops of Antipater (323 B. C.), after the death of Alexander, when the Greeks rose against Leonatus, who was sent to the fortress of *Lamia*, in Thessaly. The consequence of this war was the abolition of the Grecian democracies, and the reception of Macedonian garrisons into the cities. Athens was also obliged, to conclude a peace, to give up Demosthenes and Hyperides, the orators who had instigated them in this war. Demosthenes destroyed himself by poison.

LAMOIGNON. See *Malsherbis*.

LAMOTTE VALOIS, countess of, rendered notable by the affair of the necklace, represented herself the descendant of the family of Valois, by an illegitimate child of Henry II. Until the affair of the necklace, she had lived in misery and contempt, though she had employed all the arts of immorality and intrigue, to procure for herself rank and wealth. Being thus known to a great part of the nobility of *Bailles* and *Paris*, she astonished all who were

acquainted with the circumstances of her fortune, when, in 1784, she suddenly began to display an extravagance which could only be supported by great wealth. An intrigue soon became notorious, which attracted the attention of all Europe. The prince Louis de Rohan, cardinal bishop of Strasburg, and grand almoner, had fallen into disgrace, of which the reasons were not very satisfactorily known. The countess of Lamotte, informed of the desire of the cardinal to recover favour at court at any price, had falsely represented to him, that the queen, with whom she pretended to have a great, though secret influence, wished to possess a costly necklace, which was offered for sale, but at that time was not able immediately to advance the sum requisite for the purchase. If, therefore, he would purchase the necklace in his own name, and allow the queen to repay him by instalments, he would by so doing regain favour. The cardinal fell into this snare, purchased the necklace, and gave it to the countess of Lamotte, to be delivered by her to the queen. A bond, forged by the countess, was then given him for his security, settling the conditions of payment. In order to deceive the cardinal the more perfectly, the countess had concerted with a woman who was privy to the plot, that she should appear to him under the mask of the queen, in August, 1784, in the gardens at Versailles, and present him a box containing a rose and the queen's portrait. The time when the cardinal had promised to pay for the necklace now came, and, as he did not possess money sufficient for the purpose, he informed the jewellers, that the necklace was purchased for the queen. The jewellers, after waiting a long time without obtaining their money, applied to the king, and thereby gave a clue for the detection of the fraud. By the sentence of parliament, the deceived cardinal was acquitted, and the countess of Lamotte, convicted of having embezzled and sold the necklace, was sentenced to be branded, scourged, and perpetually imprisoned. After nine months, she escaped confinement, and fled to England, where, in conjunction with her husband, who had there sold the necklace, she published a pamphlet against the court of Versailles, and particularly against the queen. Villetta and Cagliostro, who had taken part in the deception, were banished the kingdom. The countess was found, after a nocturnal revel, precipitated from a third story window upon the pavements of London.

LAMP. The invention of lamps is ascribed to the Egyptians. In the festivals in honour of Minerva, at Sais, in Lower Egypt, great numbers of lamps were kept burning. They were known even in the times of Moses and Job. The Egyptians were also the first who placed burning lamps in the tombs with their dead, as an emblem of the immortality of the soul. From Egypt, the use of lamps was carried to Greece, where they were also consecrated to Minerva, the goddess of learning, as indicative of the nightly studies of the scholar. From Greece, the use of lamps passed to the Romans. The first person who is known to have published a collection of ancient lamps, is Fortunio Liceto, an Italian, whose chief design appears to have been to prove the possibility of the existence of inextinguishable, or, rather, perpetually-burning lamps. Pietro Santo Bartoli, a countryman of his, afterwards published at Rome, in the year 1691, the collection of Bellori; but these engravings are exceedingly ill executed and unfaithful. Passeri, however, another Italian, published, at the suggestion of the academy of Pesaro, a collection of 322 lamps which he possessed in his museum. The above-mentioned collections, however, have been much surpassed in beauty and interest by that of Portici. The sixth hall of that museum is entirely filled with lamps and candelabras discovered in the

houses of Pompeii and Herculaneum. Representations of these were published in 1792, in ninety-three copper-plates, exclusive of vignettes. They form the ninth volume of the *Antiquities of Herculaneum*. We find there represented and explained upwards of two hundred lamps and candelabras of bronze and terra-cotta. The ancients appear to have very early acquired the practice of using lamps. The use of oil was not perhaps known to the Romans in very remote ages, although the Greeks, unquestionably, were acquainted with it, as appears from several passages in Herodotus. We find, indeed, the figure of the lamp sculptured and engraved on many of the most ancient Greek vases. It is with a lamp that Mercury, as depicted on one of these, lights Jupiter, who is represented scaling with a ladder the chamber of Alcmena. Baked earth was the substance of which the earliest lamps were composed, but subsequently we find them of various metals—of bronze more particularly. A few ancient lamps of iron are also extant; but these are rare, either because that metal was little used for the purpose, or on account of its more ready destruction in the ground. There are four specimens in the museum of the king of Naples, at Portici, where there is likewise one specimen of a lamp of glass. It is entirely solid, and in one single piece. Pausanias mentions a golden lamp in the temple of Minerva, and St Augustine speaks of lamps of silver. No antique of either kind, however, has reached modern times. The testimony of Pliny, St Augustine, and others, has led to the belief that the ancients had perpetual lamps, and Liceti has composed his work to establish this supposition. Different authors mention instances of lamps, which, in modern times, have been found burning in ancient sepulchres, but were extinguished as soon as the external air was admitted. The most famous instance is that of the tomb of Tulliola, daughter of Cicero, discovered at Rome, in 1540. None of these instances, however, can be considered as proved. The idea probably arose from the inflammation of the hydrogen gas contained in these caverns, when explorers entered them with torches. The lamps or candlesticks made use of by the Jews, in their own houses, were generally put into a very high stand on the ground. The lamps supposed to have been used by the foolish virgins, &c., in the gospel, were of a different kind. According to critics and antiquaries, they were a sort of torches made of iron or potter's earth, wrapped about with old linen, and moistened, from time to time, with oil. (*Matt.* xxv., 1, 2.) The lamps of Gideon's soldiers were of the same kind. The candlestick, with seven branches, placed in the sanctuary by Moses, and those which Solomon afterwards prepared for the temple, are said to have been crystal lamps filled with oil, and fixed upon the branches. Among the Romans, also, it was customary to have the lamp either depending from the ceiling, or placed on a stand in the room, since the use of tables was not common to them, and their attitude in studying, as well as at their repasts, was a half-recumbent one, holding their scroll or tablets before them on their knees. These stands were often highly ornamented. The most common form of them was a tripod with lion's feet, from which sprang sometimes the shaft of a column, according to one of the orders of architecture, the disk placed to receive the lamp forming the capital. These vessels were generally ornamented with mythological or allegorical subjects, and their shape varied greatly. Sometimes it was a simple disk with a hole in the circumference, through which to pass the wick, and another in the middle, to pour the oil into. At other times they presented the appearance of a boat. Occasionally their extremity terminated in two or three divisions, according to the

number of beaks; but it would be endless to attempt to pursue these details. Inscriptions were likewise often found placed upon them. (See *Candelabra*.) Public illuminations on occasions of national rejoicing were common to the Romans. On the birthdays of their princes, on great religious solemnities, &c., they suspended lamps at the windows. Juvenal and Persius both make mention of this usage. Various motives have been assigned for the ancient practice of placing lamps in sepulchres. One of the most ingenious, and perhaps the most satisfactory, is that it was allegorical of the cessation of mortal life—of the separation of the soul, which the ancients regarded as an emanation of fire. On some sepulchral lamps we find sculptured the figure of the butterfly, in allusion, no doubt, to the equally cheerful and elegant metamorphosis of the escape of the spirit, in a more ardent semblance, from its chrysalis state. The early Christians adopted, in their monuments, this pagan usage together with many others, and the lamp has been found in the tombs of saints and martyrs, and of distinguished men who embraced Christianity. In these instances, it was, no doubt, meant still more to be illustrative of that divine flame by which they were inspired, and whose inward light guided them through the many savage persecutions suffered by the primitive followers of our holy faith. The shapes of ancient lamps, as well as other ancient utensils, have been imitated with much success by Mr Wedgwood. The principal works to be consulted on the subject of lamps are those already quoted, of Liceti, of Bellarmino, and of Passeri; *Antichità d'Ercolano*, volume 9 (Lucerne); a *Dissertation sur une Lampe antique trouvée à Munich en 1753*, written by the prince de St Sévère on the question of inextinguishable lamps; and the preliminary remarks to the description of antique lamps found at Nîmes, in vol. 3d of *Mémoires des Monumens Inédits*.

We now come to speak of the construction of the lamps of modern times, but before describing them it will be necessary to say a few words on the nature of flame. Various substances, during combustion, afford a permanent and luminous flame, the degree of illumination depending upon the nature of the substance. It was the opinion of Sir H. Davy, that the brilliancy of flame, was owing to the intensity of the combustion of the gaseous matter, towards the interior, in consequence of charcoal being produced and strongly ignited, before it is burned. Those bodies that, during combustion, emit chiefly gaseous, or volatile matter, give out flame of little brilliancy, as hydrogen and sulphur; those, on the other hand, which emit solid substances, such as oil, yield a brilliant white flame. In a conical flame, as that of a candle, combustion takes place more intensely at the surface, where the inflammable matter comes into contact with the air. At the bottom of the flame there is a dark portion, where the volatile matter has not yet been wholly set on fire; while, in the middle the flame is brightest, in consequence of the volatile matter being brought to a white heat before it is burned.

In order to ensure a constant and steady flame, the supply of combustible matter must be adequate and uniform; wherefore it must either be in a liquid or gaseous state, so that it may approach the flame, in an uninterrupted current. The combustible may be made to approach the flame either by capillary action through means of wicks, or by mechanical pressure. The requisite properties for a perfect lamp are—1st. It must be supplied with carbonaceous matter, and with oxygen; 2nd. It must convert the former into gaseous state; and, 3rd. It must bring the gas, so produced, in contact with oxygen, at such a temperature, that the carbon will combine with the oxygen.

in the fullest degree, to produce the greatest quantity of flame without any smoke.

To make a lamp burn with a clear and steady light, the length of wick standing up above the tube or nozzle, which supports the wick, must be regulated according to its capacity for conducting the oil, otherwise the whole of the oil which it supplies will be volatilized by that portion of flame which surrounds the lower part of the wick. In this case, the upper part of the wick, which is in the centre of the flame, will burn to a charcoal or snuff.

A snuff in the centre of the flame, produces a smoke, and a great diminution of light, which it occasions, by increasing the body of the wick; and as the air cannot have free access to the wick in the centre of the flame, the gas there produced cannot burn immediately, but must rise upwards, and will inflame when it gets high enough to meet the air, provided it then retains a sufficient heat. This ascent of the vapour before it inflames, is the cause of the pyramidal form of the flame; the vapour arising from the central parts of the wick being obliged to rise to a greater height before it can meet with sufficient oxygen to burn. On the other hand, a wick, which is too little raised above the nozzle will not volatilize the oil so fast as it draws it up; still what is volatilized is perfectly burned, and smoke is not produced.

A torch is composed of the resinous part of fir or pine, and the turpentine, or melted rosin, oozes through the pores of the wood to the flame, in a slow and regular manner, producing a dull light. The candle is an improvement upon the torch, and consists, as every one knows, of a few threads of cotton or other fibrous substance called a wick, enveloped in a cylinder of tallow or wax. Flame being communicated to the wick, combustion begins, and the radiated heat melts the tallow nearest to the wick, and it ascends to the flame through the wick by capillary action, being converted into gas so soon as it reaches the surface, which gas enters into combustion, and a bright flame is the consequence. A common lamp acts on the same principle, but the combustible employed being a liquid, a vessel is necessary to contain it. The common liquid employed in this country is whale oil, on the continent oil of poppies, nuts, rape seed, and the inferior kinds of olive oil, are used. Naphtha is also used. In some cases the vessel is open at top, and the wick projects from a sort of beak in the side; but the usual plan now is to close the top of the vessel with a cover, and lead the wick up through a hole in the middle; but here a small opening must be left, to admit the pressure of the air, so that the oil may rise in the wick. In this latter construction, if the vessel be large, a dark broad shadow will be thrown below the lamp, and much light lost. To avoid this, lamps have been made with the vessel or reservoir containing the oil, placed at a considerable distance from the burner. Among contrivances of this nature, the Astral or Simulbral lamps, invented by count Rumford, are the most esteemed. In count Rumford's lamp, the oil is contained in a hollow circular ring, the oil being led to the burner, which is in the centre, by means of radiating tubes. The ring is placed somewhat below the level of the flame, and a small hole is made in the upper surface for the admission of air. The supply of oil has sometimes been effected upon the principle of Hero's fountain. In this lamp, it is placed in a vessel having a tube leading downwards for some distance, then turning up a little it enters another vessel. A syphon rises from the top of this second vessel, and enters a third vessel higher than the first, from which third vessel an inverted siphon is led up to the burner. Oil is put into the first, and falls gradually down into the second, and

oil is placed in the third, there being a column of air between the second and third vessels. As the oil from the third vessel becomes exhausted, the column of oil from the first vessel presses upon the column of air communicating with the second and third vessels, and thus raises the oil to supply the burner. Other lamps are constructed so as to keep the surface of the oil at one level, by placing it in one leg of an inverted syphon, and balancing it with some heavier fluid, such as salt water, in the other leg.

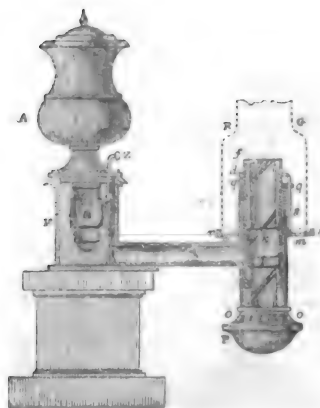
In France, the oil is kept at the proper level by pumping the oil up, either occasionally by the hand, or by clock work; a clumsy contrivance. This is much better accomplished in the simple and ingenious lamp of Mr Porter. In this lamp the oil is contained in an oblong box, having the wick tubes at one end, and being suspended on an axis, nearer the wick end than the other, so that when it is full, the additional quantity of oil at the longer end will just balance the additional weight of the wick tubes. It is clear that as the oil is burned away, the wick end of the box will fall, and the oil rise to the burner.

Fountain lamps are constructed on the same principle as the bird fountain used in cages. The large reservoir is open at the bottom, a tube being placed there at one side. This tube is immersed at the outer extremity, in a small cavity containing oil, nearly on a level with the burner. Whenever the oil in the cavity falls under the level of the top of the tube, a bubble of air enters, and rising to the top of the reservoir, presses down more oil to the cavity, and thus the wick is constantly supplied.

A very simple kind of lamp is used to burn all night in sick chambers: a small quantity of water is poured into a glass tumbler, and above that a quantity of oil. A bit of cork is now pierced, so as to admit a few threads of cotton to pass through it, and the cork being placed upon the oil will float, the cotton threads will draw up the oil by capillary action, and a feeble but clear light will be given. A glass tube of small bore will answer instead of the cotton threads.

The great defect of common lamps is that the wick being thick, the air can only come into contact with a comparatively small portion of the flame. This is in some measure rectified by spreading out the wick so as to form a broad thin flame. But the most important improvement in the form of wicks and burners was made by M. Argand of Geneva, in 1784. The annexed wood engraving is a sectional view of Argand's lamp. A is the oil

Fig. 1.



vessel, acting on the principle of the bird fountain, having a neck at the bottom, and being closed at the top by a lid, which is lifted when the vessel is to be supplied with oil, the neck being at that time held uppermost. The oil is poured in by the small opening *t*, which is uncovered by sliding the tube *Q*, and when filled, the tube is restored to its former position, and the vessel *A* placed in its seat *F*. When by the consumption of the oil the surface in *F* is lower than the opening, then a bubble of air ascends into *A*, and the oil falls, until the opening *t* is covered by the oil in *F*; as by reason of the heating of the air within the vessel *A*, more oil will come down than is necessary for the supply of the wick, which surplus oil is allowed to fall down to the cup *P*, through the tube *g*, which cup is screwed to the bottom of the tube *d*. The burner or cylindrical part, containing the cylindrical wick, consists of three concentric tubes, *d*, *f*, *g*. The tube *g* is fixed by solder to the bottom of the tube *d*, and the space between them is occupied by the cylindrical cotton wick steeped in oil. The oil flows from the large vessel through *N*, and enters the cavity between the exterior surface of the tube *g*, and the interior surface of the tube *d*, rising to the level of the opening *t*. There is a short tube, *i*, which receives the wick, and is made so as to slide easily up and down on the tube *g*. The wick tube has a projecting pin inwards, which fits into a spiral groove cut in the tube *k*, so that when the wick tube is turned round, the pin moving in the spiral groove, causes the wick tube to rise or fall, and consequently the wick itself. The wick tube is connected with the outer tube *f*, by means of a catch, so that by turning this latter tube, the height of the wick can be regulated at pleasure. On the outside of the tube *d*, a ring, *rs*, is fixed, which supports the glass chimney *R G*. There is a wire *s* attached to the tube *f*, and bent over the edge of the tube *d*, and *rs* is connected with four wires which attach it to a ring *q*, surrounding the tube *d*, by turning which ring, therefore, the wick is raised or depressed. The air which supports the combustion on the outside of the flame, enters through the holes *m m*, in the ring *rs*, and the combustion in the interior part of the flame, is supported by the air which enters the holes *o o*, and passes up through the tube *g*. The subjoined wood cut, fig. 2, represents the exterior form of an argand lamp, with count Rumford's circular ring oil vessel, in which lamp, there is besides the small chimney, a large hemispherical vessel, ground rough on the inner surface, and resting on the oil ring

Fig. 2.



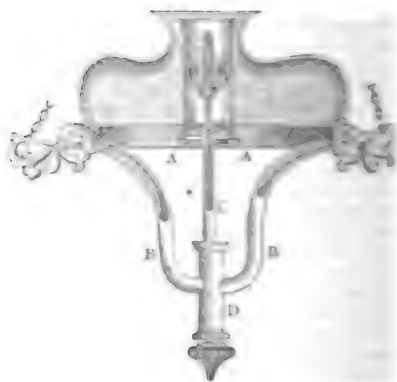
Fig. 3.



Sir Humphry Davy invented a safety lamp for giving light in mines where fire-damp prevails. He found that a lamp constructed with an envelope of wire gauze, the apertures of which occupy greater space than the solid wire, would not cause explosion in fire-damp. The wire gauze should not contain fewer than 784 apertures in the square inch, and the wire should be either iron or copper, but by no means brass. Fig. 3, exhibits a view of the safety lamp as commonly constructed. *A* is the oil column, *B* is a brass rim firmly attached to the wire gauze cylinder *F*; *C* is the feeder, through which oil is passed into the lamp; *E* is a wire which passes through a safe tube in order to trim the wick; *G* is a lens cap on the top of the cylinder of gauze, the cap bears about 3-4ths of an inch above the gauze cover of the cylinder; *I I* are strong wires to strengthen the lamp, and *K* is a ring to hang the lamp by.

Fig. 4. represents a self generating gas lamp. *I* is a hollow ring for containing oil on Count Rumford's principle. The oil passes from this funnel

Fig. 4.



down the tubes *B B*, and enters the upright tube to a height equal to the height of the ring. At the part of the upright tube there is a shallow cup or rounding it. At a distance of rather more than an inch above this, there is a thin brass cap fitted to the top of the tube *C*, the cap being narrow at the bottom, and ground so as to fit accurately on the tube; above this sort of ring, at the bottom of the cap, it widens into a bulb, perforated with twelve small holes, as jets, and the upper part is a straight tube closed at the top. There is a tube *D* at the bottom, which, by being turned round, acts in a screw, and raises or depresses the oil in the tube *C*, so that it stands at the proper level. Now, a small quantity of alcohol or common spirits being put into the cup, on a level with the ring, and set fire to, will heat the tube *C* to such a degree, that the oil within it will boil, and gas will be evolved. The gas rises into the cap on the top of the tube, not having any other way of escape, issues out of the hole in the side of the cap, and the alcohol continues still to burn, sets fire to the jets, and a most beautiful clear light is the result. The heat of the gas lights themselves, is sufficient to keep the oil boiling, so that the flame acts not only as a light, but as a self generator. A considerable quantity of carbon is deposited on the outside of the tube, which may be prevented by slipping on seven washers, which being stripped off when the lamp is trimmed, the former deposition of carbon will be removed.

**LAMPADEPHOROI** (Gr. *λαμπαρ*, a torch, and *φορος*, to carry). In the torch-races of the ancient Greeks, the successful competitor was called *λαμπαδοφορος*, and the race itself, *λαμπαδοδρομιον*. These races took place in Athens, at the *Fulcanalia*, *Promethea*, *Panathenaea*, and some other festivals. The runners were three youths. It was decided by lot who should begin. He commenced his race, and, if his torch was extinguished before he reached the goal, he gave it to the second, and this one, in a similar case, to the third. He who carried the torch burning to the goal, was the victor (*λαμπαδοφορος*). If a youth ran too slow, in order to avoid extinguishing his torch, the spectators drove him on by beating him with the open hand. The poets often allude to the delivery of the torch from one to the other.

**LAMPBLACK.** See *Carbon*.

**LAMPREY** (*petromyzon*). This fish has a long and slender body, resembling that of the eel. The skin has no scales, but is covered with a glutinous mucus. The sea-lamprey, which is sometimes the largest species, grows to a very large size, having been seen of five or six pounds weight. Its colour is dusky, irregularly marked with dirty yellow. In the mouth are placed twenty rows of small teeth, disposed in circular order, and placed far back near the throat, four, five, and six in each row. The *branchiæ* are situated within seven apertures that exist on each side of the neck. This fish, as its name indicates, possesses the power of sucking, and adhering to stones. The mouth is of a round form, resembling that of a leech, and, like that animal, it can adhere to any substance with great firmness. The sea-lamprey, although properly an inhabitant of salt water, like the salmon and other marine fish, is found at certain seasons of the year in rivers. The lamprey was at one time considered as a great delicacy by the English; and a surfeit on them caused the death of Henry I. In the reign of Henry IV., so highly were they esteemed, that protections were granted to such vessels as might bring them in; and his successor issued a warrant to William of Nantes, for supplying him and his army with this article of food, wherever they might happen to march. The lamprey is still considered as a delicacy at certain seasons of the year, but has lost much of its value as an article of food. During cold weather, this fish conceals itself in the crevices of rocks; and it is a usual expedient with anglers to form pits extending to the water side in the vicinity of its haunts; into these a little blood is thrown, to induce the lamprey to come forth, when it is readily taken. The lamprey, so celebrated among the epicures of ancient Rome, appears to have been a fish of another genus—the *muræna*, or *murenopsis*. This fish, with the bass (*lupus*), and a species of mullet (*myxo*), formed the pride of Roman feasts—the *tripatinum*. (See *Pliny, lib. 35, cap. 12*.) These lampreys were reared with the greatest care, and at an enormous expense, in artificial fish-ponds. Pliny gives some curious details on this head; he says, Lucullus formed a fish-pond, near Naples, of such size, that the fish it contained, after his death, sold for 4,000,000 of sesterces (170,000 dollars); but Hierius was the first to build a pond for lampreys alone. On one occasion, when Cæsar gave an entertainment to the people, Hierius furnished him with 6000 of these fish. They also appear to have been kept as pets; thus the celebrated orator Hortensius wept bitterly at the death of a lamprey, and Antonia, the wife of Drusus, ornamented one with jewels. The bite of the *muræna* was deemed so poisonous by the fishermen, that they adopted great caution to prevent its effects, seizing the animal by the head with a forceps, and rubbing its snout against some hard substance to

destroy its teeth, and beat it on the tail, where (as is now supposed with regard to eels), it was thought that the life resided. There are several other species of lampreys and murænas, some of which inhabit the American coasts and rivers, for information on which we refer to doctor Mitchell's papers on the *Fishes of New York* (New York Phil. Trans.) and Mr Lesueur's on *American Murænas* (Jour. Acad. Nat. Sci.)

**LANARK**, (derived by some from *Lan-ærig*, the bank of the river, by others from the British *Llan-ærch*, a green or glade;) a royal burgh of Scotland, the capital of Lanarkshire, situated on an elevated piece of ground near the banks of the Clyde, thirty-one miles west from Edinburgh, and twenty-five south-east from Glasgow. It is supposed to be the Colonia of Ptolemy, and is known to have been of considerable note at a very early period, Kenneth II. having held a parliament here in 978. In 1244 the town was destroyed by fire, and in 1297, the heroic Wallace first raised the standard of liberty here, slew the English governor, and made himself master of the place. It was erected into a royal burgh by Alexander I., and its charters were finally confirmed by Charles I. in 1632. The chief employment of the inhabitants is weaving for the Glasgow manufacturers. In the neighbourhood, higher up the Clyde, stand the cotton-mills and village of *New Lanark*, founded by David Dale in 1785, and celebrated as the earliest subject of Mr Owen's philanthropic exertions. Population in 1831, of the town of Lanark, 4,266; of New Lanark, 1,901; of the surrounding parish, 1,505; total, 7,672.

**LANARKSHIRE**; a large and important county of Scotland, bounded on the east by the shires of Edinburgh and Peebles, on the west by those of Ayr and Renfrew, on the north by those of Dumbarton, Stirling, and Linlithgow, and on the south by the county of Dumfries. Its greatest length from Queensberry-hill on the south, to near the eastern extremity of the burgh of Renfrew on the north-west, is fifty-two miles; and its greatest breadth, nearly in a line at right angles to its length, from the confines of Peebles-shire on the east at Garvald-foot, to the source of the Avon, on the frontiers of Ayrshire on the west, is thirty-three miles. It contains an area of 926 square miles, or 471,278 Scots statute acres. Towards the south, the county is hilly and mountainous. A ridge of lofty mountains, called the *Lowthers*, stretches through the country from near the Clyde to the south-western boundary, where part of the chain separates Lanarkshire from the county of Dumfries. From the southern extremity of Lanarkshire another ridge runs northward for many miles betwixt and Peebles-shire. A third chain, farther to the north, crosses the county towards the west, about twenty miles from the southern limit. The eastern part of this chain is called the hills of Tinto, and the western part, separated from the eastern by the vale of Douglas, the Haughshaw hills. The general surface of this hilly district is about 1000 feet above the level of the sea. Many of the mountains are of a great height; Lowther Hill is 2,450 feet above the same level; Tinto 2,236 feet; Coulter-fell about the same height; and Cairn-table, on the borders of Ayrshire, measures 1,650 feet. To the northward of the hills of Tinto, Lanarkshire is, in general, a fine champaign and variegated country, declining to the north-west, and in many situations remarkable for its picturesque beauty and the grandeur of its scenes. Many beautiful vales stretch amongst the numerous rivers. The chief of these is the vale of Clyde, extending from about two miles above Lanark, to within three or four miles of Glasgow, every where remarkable for its natural

beauties, its numerous country seats, its waterfalls, romantic dells, orchards, hanging woods, and cultivated fields.

The principal river of the county, and in point of commercial importance the first in Scotland, is the Clyde; which, traversing the whole length of Lanarkshire, gives it the name of Clydesdale. It collects its supplies from no less than 1200 square miles of surface, including the areas described by its tributary streams. Its farthest source is situated near Queensberry-hill, at the southern extremity of the county, at the head of a rivulet called the Crookburn, flowing into the river Daer, and which, after a course of several miles, is joined by a stream called Little Clyde; this last has its rise near the mountain of Clydeslaw, in the vicinity of which the rivers Tweed and Annan have also their sources. The general direction of the river is towards the north-west. In its course, by a noble sweep, it winds around the base of the mountain of Tinto; then leaving the hilly district of the county, and entering the more cultivated division, at no great distance from the southern extremity of the vale of Clyde, it forms the celebrated waterfalls of Bonnington, Corra, Dundaff, and Stonebyres, in the vicinity of the town of Lanark. Continuing to flow through this fine vale, it passes Hamilton, Rutherglen, and the city of Glasgow, a few miles above which it first receives the influence of the tide; and then gliding onwards with a smooth and gentle current, passing Renfrew, Dumbarton, and Port-Glasgow, it forms the Frith of Clyde, nearly opposite to Greenock.

The earlier history of Lanarkshire will be found comprehended in the article *Glasgow*, to which the reader is referred. It formed a portion of the Roman province of Valentia, and afterwards of the British kingdom of Strath-Clyde, until that kingdom, in the ninth century, became incorporated with those of the Scots and Picts. The county of Lanark formerly included what is now called Renfrewshire; but in the reign of Robert III. that portion of it was disjoined from Lanark, and formed into a separate jurisdiction, in favour of his eldest son James, prince and steward of Scotland, by a charter of erection, dated at Perth, 10th December, 1404. At that time Lanark was distinguished by two divisions or wards, called the *Over ward* and the *Nether ward* of Clydesdale; the burgh of Lanark being the chief town and seat of justice of the former division, and the burgh of Rutherglen of the latter. These divisions continued till the last century, when they were formed into three wards, namely, the upper ward, with Lanark for its chief town and seat of justice; the middle ward, with Hamilton, and the lower ward, with Glasgow. For each of these wards there is a sheriff-substitute appointed by the sheriff-depute of the shire.

Lanarkshire contains excellent freestone, limestone, ironstone, coal, and granite. The most valuable freestone is found in the lower part of the district, with which the buildings in the city of Glasgow, and the adjacent country, are constructed. Limestone is to be met with in many places, but principally in those parts of the country lying to the northward of the Tinto hills. In almost all the limestone rocks, are to be met with shells and other fossils, which are sometimes very numerous, and of many different species. Ironstone is very abundant in some situations. It lies in regular strata above the limestone and coal; in others in contact with sandstone; and in others again, it is to be met with in the form of balls, which are of an excellent quality, yielding upwards of 50 per cent. of iron. The ironstone found here, is entirely used in the different furnaces in the county, particularly at those of Clyde,

Calder, Cleland, and Shotts. The richest mines are those of Calderwood and Crossbasket, in the parishes of Kilbride, and which have been long wrought to great advantage. The most valuable metallic ores are, however, situated in the southern part of the county, where lead has been wrought for more than two centuries. The principal mines are at Leadhills. The veins of lead vary in width from a few inches to fifteen feet. Silver is extracted from the lead, in the proportion of six to twelve ounces in the ton. In the same district of the county, gold is also found amongst the mountains in veins of quartz, or washed down into the sands of rivulets. Gold was first discovered here in the reign of James III. by one Cornelius Devossec, a lapidary of London; and a considerable quantity of those pieces called *uncers*, coined from it. In the reign of James V. 300 men are said to have been employed searching for the precious metal for several summers, and to have collected gold to the amount of £100,000 sterling. Lapis lazuli, and antimony, have also been found in small quantities. A more valuable mineral than either of these, is, however, found here in abundance, viz. coal. It has been calculated, that the coal stretches through this county in one solid mass, over nearly 110 square miles, or 55,000 acres; and taking all the strata of coal into account, the thickness cannot be less than five yards.

In Lanarkshire a great variety of soils exist, but the moorish and mountainous predominate. Even many of the more genial soils are cold from their substrata, and damp from the climate. The husbandry of the county is chiefly distinguished for its orchards and its breed of horses. The Clydesdale orchards lie chiefly between the lowest fall of the river and the mouth of the South Calder. Most of them are planted on steep hanging banks, and nothing can exceed in beauty and luxuriance this portion of the county. They consist chiefly of apple, pear, and plum trees, and are valued at about £2000 annually. The draught horses of Clydesdale have been long held in high estimation, and are considered superior to any in England. They first began to be improved by crosses from Flanders about 1760. Dealers from all parts of the country come to the Glasgow and Rutherglen fairs to purchase them.

At an early period, the inhabitants appear to have been much engaged in the buying and selling of wool, and the manufacture of coarse woollen cloth. In the early half of the last century, a great deal of fine linen and checks was made, and large quantities of yarn spun by the hand. This led to the establishment of manufactures of lawns and cambrics, which have been succeeded by cotton goods. The extent to which the cotton manufacture is now carried on in Lanarkshire may be seen by a reference to the article *Glasgow*. Population of Lanarkshire in 1755, 51,791 in 1791, 126,354; in 1801, 150,690; in 1811, 198,687; in 1821, 244,766; in 1831, 316,819.

LANCASHIRE, the county palatine of Lancaster is bounded on the north by Cumberland and Westmoreland, on the east by Yorkshire, on the south by Cheshire and the river Mersey, and on the west by the Irish Sea. Its extreme length is seventy-four miles, and its breadth varies from fifteen to twenty-four miles. Its surface, according to the trigonometrical survey, contains 1831 square miles, or 1,171,840 statute acres, of which 370,000 are in a state of tillage, 450,000 in pasture, and nearly 400,000 in moors, mosses, and woodlands. The county is divided into the six hundreds of Lancaster, Amounderness, Blackburn, Leyland, Salford, and West Derby. It lies in the ecclesiastical province of York, and in the diocese of Chester, which was

separated from that of Litchfield by Henry VIII.; it is divided into the two archdeaconries of Richmond and Chester, and is included in the northern circuit.

Before the conquest of Britain by the Romans, that part of the county bordering on Yorkshire was inhabited probably by the Brigantes, while other parts were occupied by the tribes of the Voluntii and the Siatuntii; and, in the later ages of the Roman empire, Lancashire was included in the province called *Maxima Cæsariensis*. The remains of the Roman roads are still discernible in various parts of the county; the principal of these was, according to some authorities, the more northern portion of the Watling Street, and it extended from the Mersey in a northern direction, near Preston, Garstang, and Lancaster, to Carlisle. By the invasion of the Saxons, the province became a scene of bloodshed and confusion. The banks of the river Douglas witnessed, it is said, four successful battles of the renowned British prince Arthur against these intruders. The Saxons established their kingdom of Deiri, which included Lancashire, about the year 547, under Ella. Forty years after, Adelfrid, the king of Bernicia, the country seated between the Roman walls, having married Acca, the daughter of Ella, king of Deiri, expelled her infant brother Edwin from the throne, and united the two provinces into the kingdom of Northumberland. A short time after, however, he was dispossessed by Edwin, who was one of the most powerful princes of the heptarchy, and who, becoming a convert to Christianity, introduced the new faith into his dominions. Northumberland was united to the rest of the kingdoms of the heptarchy under Egbert in the year 827: it partook of its full share of suffering from the piratical Danes, and at the conquest fell under the iron yoke of William the Norman. The period when Lancashire was first formed into a county, and when the boundaries of its parishes were marked, cannot be ascertained with any precision. In the survey of Domesday book, Lancashire is not described under its proper title, but the two hundreds north of the Ribble are included in Yorkshire, and the country between the Ribble and Mersey is inserted under Cheshire. This latter portion was held by Edward the Confessor, and the chief of the northern part by Earl Tosti; nearly the whole of the county was bestowed by the conqueror on Roger of Poitou, who afterwards forfeited these immense possessions. The generality of topographers, following Camden's authority, have stated that the county was first made palatinate, with *jura regalia*, as fully enjoyed by the earl of Chester, by a patent to John of Gaunt, when created duke of Lancaster; but it is certain, from the patent rolls in the tower, that these privileges were conferred by a grant to the duke of Lancaster, father-in-law to John of Gaunt, in the 25th of Edward III. The extent of the duchy must not be confounded with the limits of the county, the former anciently comprising vast estates lying in various parts of the kingdom, the appanage of the duke, possessing its own courts, and governed by its own officers. Lancashire was distinguished in the sixteenth and seventeenth centuries by the prevalence of popular superstitions relative to witchcraft. In 1594, Ferdinand, earl of Derby, died, probably from the effect of poison, and his death and previous sufferings were attributed by himself and his attendants to magic and sorcery; in 1612, nineteen poor women were arraigned and tried as notorious witches at the summer assizes at Lancaster; and, in 1633, other persons were accused, in consequence of which an investigation took place before the king and his physicians, when the discrepancies in the evidence of the witnesses occasioned the acquittal of the prisoners. The national delusion on this subject, however, long

survived this period, though it has now happily disappeared before the progress of knowledge; and the phrase of "Lancashire witches" has of late years been applied by way of compliment to the females of this county on account of their personal charms. During the great civil war, Lancashire was the seat of various skirmishes, sieges, and battles, particularly that of Preston, 1648, in which Cromwell defeated the duke of Hamilton, who had intended to penetrate into England, and deliver the captive monarch. In the rebellion of 1715, Lancashire was again the seat of war, though the inhabitants were in general well affected to the house of Hanover. In 1745, the young chevalier passed through the county in his way to the south, but in a few weeks returned with some precipitation. Henceforward the most striking point in the history of Lancashire is the astonishing increase of its commerce and manufactures, as detailed in the description of the various towns in which they have been established.

The outline of the county of Lancaster is extremely irregular; it is divided from Yorkshire and Westmoreland by moors, mountains, and rivers, and on the west side the coast is indented by bays and harbours. There is a great variety of soil and surface, but in general it is not well adapted for cultivation; hence the ancient thinness of its population, shown by the comparatively small number of parishes into which it is divided. The northern detached part, commonly called the hundred of Furness, but belonging to that of Lonsdale, partakes of the romantic character of the neighbouring district of the lakes. It is a wild and rugged region, abounding in iron-ore and slate, and covered with groves of underwood, successively cut down and converted into charcoal for the supply of the iron furnaces. The county includes some mountain heights of considerable elevation, among which the most remarkable are Pendle Hill, two miles east of Clithero, according to the trigonometrical survey of England, 1803 feet above the level of the sea; Rivington Hill, near Bolton, 1545 feet; Wittle Hill, 1614 feet; and Conistone Fell, in Furness, 2577 feet. The more southern part of the county may be regarded as consisting of two unequal portions; the smaller one extending between the borders of Westmoreland and the Ribble, and the larger including the country between that river and the Mersey. Lancashire is watered by numerous rivers, of which the following are navigable:—the Mersey, the Ribble, the Lion, or Lune, the Irwell, the Douglas, the Wyre, the Ken, the Leven, the Dudden, and the Crake. The principal lakes are, Winandermere, between this county and Westmoreland; Conistone-mere, in the centre of the Fells of Furness; and Eastwaite Water, situated between the two preceding. Lancashire is not only furnished with navigable rivers, but also intersected by numerous canals. (See *Canals*.) The soil in the northern part of the county or hundred of Lonsdale, is less productive than elsewhere, being chiefly sands or marsh land; further south, about Garstang, the country is famous for a fine large breed of horned cattle; and the tract between the road from hence to Preston and the sea, called Fylde or Field, is level land, producing a large quantity of oats. The parts eastward of this district, comprising the old forests of Wyredale and Bowland, are mountainous, and generally barren. In the southern parts of the county, on the banks of the Tame and Irwell, are rich and fertile meadows; and in the neighbourhood of Manchester and other manufacturing towns, the land is highly cultivated. Lancashire is noted in the annals of gardening as having furnished the first potatoes which were raised in England; and what are called fancy flowers, especially the auricula, are here cultivated more generally than in any other

part of the country, except near the metropolis. The climate of Lancashire is humid, although, from the absence of fogs and stagnant waters, it is not unhealthy. The most important mineral products are coal, copper, lead, and iron. The great coal tract commences on the south of Prescot, and crossing the country in a north-easterly direction, passes into Yorkshire; but coal is likewise found in abundance near Manchester, and northwards beyond Lancaster. Cannel coal is met with near Wigan, and at other places, and sometimes in contact with the black coal, or slightly mixed with it, as at the pits near Layton Hall. Copper ore occurs in the rough barren mountains, towards the northern extremity of the High Furness or Fell district, and especially at Coniston, Muckle Gill, and Hartriggs; but it has not been discovered to the south of Lancaster sands in quantities sufficient to bear working with advantage. Lead ore is chiefly met with in the northern and north-eastern parts of the county, but it is by no means abundant. At Anglezark, near Chorley, is a lead mine, the ore of which, galena, is intermixed with carbonate of barytes. Iron ore is the principal product of the district of Furness; and though found in some other parts of the county, it is there only sufficiently plentiful to render the working of it profitable.

Lancashire is distinguished as the grand seat of the cotton manufacture; a full account of the rise and progress of which will be found in the article *Cotton Manufacture*. (See also the articles *Manchester* and *Liverpool*.) Fabrics of silk, wool, and linen, as well as cotton, are largely manufactured in this county, and here are carried on hat-making, calico-printing, bleaching, dyeing, machine-making, iron-founding, and the manufacture of paper, glass, and earthenware. Steam-carriages were also here first brought to perfection, and experiments with them on a large scale were first made on the rail-road between Liverpool and Manchester. Before Lancashire became a manufacturing county, its population was small. In the year 1700, it amounted to only 166,200; in 1750, it had increased to 297,400; in 1801, to 695,100; in 1811, to 828,300; in 1821, to 1,052,859; and in 1831 to 1,336,854.

LANCASTER, the county town of Lancashire, is situated within the hundred of Lonsdale South, on the bank of the river Lune or Lune, distant from London 239 miles N.N.W. Lancaster was a Roman station, as may be concluded from its commanding situation, the numerous relics here discovered, and its termination, *castræ*, which appellation was seldom given by the Saxons except to such places as had been occupied by the Romans. During the Anglo-Saxon rule, the history of Lancaster is exceedingly obscure. It may be supposed that it was considered of more importance than any other town of the district, from its giving name to the county; though it must be acknowledged that, in Doomsday Book, Lancaster is considered merely as a ville belonging to the manor of Halton, and consequently must have fallen to decay. At the period of the survey it had returned to the possession of William the Conqueror, from the defection of Roger of Poitou, to whom it had been originally given. The honour of Lancaster was restored to this baron by William Rufus, in whose reign the castle and the church were founded; but by his subsequent defection, under Henry I., he lost these vast possessions, which became afterwards the appanage of various nobles of different family, till they were finally conferred on the blood royal in the person of Edmund Crouchback, in 1266, by his father Henry III., with the title of earl of Lancaster. This prince left two sons, of whom the elder, Thomas, taking arms against Edward II., was defeated at Borough Bridge, and beheaded at Pontefract; but, his

attainder being reversed, the title descended to his brother Henry, who was succeeded in 1345 by his son Henry, the popular earl of Derby in the French wars of Edward III., and advanced by that monarch to the dukedom of Lancaster in 1351, with the same jura regalia as the earls palatine of Chester had ever enjoyed. His daughter Blanche marrying John of Gaunt, that prince, at the death of his father-in-law, was created by Edward III. duke of Lancaster. The duchy became consequently, a petty kingdom, and some of its original regulations are yet in force: it was vested by due succession in Henry IV., son of John of Gaunt, and in the crown it has ever since remained, but under the separate government of its own law officers, distinct from those of the nation at large. In the year 1322 Lancaster was entirely devastated by the Scots under Robert Bruce, and the castle itself was somewhat injured. This magnificent and celebrated structure is now used as the county prison. Placed on an elevation at a small distance from the Lune, it was admirably calculated to keep in check the enemies from the north. Its space embraces an area of 380 feet by 350, and it is supposed to be capable of containing 5000 men. The walls of this structure are of prodigious thickness, and its apartments of spacious dimensions: it is supposed to have been the work of Roger of Poitou. The gate-way was built by John of Gaunt; it consists of two semiangular towers, each surmounted by an octangular turret, and defended by a triple row of machicolations; in a niche, over the gate, is a modern statue of their founder. The castle presents a stately and threatening aspect: the walls were strengthened by round towers, which have been so far repaired as scarcely to be distinguished from the very extensive modern additions, which, at a certain distance only, from the sharpness of the new masonry, combine harmoniously with the original building. Within the area are the shire-hall, and the various appendages of the courts of justice. The castle has been used as the county prison since the age of Elizabeth. In one of the circular towers, called John of Gaunt's oven, is a collection of rolls, that is to say records, relating to the county. To the west, part of an ancient moat, formed by John of Gaunt, yet remains. A terrace surrounding more than half the castle affords a delightful promenade, presenting a view of the windings of the Lune, till it loses itself in the bay of Morecambe. On the whole, no county in England can boast of a goal with all its concomitant parts so complete and grand as that of Lancaster. St Mary's church, situated at a small distance from the castle, is supposed to have been likewise founded by Roger de Poitou; it seems to have been rebuilt in the fifteenth century. The two subordinate chapels of St John's and St Anne's, in the town, present nothing remarkable. The Roman Catholics have a chapel here, and in Lancaster are several meeting-houses and chapels, for the usual classes of the dissenters, to which are attached various schools and charities. Among the public buildings are the town-hall, the custom-house, with a handsome portico of four Ionic columns, a theatre, the assembly rooms, and a bridge of five elliptical arches erected in 1785 by Mr Harrison of Chester. A little below are some remains of the old bridge; a mile higher up the river is the celebrated bridge aqueduct of the Lancaster canal. The county lunatic asylum is a quadrangular building, and is esteemed a model for similar institutions. The commerce of Lancaster, particularly the former West India trade, is now inconsiderable. A noble series of warehouses on the quay is nearly unoccupied. The Lune is navigable to Lancaster only for vessels below 250 tons, and the deserted port presents a striking contrast to the bustle and activity of Liverpool. Ex-

cellent ships are built at Lancaster, and it is celebrated for its cabinet work. The manufactures consist of cordage, sail-cloth, some cotton and worsted yarn, and candles. The town receives a considerable influx of company at the assizes held twice a year; also at the elections for knights of the shire, and at the annual races; and here are held the quarter sessions, with some other local courts of inferior jurisdiction. The parish of Lancaster is extensive, and contains several remote townships entirely isolated and disjoined from the body of the parish: population of borough in 1831, 12,613; of parish, 22,294.

LANCE; a weapon consisting of a long shaft, with a sharp point, much used, particularly before the invention of fire arms. It was common among the Greeks and Romans. The Macedonian phalanx was armed with it, and it was the chief weapon of the Roman infantry. The javelin, or *pilum*, was but secondary. The lance is found among almost all civilized tribes: it was the chief weapon in the middle ages, and is now considered one of the most effective arms of cavalry. The lance of the knight, in the middle ages, was of a peculiar form. Near the lower end, it was very thick, with a deep opening, in which the arm was placed when the lance was put in rest, preparatory to a charge. Immediately in front of the opening, the lance was from one to one and a half feet in diameter, and sloped off towards the upper end, which was from one half to three-fourths of an inch in diameter. From this weapon the small bands, of which the cavalry of the middle ages consisted, took their name. A lance denoted a man at arms (horseman completely armed) with four or five attendants. Among the French, in the fifteenth century, these attendants consisted of three archers, one *coutillier* (so named from the long, broad dirk in his belt), and one page or valet. The introduction of fire-arms gradually led to the disuse of the lance in the West of Europe, though it continued among the Turks, Albanians, Tartars, Cossacks, Poles, and Russians, and other Slavonic tribes, among whom it was borne by light-armed cavalry, on feet horses. Frederic the Great, seeing the advantageous use made of this weapon by the Poles, gave it to a portion of his cavalry, and afterwards formed an entire regiment of lancers. The Austrians followed, and soon established three regiments of *Uhlans*, as they were termed. After the partition of Poland, many Poles entered the French service, and a body of Polish lancers was established. The war with Russia, in which the efficiency of the lance in the hands of the Cossacks, particularly in 1812, was strikingly manifested, brought this weapon into still more repute, and the Prussians formed three regiments of *Uhlans*. The French lancers were formed in 1813, to cope with the Cossacks. Almost all the armies of Europe now have regiments of lancers. To use the lance with effect, however, requires much practice. The lances now in use, among the European cavalry, have a shaft of ash or beech wood, eight, twelve, or even sixteen feet long, with a steel point, eight or ten inches long, and, to prevent this being bawn off, the shaft is guarded by two strips of iron, one and a half to two feet long, below which an iron ball is sometimes placed to prevent the lance point from penetrating too far. The other end has an iron cap, to prevent its splitting. The point has a small flag, intended, by its waving, to frighten the horses of the enemy. When not in use, the lance is carried in a leathern shoe, by the right stirrup, dependent by a leathern thong on the right arm. In use, it is carried under the right arm. This weapon requires a practised horseman. See *Pike*.

LANCELOT OF THE LAKE; the name of one of the paladins celebrated in the traditions and fa-

bles relating to king Arthur (q. v.), or the Round Table. According to tradition, Lancelot was the son of Ban, king of Brucic, and, after his father's death, was educated by the fairy Viviana (the Lady of the Lake). The youth having given proofs of great valour, she took him to Cramalat, to the court of king Arthur, and requested him to make him one of his knights, and to admit him to the number of the heroes of the Round Table. Arthur, with his sword (*escalibor*), dubbed him knight, and Lancelot subsequently distinguished himself by his extraordinary deeds and great heroism amongst all the paladins of the Round Table. His love for Genevra, the beautiful wife of Arthur, and his disregard of Morgana, a fairy, and the sister of Arthur, placed the knight in the most dangerous and marvellous situations, from which, however, he always extricated himself by his valour and the assistance of the Lady of the Lake. He finally succeeded to the throne of his ancestors, after having defeated king Claudas, the murderer of his father, but was slain by Mordrec, the nephew and murderer of Arthur, whom Lancelot wished to punish. In his last moments, Viviana appeared to him, and, with a gentle kiss, took the last breath from the lips of the dying hero, who was the sole survivor of the knights of the Round Table. His remains were taken to his castle, and there deposited near those of the beautiful Genevra. This tradition has been variously handled by poets.

LANCEROTTA; one of the Canary islands. See *Canaries*.

LAND, PROPERTY IN. The relations of landed property are among the most complicated and most important in civil society. They lie at the foundation of almost all the relations and institutions of the state. On their right direction depend the strength and vigour of the commonwealth. They mark the transitions from one step of refinement to another (hunting and fishing, raising of cattle, agriculture conducted by slaves and bondmen, or by freemen, with or without a right in the soil). These relations express the ancient hostility between various classes of people, between hunters, herdsmen, and husbandmen, between city and village, &c. Nevertheless, hardly any subject of law and politics has been investigated with so little profoundness. In no one has prejudice gained such an ascendancy, and resulted in such important consequences. Almost all modern constitutions have taken landed property for the basis of their most important institutions, and given the owners of land a power over the other members of society, the consequences of which are apparent. Distinguished writers have even gone so far as to call owners of land the only true citizens—the nation, properly so called; and all others who chance to have no immediate share in the soil of the state where they reside, are styled by them mere strangers—tenants at will—a homeless rabble, dependent on the good pleasure of their landlords—a class of people, who, in affairs of common interest, are scarcely permitted to hear, and never to speak; whose duty is obedience to their natural masters, the proprietors of the land. But, if these relations are carefully examined, this view is found to be connected with palpable errors.

1. It is wrong to suppose that the banding together of men in a state is connected inseparably with the appropriation of landed property, and that this constitutes the distinction between wandering hordes and civil society. Even nomadic nations have some general idea of the exclusive right of their descendants to the lands which they have been in the habit of periodically occupying, and where they have found support for themselves and their cattle. They esteem it an attack upon their essential rights, for

another family or tribe to usurp these pastures, just as hunters consider it a violation of their privileges, when their hunting grounds are contracted by the encroachment of settlers, or by the incursions of strangers in pursuit of game. Hence Abraham separated from Lot. (*Genesis*, xiii.) The various treaties of the European settlers with the savages of the American wilds clearly show how deeply the idea of the rights of tribes and families in the soil is rooted in nature, and how fully it is developed long before the rude inhabitants have united under a regular government.

2. The division of territory among private owners takes place much later, is not inseparably connected with the purposes of a state, and is incapable, at any time, of absolute perfection. We must remember, on the one hand, that a division of this nature takes place before the idea of the true purposes of a state is matured; and, on the other, experience shows, that even a very regularly constituted state may exist in connexion with the original community of property in the soil. But the assertion of the right of private property in the soil, before the assemblage of men, for common purposes, has given rise to states, is so rare, that perhaps history offers no precedent of it, except in the case of some Robinson Crusoe, who has claimed the ownership of some unappropriated territory on which chance had thrown him, and, what is more to the purpose, a proper ownership in the soil can arise only in and for the purposes of a state; and this right is always different from that which obtains in regard to movable property. The confusion of these two relations, in law so essentially different, arises from the circumstance that the same name is applied to both, and is the source of those numerous errors, the evil consequences of which are felt in every vein of the body politic.

3. Kant has particularly shown that genuine property (and a possession not dependent on actual occupation, with all the consequences that result from it) arises first in and by the state. Before him, men were led away, by the customary ideas of positive law, to regard the occupation of property as an act by which an object of nature becomes, once for all, united with the person of the possessor, in such a manner that every other person must abstain from the use of it, even though the owner should leave it unemployed (if it be a piece of land wholly uncultivated), or be without the ability suitably to use it (as if it includes a large district). But there is no reason, aside from the positive law of the land, why one man should be authorized to bind for ever the will of others; and it is impossible in regard to the soil, because, in this way, it would be made for ever dependent upon the will of the first possessor, and others might be excluded from the very means of existence. Hence private property in land is among the institutions which are first established by the state; but it must be observed, that these still remain subject to alteration whenever the good of the state seems to require it. Apart from the state, a man has no unalienable property but his own person, and a claim upon others for a regard to his personal dignity, which arises from the worth of his nature, and makes it unlawful for others to use him merely as the instrument of their own purposes, or to avail themselves of his powers, or the fruits of them, against his will. Labour is therefore the foundation of property, apart from the institutions of the state; and its visible sign, that is, the alteration of form produced by it, gives notice to others that they are to abstain from the use of the article thus appropriated. By labour a man connects a part of himself with a given subject; but this relation is not eternal; it continues only while the form impressed on it by such owner remains; for the labour bestowed

by men on natural materials is only an alteration of the relations of form and place; it leads to no new product. Man can create nothing new. This privilege nature has reserved to herself by eternal and unchangeable laws; but man can only alter the forms and relations of natural productions, and bring them into connexion in which the creative power of nature shall become serviceable to his ends. He impresses upon things the stamp of his own ingenuity, and exercises that dominion of mind over matter, the extension of which is an important part of his destiny. There is therefore a kind of property independent of that given by the institutions of the state, but not unalienable. As a man possesses nothing in nature, but the labour which he incorporates with it, that is, the form which he gives it, this right ceases when the effects of the labour are lost, and the form vanishes. Nature has a tendency to efface the impressions of art: the human form loses its symmetry, the tamed beast returns to his native wildness, and the cultivated field to its former sterility. The effects of labour are lost; and if a second now appropriates the object, when it is relinquished by the first, he deprives us one of the fruits of his labour, and there is no question of property.

4. This view of the subject shows that the state is not to be looked upon as a combination of landed proprietors; for they have become landed proprietors only by means of the state itself; and it is just as absurd to derive the existence of the state from something that received existence from it, as to consider nobility older than sovereignty, and independent of it. It is likewise unfounded in an historical point of view. In the history of all states, we return with the fullest certainty, to the period when the soil was common to all the inhabitants, and to the subsequent period, when it was regarded as the rightful possession of a certain family or community. The family occupation is obviously the oldest form of restricted possession, which unfolded itself first in the patriarchal government, and is to be seen in the original constitution of almost every state. The origin of family property can be traced only to the immediate gift of a higher power. Thus Jehovah promised to the family of Abraham the land lying on the banks of the Jordan; and the North American tribes ascribe the right of the red men to their hunting grounds to a special gift of the Great Spirit. Hence we see the reason why, in all the early divisions of territory, some important portion of the land, or a permanent tax, as the tenth of all the fruits, was preserved for the service of the national deities. From common property there arose, under the patriarchal dominion, the exclusive right of the founder of the family: first, while the oldest member is the representative of the whole, it belongs to him to divide the common soil among the different members. If the population increases, and circumstances prevent the sending out of colonies, or the wandering of a part of the family, nothing remains but to procure from the ground a richer supply of provisions by regular cultivation; and, when the wandering tribes, who before subsisted by hunting, submit to the more arduous labours of agriculture, a division of the territory into portions, which are secured to individuals by conditions more or less settled, cannot be avoided. But the forms under which this important change takes place are almost infinite. Sometimes the land is divided among individuals every year; sometimes it is assigned to the principal members of the stock, the elders of the tribe, and by them subdivided among the inferior members. This is seldom done, however, without a compensation. The compensation, for the most part, consists of a certain part of the productions of the soil, or of a sum of money, fixed without requir-

to the harvest. The idea of common property gradually died away, especially when private property grew up in particular cases, or in neighbouring tribes, along with the annual division; and the head of the tribe, instead of remaining the manager of the common property, became its exclusive possessor. This has been the state of things in most of the countries in the south of Asia; and we find traces of it till a very late period, even in Europe, in which a patriarchal government, but slightly modified by the general constitution of the country, has obtained, till modern times, in the Scottish Highlands. Every tribe there viewed itself as a family, and the eldest member, or laird, as the master. The territory of the clan was his; what was not retained for his own use, or the public, he divided in large portions among his nearer relations (tacksmen), who either cultivated it themselves, or distributed it in smaller portions among the people. But the grant to the tacksmen was only transient: when the family increased in numbers, they were forced to give place to the nearer relations of the laird. (See *Highlands*.) The condition of common property in the soil is very different, when the family union gives place to a regular community; and this is a general consequence, wherever a part of the race seek new habitations on account of their increasing numbers, and where, to overcome the opposition of the primitive settlers, collections of emigrants from several families enter into a political union. In the constitution of communities, the property of the whole belongs to the associates collectively (and commonly a portion to the divinities of the country and the head of the society); and on account of the military constitution of most early communities, which are constantly in a state of defence or of aggression, they are obliged to take measures that there shall always be a competent number of able-bodied warriors, and also that no one shall be suffered to accumulate too much by purchase or inheritance. Hence a number of lots are laid out, each sufficient to support a family of freemen, and laws are enacted to restrain the further division, as well as the amalgamation of the divisions previously made. This was the case particularly in Sparta, but the plan failed. In Rome, before the laws of the twelve tables, there was a similar institution, and the consequence was, that the lot of a Roman, or his family property, could not be taken from him, or sold by him to another. As Rome retained many relics of the patriarchal government, and these had an important influence upon all their civil institutions, it was impossible for the relations of landed property to be free from it. The community in general had a large landed property, which was daily increased by successful wars (the conquered being usually deprived of a part of their territory); but the ruling patrician families were the only real gainers by the addition. The soil was divided among them; and, in fact, it would have been of little use to that class of citizens who subsisted on the income of their original lot, because men were wanting for the purposes of agriculture. This want of labourers is shown by the fact, that the patricians forced a vast number of their plebeian debtors to labour for them; and these debtors were numerous; for the constant wars that harassed the Roman government reduced multitudes to the necessity of borrowing. Hence it was much for the advantage of this class of people that, in the twelve tables, in the famous passage which gave occasion for dispute even in the time of the Antonines, and which has been understood as referring to the division of the debtor's body, provision was made, in all probability, for the divisibility and alienability of the landed property of the citizens. At the same time, it is manifest, that the desire of

the plebeians to establish a new and more just division of land (by the agrarian laws), was founded on the principles of right. But after this important step was once taken, a more and more perfect freedom and divisibility of landed property found place in the Roman law, which forms a characteristic trait of their legislation. In the German states, the dissolution of the ancient family unions by the institution of societies, was the fundamental principle which manifested itself first in the relation of leaders and their personal retainers. In the new states established by successive conquests, extremely complicated relations grew up; as the ancient inhabitants were sometimes deprived of all their landed property, as in England, for example, and sometimes surrendered only a part of it, as in Italy and the south of France; and this division also took place with many diversities of form. In regard to the share in the land which belonged to the conqueror, we find again a general division: a certain portion of the whole fell to the chief, who had to apply it to the support of his immediate attendants; another portion was assigned to the attendants themselves, and, after certain subdivisions and tithings, it was given up to the community as common property. This common property was enjoyed, not unrestrictedly, but on condition of appearing to do military service. In a few instances, it long retained its character of common property. It was sometimes divided among the people by the head of the community for cultivation; and here and there was bestowed on individuals, on condition of military service. This peculiarity is the foundation of the indivisibility of land, which occurs in some constitutions, and the exclusion of females from the right of inheritance (in the *terra Salica* of the Franks.) To this community of property, or allodial possessions (in Saxon, *folkland*, or *reeveland*), are opposed the infeudments of princes, which were often the means employed by them to collect from the mass of the people, whether conquerors or conquered, a new retinue of more faithful personal attendants (Latin, *fideles*; Spanish, *hidalgos*), to whom they gave these lands in pay, instead of money. Hence arose the *thaneland*, and the more extensive grants by written contract, the *bookland* of the Saxons, the *feh-od* (land paid for services, instead of money, from the Gothic *faiha*, cattle, wealth, money, reward; hence the English *fee*), or feudal possessions. The intermixtures, substitutions, and modifications, which these relations subsequently underwent, it is not necessary for us to dwell upon. We need only show how, in the modern states of Europe, private property in the soil may be traced to common property, and the clear evidence which it bears of such an origin, in order to prove that it depends upon a grant on the part of the community, and that hence the owners of landed property have no right in the soil, but what is permitted by the state. What they receive from the state is not an acknowledgment and confirmation of a right, which they before possessed independently of such acknowledgment, but the right itself. It is no arbitrary right, but it stands in close connexion with certain duties, and its existence and continuance are subject to the state legislation. The owners of landed property do not constitute the people, but only a single class, bound, like the rest, to devote their all to the promotion of the public good.

5. History goes hand in hand with philosophy thus far: while the former contradicts the supposition that landed property is perfectly unrestricted, to be used at will, the latter rejects the idea of such a grant as illegal, and even void. These philosophical grounds, indeed, must not destroy any actually existing rights; but reason has no small voice in deciding

what is actually contained in the existing rights. To sound reason it is evident, that every person must be allowed some resting-place on the earth; hence, as long as any place is left capable of affording support to another individual, the proprietors cannot arbitrarily deprive a fellow being of that support. They are bound to use the soil in such a way as to promote the general good. For every right has some duty for its basis; and landed property is possessed of peculiar rights, only because it is pledged to furnish men with food. This duty becomes more important and pressing as the population increases; hence it is necessary for the state to attend the more carefully to the fulfilment of it; and the more sacred becomes the duty of those in whose hands the means are lodged. According to these premises, the states of Europe have regulated their conduct; they have not suffered ground capable of yielding income to lie unimproved; they have judiciously limited the cultivation of such plants as contribute nothing to the nourishment of the human species, as tobacco, for example; they have encouraged the cultivation of other plants; they have forbidden the exportation of articles which are needed in the state where they are raised; and, in some instances, their seal has led them into wrong principles in their commercial intercourse; above all, they have taken away all obstructions to the improved cultivation of the land. And these ordinances are imperiously demanded by the state of society; for the right of property in the soil has no other end than to promote the cultivation of it for the general good; and it is on such conditions only that the state has distributed the land among individuals. If it is found necessary to deprive a proprietor of landed property of any advantage accruing to him from such a possession, it is not maintained that he shall receive no compensation; but if a compensation is granted, the laws cannot be charged with interfering with his rights, if they impose restrictions upon him in the use of his ground. Hence the common good allows the state to repeal all laws which are a restraint upon the free use of the soil, as tithes; to promote its distribution by breaking up entails, &c., and to secure the cultivator, by not permitting him to be driven from the soil at the will of the landlord, or even by making temporary relations permanent; as the landed proprietors in Ireland, for example, were forced to substitute, in part, quit-rents in the room of leases for years. These ordinances concern the whole community; so that persons who are destitute of landed property have as good a right to be heard on this subject as the landed proprietors. Hence,

6. It is matter of serious reflection, that the constitutions of many modern states provide that the representative body shall be composed entirely of landed proprietors. This rests partly on usage, partly on principles intrinsically good, that men receive the greatest advantage, not from a hasty renunciation of ancient laws, although imperfect, but from slow and cautious advancement, and that it is far more necessary to preserve the existing institutions, and to build them up with judgment and care, than to think of rearing new edifices; for though the foundations of these may seem perfect, their advantages are not certain. But whether this end can be attained by an exclusive representation of landed proprietors, may well be made a question. How can the true wants of all classes be made manifest, if the representation be confined to one? For this reason, a variety in the condition and rank of representatives is highly desirable; and, in some representative governments, provision has been made to attain such an object. Necessary as it is to provide that the representatives shall consist of men interested in

preserving, and not in destroying, the settled order of things, it is equally necessary to avoid, as much as possible, the preponderance of men interested in maintaining old abuses, and to provide, as fully as possible, for representing the views of the great body of the people. It is not the soil, nor its possession, but the great interests of the whole community, which form the object of the state and of representative constitutions.

LAND, in the sea language, makes part of several compound terms: thus *laying the land* denotes that motion of a ship which increases its distance from the coast, so as to make it appear lower or smaller on account of the intermediate convexity of the sea.—*Raising the land* is produced by the motion of the vessel towards it.—*Land is shut in*, signifies that another part of land hinders the sight of that the ship came from. *Land to*; or so far from shore that it can only be just discerned.—*Land turn*; a wave that, in almost all hot countries, blows at certain times from the shore in the night.—*To set the land* that is, to see by the compass how it bears.—*Land breeze*; a current of air which, in many parts within the tropics, particularly in the West Indies, regularly sets from the land towards the sea during the night, and this even on opposite points of the coast.—*Land locked* is said of a harbour which is surrounded by land on all sides, so as to exclude the prospect of the sea, unless over some intervening land.—*To mark the land*, is to discover it after having been out of sight of it for some time.—*Land-mark*; any mountain, rock, steeple, or the like, near the sea-coast, which serves to direct ships passing by how to steer, so as to avoid certain dangers, rocks, shoals, whirlpools, &c.

LANDS, PUBLIC. See *Public Lands*.

LANDAMMANN, in Switzerland (originally *Landammann*); the highest magistrate in the country contradistinguished from *Stadthammann*, the highest magistrate in the city. At present, the highest magistrate in the cantons of Uri, Schwyz, Unterwalden, Glarus, Zug, Appenzell, St Gall, Thurgau, Tessin, and Pays-de-Vaud, is called *Landammann*. Most cantons have two or more, who command alternately; some only one. The first magistrates of the other cantons are called *Schaltherr* (mayor), *Bürgermeister*, *Landhauptmann*, *Syndicus*, &c. The president of the diet of all Switzerland is also called *Landammann*.

LANDAU; a district of 530 square miles, with 101,600 inhabitants, and a fortified town of the Germanic confederacy, with 5700 inhabitants; lon. 10° 10' E.; lat. 49° 13' N. It is under the sovereignty of Bavaria; was formerly a free imperial city, belonging to Lower Alsace. Vauban constructed the fortifications.

LANDECK; a town in Silesia, near which are some mineral springs. The waters contain sulphur of potash, lime, and nitrogen. The temperature is 86° Fah.

LANDER, RICHARD; the discoverer of the course of the Niger, was at first the servant of captain Clapperton, whom he accompanied on his second expedition into the interior of Africa. He died from the Bight of Benin with his master, after whose death at Soccatoo (April 13, 1827), he returned to the coast. His journal is published with Clapperton's. (See *Clapperton*.) In the spring of 1833, he set out with his brother John, on an exploring expedition, and was landed at Badagry, March 23, where he intended to proceed to lake Tchad. He died on the 2d February, 1834, at Fernando Po, of wounds received from the natives. The British government granted a pension of £70 a-year to his widow and of £50 a-year to his infant daughter. See *Niger*.

LANDES; a department in the south-west of France. See *Department*.

LANDINUS, CHRISTOPHER, an Italian scholar, philosopher, and poet, born at Florence in 1424, was patronized by Pietro de' Medici, and appointed tutor to his son, the afterwards celebrated Lorenzo, with whom an attachment highly honourable to both parties took place. Landinus, in his old age, became secretary to the seignior of Florence, and died in 1504. He left several Latin poems, and his notes on Virgil, Horace, and Dante are much esteemed. His philosophical opinions appear in his *Disputationes Camaldulenses* (1480, folio, and Strasburg, 1508).

LANDO, MICHEL; a wool-comber at Florence, who became, during the revolution of that republic, in 1378, *gonfaloniere* of the republic. Machiavelli, in the third book of his History of Florence, describes him as one of the wisest and greatest men, though from the lowest class. By his prudence and firmness, he put an end to disorder, deposed the existing magistrates, created a new nobility, and divided the people into three classes. This state of things, however, only lasted until 1381. (See Machiavelli's *History of Florence*.)

LANDRECIES, or LANDRECY; a fortress on the Sambre (navigable from this place), in the department Du Nord; lon. 3° 42' E.; lat. 50° 22' N.; with 3800 inhabitants. Its situation renders Landrecy important in any war between Germany and France. Francis I. captured it, but it was recovered by Charles V. In 1655, it was taken by Louis XIV., and was ceded to France by the peace of the Pyrenees, in 1659. In 1712, prince Eugene besieged it; but Marshal Villars delivered it. In 1794, Landrecy was taken by the Austrians, after a valiant defence, but recovered the same year. In 1815, the Prussians captured it after a short bombardment.

LANDSCAPE PAINTING. See *Painting*.

LAND'S END, in Cornwall; the western extremity of England. Lon. 5° 45' W.; lat. 50° 6' N.

LANDSHUT; a city in the Bavarian circle of the Iser, with 8000 inhabitants on the river Iser; lon. 12° 6' E.; lat. 48° 30' N. The city is well built; the spire of St Martin's church is 456 feet high. Landshut formerly contained the university called *Ludovico-Maximiliana*, which was transferred hither from Ingolstadt; but, in 1826, it was transferred to Munich. (q. v.)

LANDSHUT, in Silesia, government of Leignitz, at the foot of the Riesengebirge, on the Bober (3100 inhabitants), is important for its linen trade.

LANDSMANNSCHAFT. See *University*.

LANDSTURM. See *Levée-en-Masse*.

LANDWEHR. See *Militia*.

LANFRANC, a prelate of the eleventh century, distinguished by his learning and abilities, as well as by his opposition to Rome, was born in 1005, at Pavia, and, after having been for some time a professor of jurisprudence at Avranches, assumed the cowl, and was elected prior of the abbey of Bec in 1044. In 1059, he entered into a dispute with Berengarius of Tours, at Rome, respecting the doctrine of transubstantiation, and maintained the controversy against him, not only personally before the general council held in that city, but subsequently in his writings. Three years after, he exchanged his priory for the abbey of St Stephen, at Caen, in Normandy; and when William, the sovereign of that duchy, acquired the English throne by conquest, the interest of that prince procured his election, in 1070, to the archbishopric of Canterbury, then become vacant by the deposition of Stigand. In his superintendence of this diocese, he was early involved in a contest with Thomas, archbishop of York, respecting the primacy, which was decided in his favour.

Lanfranc was an able politician, as well as a munificent prelate. He died in 1089. His writings were printed in one volume, folio, 1647.

LANGDON, JOHN, an eminent American patriot, was born at Portsmouth, N. H., in the year 1739, and was educated in his native place. At an early age, he entered the counting house of a merchant, and afterwards owned and commanded a ship which was employed in the London and West India trade, but soon exchanged the seafaring life for the business exclusively of a merchant, in which he was highly successful. At the opening of the revolution, he took a decided part in behalf of the colonies. As early as 1774, when the mother country passed the Boston port bill, and menaced hostilities, Mr Langdon, with John Sullivan and Thomas Pickering, raised a troop, proceeded to the fort at Great Island, disarmed the garrison, and conveyed the arms and ammunition to a place of safety. The royal government would have prosecuted him, but was deterred by the resolution of the inhabitants to shield him at all hazards. In 1775, he was a delegate to the general congress of the colonies. In June, 1776, he resigned his seat in that body, for the place of navy-agent. In 1777, he was speaker of the assembly of New Hampshire, and, when means were wanted to support a regiment, Langdon gave all his hard money, pledged his plate, and applied to the same purpose the proceeds of seventy hogsheads of tobacco. A brigade was raised with the means which he furnished, and with that brigade general Stark achieved his memorable victory over the Hessians. In 1785, Mr Langdon was president of New Hampshire, and, in 1787, delegate in the convention that framed the federal constitution. Under this constitution, he was one of the first senators from New Hampshire. In 1805, he was elected governor of his state, and again in 1810. In 1801, president Jefferson solicited him in vain to accept the post of secretary of the navy at Washington. He died Sept. 18, 1819. Governor Langdon was a conspicuous and efficient public character. In the party politics of the Union, he acted with Mr Jefferson and his associates; but he was honoured and trusted on all sides. The influence of his name was great throughout the Union.

LANGELAND; an island of Denmark, in the south part of the Great Belt, between the islands of Laaland and Funen, about thirty miles in length, and from three to five in breadth; lon. 10° 50' E.; lat. 55° N.; population, about 11,200; square miles, 103. This island is fertile in every part. It is now only a county, but one of the best in the kingdom, and under the same governor as Funen. Rudkiøping is the chief town.

LANGLANDE, ROBERT; a secular priest, and fellow of Oriel college, Oxford, in the fourteenth century, who is supposed to have been the author of the curious poetical compositions, entitled, the Vision of Pierce Plowman, and Pierce Plowman's Crede. He is said to have been a disciple of Wicliffe; and his poems are satires on the vice and luxury of the monastic orders and Romish clergy in general. Editions of these works have been published by doctor T. D. Whitaker. (See Warton's *Hist. of Eng. Poetry*.)

LANGLES, LOUIS MATTHEW, a celebrated Oriental scholar, born at Peronne, in France, 1763, studied Arabic and Persian under M. Silvestre de Sacy, afterwards Mantchou, and published an alphabet of that language in 1787, with a dedication to the academy of inscriptions. This work was followed, in 1788, by a *Dictionnaire Mantchou-François*, after which he printed various pieces translated from the Arabic and Persian. In 1790, he published

Indian Fables and Tales, newly translated, with a preliminary discourse, and notes on the religion, manners, and literature of the Hindoos; and also the second volume of his *Manchou Dictionary*. He was in 1792, nominated keeper of the Oriental MSS. in the royal library; and, in 1793 he belonged to a temporary commission of arts, attached to the committee of public instruction. After the revolution in July, 1794, he became keeper of the literary *depôt*, established in the old convent of the Capuchins, *rue St Honoré*. To his zeal and influence were owing the creation and organization of a particular school for the Oriental living languages, in which he was professor of Persian. He wrote notes for a new edition of the *Travels of Pallas*, translated by Lapeyronie, which he published in 1795 (8 vols., 8vo, with an atlas). He was also the author of valuable additions to the travels of Thunberg, Norden, &c. After the executive directory had suppressed the temporary commission of arts, and dispersed, in various establishments, the objects which had been collected at the Capuchin convent, M. Langlès devoted himself entirely to the duties of his professorship, and to those which devolved on him as conservator of the Oriental MSS. in the national library. On the formation of the institute, he became a member, and belonged to the commission of literature, to which he presented many memoirs and notices of manuscripts. He also assisted in many periodical works. In 1796, in conjunction with MM. Daunou and Baudin des Ardennes, he made an abortive attempt to re-establish the *Journal des Savans*; and the *Magazin encyclopédique* contains a great number of notices and dissertations from the pen of M. Langlès. He died in Jan., 1824. He had formed a noble collection of books, manuscripts, engravings, &c.; and his house was the general resort of travellers, *cognoscenti*, and students.

LANGREL, or LANGRAGE; a particular kind of shot, formed of bolts, nails, and other pieces of iron, tied together, and forming a sort of cylinder, which corresponds with the bore of the cannon from which it is discharged, in order to wound or carry away the masts, or tear the sails and rigging of the adversary. It is seldom used but by privateers or merchantmen.

LANGTON, STEPHEN; a cardinal, and archbishop of Canterbury, in the reign of John, whose disputes with the papal see originated in his rejection of this prelate's appointment. By birth, Langton was an Englishman, but he received his education in the French metropolis. In the university of that city, he had risen gradually, through various subordinate offices, to the chancellorship, when, on going to Rome, the learning and abilities which had hitherto facilitated his advancement raised him so high in the favour of Innocent III., that the pontiff, in 1207, not only elevated him to the purple, but presented him to the vacant primacy of England, respecting the disposal of which the king was then at variance with the monks of Canterbury. John refused to confirm the nomination, seized on the temporalities of the see, and ordered the monks to depart the kingdom. A sentence of excommunication upon himself and his whole realm was the consequence; nor was it removed till the weak monarch, alarmed by the warlike preparations of France, and the general disaffection of his subjects, gave up every point in dispute, and reconciled himself to the church. Langton took possession of his diocese in 1213, and was a strenuous defender of the privileges of the English church. The first division of the chapters of the Bible in verses is attributed to him. De la Rue mentions him among the Anglo-Norman poets of the thirteenth century.

LANGUAGE. This word, originally derived from the Latin *lingua* (tongue), in its most general

sense, means the faculty which God has given to men of communicating their perceptions and ideas to one another, by means of articulate sounds. Metaphorically, its signification is extended to every other mode by which ideas may be made to pass from mind to mind. Thus we say, the "language of the eyes," the "language of signs," the "language of birds and beasts." Even silence, by a bold metaphor, has been assimilated to language by one of the most elegant British poets:—

"Come then, expressive silence, make him speak."

THEOPHILUS.

In an analogous sense, philologists call the communication of ideas by writing, *written language*, in contradistinction to language properly so called, which they denominate *spoken language*. It is certain that ideas may be communicated by signs, representative of sounds, which word *representative* must not, however, be taken literally, because there is no point of contact between the sense of seeing and that of hearing; all that can be said is, that, by tacit convention certain visible signs are made to awaken in the mind the idea of certain audible sounds, which sounds, by another tacit agreement, awaken the ideas of physical objects or of moral perceptions. Thus the eye operates on the mind through the medium of the ear; but the process is so rapid, that it is not perceived at the time, and writing may be said even to be a quicker mode of communication than speech, for the eye can run over, and the mind comprehend, the sense of a page of a printed book, in a much shorter space of time than the words which it contains can be articulated. Still the passage of ideas from the eye to the mind is not immediate; the spoken words are interposed between, but the immortal mind of man, that knows neither time nor space, does not perceive them in its rapid flight; and by this we may form a faint idea of what the operations of the soul will be, when freed from the shackles of our perishable frames.

The same principle applies equally to those modes of writing which philologists have denominated *ideographic*, by which it would seem to be implied, that ideas are immediately transmitted through the eye to the mind. Among those is classed the Chinese. But it is well known that every one of the numerous characters of which that writing consists, awakens in the mind the idea of a syllable, which it is meant to represent; and that syllable, in speech, represents a spoken word or part of a word. Thus, in this instance, the ear (the mental ear) is also an intermediate agent between the eye and the mind. (See the article *Chinese Language, Writing, and Literature*; see also a letter from Peter S. Duponceau, Esq., of Philadelphia, to captain Basil Hall, in the *London Philosophical Magazine* for Jan., 1829, where this question is discussed at large.) The same may be said of the Egyptian hieroglyphics. For a long time, it was believed that every one of those signs was the representative of an idea, until the researches of the younger Champollion afforded the most complete proof of their having been chiefly used as alphabetical characters, although their forms indicate a different destination. It would seem that it was originally intended to employ them to represent ideas, not abstractedly, but through words or sentences of the spoken idiom; for wherever a language exists, and all nations have spoken before they wrote, ideas can only occur to the mind in the shapes given to them by the peculiar structure and grammatical forms of that language. That might easily have been done to a certain extent. There was no difficulty in devising signs to awaken in the mind the idea of the sun, the moon, a tree, a house, or other object, perceptible by the sense of sight: physical and even moral qualities might be expressed metaphorically.

as they are in speech ; and even some abstract ideas might be represented as they are with us by our algebraic characters. But this mode of communication was necessarily very limited, and its sense, as well as its method, could only be explained by means of spoken words. This led to an easier process, and the hieroglyphics were turned into alphabetical letters. A number of them continued to be employed in the former mode ; as, in our almanacs, we have characters representing the sun, the moon and her phases, various stars, and the signs of the zodiac. These are hieroglyphics, to all intents and purposes, and every written language (if we may use the term) has more or less of them. The Egyptians have employed them in greater abundance than any other nation. Still those signs awakened ideas in no other forms than those in which they presented themselves to the mind, when clothed in words ; hence we are informed by Champollion, that there were hieroglyphs significative of the articles which, in the Coptic language, are prefixed to substantives. But the article is a part of speech not at all necessary in language, since there are idioms (the Latin, for instance, and, amongst modern languages, the Russian) that are entirely without it ; so that it is evident that even hieroglyphic signs were invented to represent words in the first instance, and ideas through them. Of what is called the *Mexican picture-writing*, we know too little to speak very positively. Unfortunately, the key to those hieroglyphs, which was preserved for a long time after the conquest of Mexico, is now lost. Therefore we cannot say how they were connected with the spoken language. But that such a connection must have existed, it is impossible to doubt ; otherwise, the Mexicans could not, as it is known they did, have communicated, by mere pictures of visible objects, the history of their empire, from generation to generation. The few hieroglyphic signs which our northern Indians cut or paint on the bark of trees, to inform each other of the number of their enemies, of the course they are pursuing, and of the number of scalps they have taken in battle, are so limited in their objects, that they only serve to show the difficulty of establishing a similar mode of communication on a more extensive scale. It would soon produce confusion, unless a method were connected with it, based on the structure and on the grammatical forms of the spoken language. This alone could class the signs in the memory, and furnish a clew to their different significations, as applied to various objects, cases and circumstances. It must be otherwise, however, when men, in consequence of some natural defect, as the deaf and dumb, for instance, have no idea of sounds, and therefore are without a spoken language. Here their ideas are formed from the recollection of the perceptions which they have received through other senses than that of hearing. They, however, invent signs to communicate with each other, either through the organs of sight or by means of touch. It has been observed, that many of these signs seem to have been taught by nature, and are the same in countries far distant from each other. These are to sight and feeling what onomatopœias are to sound, and are much more numerous, because they are abounding in analogies. Others of those signs are arbitrary, and that is where analogies either entirely fail, or are more obscure and less perceptible. If of them, however, are very limited, and, if the deaf and dumb were left to themselves, would not enable them to enlarge the circle of their ideas. At the admirable art by which they have been taught to understand our languages, through the application of the sense of sight, and to comprehend the mysteries of their structure and their forms, has opened to them a world of ideas, to which they were

before entirely strangers, and has enabled them to combine them with method, compare them with precision, and draw from them correct inferences. To them words are not sounds, but groups of little figures, which class themselves in their minds, and become a medium by which not only to increase the number of the visible signs by touch or gestures, through which they before communicated together, but to improve and methodise them to a degree which, without the knowledge of language, they never would have attained. This language of signs in our deaf and dumb asylums, has received a degree of perfection, which, in some respects, particularly in the rapidity with which ideas are communicated, places it above speech, although, in others, its inferiority cannot be denied. Those advantages it has derived from the knowledge of the forms and method of spoken language, obtained through its written image. It follows, from what has been said, that speech alone is properly entitled to the name of language, because it alone can class and methodise ideas, and clothe them in forms which help to discriminate their various shades, and which memory easily retains ; that written signs or characters, invented by men who can speak, will naturally awaken ideas, in the forms in which their language has clothed them, so as to convey them to the mind through those well known forms, and consequently through the words or sounds to which they have been given. Those who are deprived, by nature, of the sense of hearing, will make the best use they can of the senses which they possess. We have even known a young woman, born deaf and blind, who, to a certain degree, could understand and make herself understood, by means of touch ; but otherwise, speech is the basis of all other modes of communication between men, and all of them, whatever be their forms, reach the mind only through the recollection of ideas, as clothed in the words of a spoken language.

*Origin and Formation of Language.*—The origin of language is involved in deep obscurity. The greatest philosophers, among whom may be mentioned Leibnitz, J. J. Rousseau, Adam Smith, Dugald Stewart, and many others, have in vain exerted their powers to discover what it is most probable will ever remain to us a profound mystery, at least on this side of the grave. Theories have been accumulated upon theories, systems have been formed, and volumes have been written for and against them ; but it does not appear that we are much better informed, at present, than we were in the beginning. Human knowledge has its bounds, prescribed by the almighty Creator of the universe ; these bounds we may approach to a certain degree, but never pass. However, we may be assured of this undeniable truth, it is not the less certain that the same Being who has set limits to our knowledge has implanted in our souls an ardent desire to extend it as far as possible ; and, as those precise limits have not been revealed to us, and there remains a vast space of debatable ground, we are not prohibited from exerting our best faculties in order to extend our view of that ground as far as our imperfect judgment, aided by our imperfect senses, will permit ; and therefore inquiries of this kind will always be curious and interesting, how often soever they may have been tried in vain. Nor is it less curious to take a retrospective view of the aberrations of the human mind to which these inquiries have given rise. It is unfortunately too true, that, in pursuing them, men have much oftener reasoned *a priori*, than they have sought to come at the truth by means of fair induction from well ascertained facts. It is but lately that philologists have employed themselves in collecting facts, till then unobserved, by means of which some extension of our

knowledge may be gained, though we must not expect that we shall ever be able to penetrate into the secrets of Providence, which, if they were displayed before us it is probable that our weak minds could not ever comprehend. Philologists long bewildered themselves in search of the primitive language. The greatest number of the learned assigned that rank to the Hebrew, it being the language of the holy writings, as they have come down to us from the time of Esdras. But many solid objections have been made to that hypothesis, and it seems now to be generally abandoned. Others saw the primitive language in that of their own country, or in some other idiom of which they were particularly fond. Thus Van Gorp, a Fleming, better known as *Becan* or *Becanus*, was in favour of the Low Dutch, Webb was for the Chinese, Reading for the Abyssinian, Stiernhielm and Ruilbeckius for the Swedish, Salmasius, Boxhorn and Aurelius for the Scythian, Erici for the Greek, Hugo for the Latin, the Maronites for the Syriac. In our day, don Juan Bautista de Erro y Aspiroz, who not long since was one of the ministers of state to the late king of Spain, in a work entitled *El Mundo primitivo, ó Examen Filosófico de la Antigüedad y Cultura de la Nación Bascongada* (printed at Madrid, in 1815), claims that honour for the Basque, which, however, in a former work, entitled, *Alfabeto de la Lengua primitiva de Espanna* (Madrid, 1806), he had only, and with more reason, supposed to be the primitive language of Spain. A partial translation of these works was published at Boston, in 1829, by a learned American, George W. Erving, esquire, late minister of the United States to the court of Spain, and will be read with interest, because, in the midst of his national prejudices, the Spanish author discovers a truly philosophic mind, particularly where he maintains with great cogency of argument, that, because men in the beginning had but few wants, it does not follow that they had few ideas, and that their language was destitute of form or method. (*El Mundo primitivo*, p. 37.) The admirable syntax of the languages of the American Indians has sufficiently proved the correctness of this proposition, which now seems to be generally admitted, though it was at first received with great distrust by the learned world. We shall presently expatiate somewhat more at large upon this subject.

That there was a primitive language, which was spoken by the first parents of mankind, is a fact attested by our Holy Scriptures, and which philosophy is not willing to deny. But what has become of that language, and where is it now to be found? Grotius was of opinion, that though it exists at present nowhere in its original form, yet that traces of it may be found in all the languages now spoken. This was a bold assertion, and which could not proceed from actual observation of facts; for what man ever did, what man ever could, compare all the languages of the earth, so as to ascertain whether or not there are to be found in them traces of a primitive idiom, and, what is still more difficult, to point out what these traces are? One man, however, was found,—a man of extensive learning and erudition, and, at the same time, a pure and an elegant writer, who thought he had discovered the primitive language. This was the celebrated Count de Gébélín, well known as the author of a large work, published at Paris (from 1773 to 1784), containing nine quarto volumes, entitled *Le Monde primitif, analysé et comparé avec le Monde moderne*. This curious work contains etymological dictionaries of the Latin and French languages, in which the author assumes to derive all the words of those idioms from his pretended primitive tongue. He considered speech as an instinct, and every language as a dialect of that

which he called "primitive, inspired by God himself—natural, necessary, universal, and imperishable." So far may a man be carried, by the spirit of system, and enthusiasm for a favourite hypothesis! It needs not be said that Gébélín's imperishable language has perished with him; yet his books may still be read with advantage, because, like Don Quixote, when he is not mounted on his hobby-horse, he shows himself a man of judgment, and of profound thought. Count Lanjuinais has abridged and enriched with notes one of his volumes, entitled *Histoire naturelle de la Parole*—a valuable system of general grammar, held in high esteem by philologists. What gave the greatest appearance of probability to the proposition advanced by Grotius, and many others after him,—that the remains of the primitive tongue are to be found and discerned in all existing languages—is the astonishing affinities which have been discovered between the languages of Europe and those of Western Asia, so that even the German and the Sanscrit have been classed together under the generic name *Germano-Indian*. These affinities really do exist, to a degree that would hardly be believed, if the well-ascertained fact were not too stubborn to be resisted. But as soon as we have crossed the Ganges, and proceed towards China, these analogies vanish, and we find languages entirely different from those of the West, not only in etymology, but in their grammatical forms. In the interior of Africa, in the Australian islands, and on the whole of the American continent, we find idioms of different structure, having characters of their own, and in which it would be vain to seek for traces of the primitive tongue. The late professor Barton, of Philadelphia, and after him professor Vater, of Königsberg, endeavoured to find affinities between the American languages and those of the Tartars and Samojeds; but their researches produced no decisive results. Here and there they found a few words, which seemed to sound alike, but in such small numbers, and so scattered among the numerous idioms of those nations, that it was not possible to infer even the probability of a former connexion between them; and it is more natural to suppose that chance produced those accidental similarities. See *New Views of the Origin of the Tribes and Nations of America*, by B. S. Barton, Philadelphia, 1797, 1798; and *Untersuchungen über Amerika's Bevölkerung*, von J. S. Vater, Leipzig, 1800.

If we were only to attend to the etymological part of languages, that is to say, to the words of which they are composed, considered merely in relation to the sounds which they produce when uttered, we might still doubt whether the primitive idiom ever not yet exist in all of them, corrupted and disguised by time and a variety of accidents which may easily be imagined; but we have at last turned our thoughts to the internal structure of the various modes of speech; and the immense differences which exist, and appear to have existed from time immemorial, between them, lead us irresistibly to infer, which, at first view, would seem to contradict the Mosaic account of the creation, but which we think may still be reconciled with it on scriptural grounds. Were it otherwise, we would not be deterred from our philosophical investigations, convinced as we are that religion and philosophy are sisters, and, though at first they may appear to be opposed, they will, in the end, be reconciled to each other.—When we consider the great variety which exists in the structure or organization—if we may so express ourselves—of the different languages of the earth, and the length of time that has elapsed since that variety has begun to exist, we are at a loss to comprehend how they can all have been derived from one primitive source. We see, in the first place, the Chinese and

its kindred dialects completely monosyllabic ; that is to say, that every syllable of which they are composed, with very few exceptions, has an appropriate meaning and conveys, by itself, to the mind, either a simple or a compound idea. At the opposite end of the grammatical scale, we find the languages of the Indians of the American continent polysyllabic in the extreme, composed of words some of them of an enormous length, while their component syllables have, when separately taken, no meaning whatsoever. The Sanscrit, in Asiatic India, and in the vicinity of China, is also an eminently polysyllabic language, though the roots of its words may be more easily traced than those of the idioms of America. The Sanscrit abounds in grammatical forms, by means of which accessory ideas are conveyed to the mind by regular inflections, evidently the result of a preconceived system. The Chinese has none of those forms : every syllable, every word, conveys a detached idea ; and it wants those connecting vocables which, in other languages, bind the discourse together, and help the hearer to understand the sense of a period. The same differences exist, in a greater or less degree, in all the languages of the earth, ancient as well as modern. No two of them, it is believed, have exactly the same manner of conveying ideas from mind to mind in the form of words ; and, though they may have the same grammatical character in a general point of view, they differ in the details. That is not, however, what we are considering. We mean to speak only of those great and essential differences, in consequence of which languages may be divided into strongly distinguished classes, such as the *monosyllabic* and the *polysyllabic*, the *atactic*, that is to say, those that are devoid of connecting words and of grammatical forms, and the *syntactic*, which possess these in greater or lesser abundance. These differences, it will be said, may have gradually taken place in the course of time, and prove nothing against the common origin from one primitive language. Unfortunately for this objection, they may be traced back so far, and have continued so long, that it is impossible to suppose that they may have been thus successively produced. Taking, for instance, only two of the languages of the old world—the Chinese and the Sanscrit,—or, if it be alleged that the latter is no longer spoken, we will take those languages of India which are known to be mediately or immediately derived from it, and which may fairly be considered as its continuation. Now, the Chinese and the languages of India are known to have existed at least 4000 years, the one monosyllabic and atactic ; the other, or the others, polysyllabic and syntactic. It does not appear that, in all that period of time, they have at all approached nearer to each other, and, in their general structure and character, they remain now as they were as far back as we can trace them. The same might be said of the Hebrew and the class of languages called *Semitic*, of the Basque, the Greek, the Teutonic, the Slavonic, the Coptic, the Berber of Mount Atlas, and the barbarous languages, as they are called, of Asia, Africa, Polynesia, and America, all of which are more or less ancient, and some of which may be traced as far back as the Chinese and Sanscrit ; and their origin is lost in the night of time. Their organic differences have remained the same, not only for ages, but thousands of ages.

From these facts an inference forces itself irresistibly upon the mind, which is, that in all languages there is a strong tendency to preserve their original structure. From the most remote time that the memory of man can reach, we have never seen a monosyllabic language become polysyllabic, or *vice versa*. Why have not the Chinese, and the Sanscrit

or its cognate languages, in the course of 4000 years, approximated in the least to each other ? Has the Tartar conquest made the least alteration in the structure of the former idiom ? How has the Basque preserved its grammatical forms, different as they are from those of any other language, and surrounded as that handful of ancient Iberians is, and has been for so many ages, by idioms of a character entirely opposite ? How comes it that the polysynthetic forms of the languages of America extend from one end of that vast continent to the other, and that one general grammatical system pervades them all, and appears to have been, from the beginning of time, peculiar to the races of American red men ? The strong tendency of languages to preserve their organic structure can alone account, in a satisfactory manner, for these phenomena. If such a tendency be admitted,—and we do not see how it can be reasonably denied,—it must have existed in the primitive language, as well as in those that are supposed to have been derived from it. But when we see that these have preserved their grammatical characters unchanged for more than 4000 years, we cannot believe that, in the 2000 years preceding, according to the generally received chronology, which makes the world about 6000 years old, language should have suffered so many changes in its organic structure as to form new languages, so essentially and so entirely different from each other in that respect, to say nothing of the difference which exists in the etymology of words ; for between the Chinese and the Cherokee, for instance, it will be difficult to find the least etymological affinity ; and, if the distance of place is assigned as the cause, we will instance the Bengalee—a language spoken in a country not far from China, and which differs from the Chinese full as much as the Mohawk and the Potawatamée. We are therefore forced into the conclusion, that all the languages which exist on the face of the earth are not derived from one, but that they must be divided into classes or genera, to which must be assigned separate and distinct origins. It is not our business to reconcile this theory with the Mosaic records ; we think, however, it may be easily done by supposing (to the contrary of which there is nothing in Scripture) that, at the confusion of tongues, the primitive language, its words and its forms, were entirely effaced from the memory of man, and men were left to their own resources to form new ones, which they did without reference to any pre-existing model. We can in this manner very easily account for all the differences, grammatical as well as etymological, that exist between languages. As to the former, we need only look to the various capacities of the human mind. As the physical eye perceives objects differently, and ascribes to them different shapes and colours, according to the strength of the organ and the point of view from which it contemplates them, so the eye of the mind receives ideas or mental perceptions, according to its various capacities, and to different attending circumstances. What we call ideas, are rapid perceptions, continually fitting before the mental eye. Like objects viewed through the kaleidoscope, they pass before us in ever-changing shapes, and, in endeavouring to fix them on the memory by articulate sounds, the appearance of the moment will decide the form to be given to those representative signs. The man of quick perceptions will try to retain the idea of a whole physical or moral object, or, perhaps, a whole group of objects, in his memory, by means of one single word : another, of slower comprehension, seeing or perceiving a part only, will appropriate a word or a syllable to the expression of that part, and another and another to each of the

other parts that he will successively perceive. In this manner, syntactic and atactic idioms have been respectively formed; the impulse first given has been followed, and thus languages have received various organic or grammatical characters and forms. Let us give an example: At the first formation of a language, one man, by signs or otherwise, asks another to do something; the other, anxious to express his consent at once, and conceiving the whole idea, answers, *Volo*. Another man, whose mind is slower in its operations, divides the idea, and answers in two words, *Ego volo*, or *I will*. Another demand is made, to which the first man does not agree; he answers, *Nolo*; the other says, *Ego non volo*, or *I will not*. Applying this hypothesis to all languages, and their different forms, it will be perceived how, in the beginning, they were framed, and how their various structures have been more or less regular, and more or less elegant in their grammatical analogies, according to the tempers and capacities of the nations that first formed them, and of the men that took the lead in that formation, who may not always have been the most sensible of the whole band; for it is to be presumed that, in those early times, as in our day, the affairs of men were not always directed by the ablest, but oftener, perhaps, by the most forward and the most presuming individual. As to the mechanical or physical part of language, that must have depended on the climate and on the peculiar organizations of individuals.

Although the component sounds of all languages appear very few, they are very numerous, if we consider their almost imperceptible shades and modes of utterance. Hence the difficulties that occur everywhere in acquiring the pronunciation of foreign idioms. Although the organs of speech are the same in all men and races of men, great differences are produced in their utterance of sounds, by the early habit of more or less contracting or expanding certain of the muscles of which those organs are composed. Opening or shutting the mouth, letting out the air more or less freely through the lungs, and other similar causes, produce infinite varieties in vocal sounds and consonant articulations, analogous to those that we perceive in musical instruments, which, like the human voice, are operated upon by touch or pressure, or by the impulsion and expulsion of air. The flute does not produce the same sound with the clarinet or French horn, nor the harpsichord with the violin. Even instruments of the same kind produce different effects, according to the manner in which they are played upon. It is so with the human organs. The first sounds that were uttered, when each language was first invented, gave tone and colour to the rest, and that depended on the first individuals who uttered those sounds, and whom the others imitated or followed. The habits, once fixed, could not easily afterwards be altered. Each language, therefore, had its own articulations, its own accent, and its own tones.

Philosophers have, in general, been of opinion that the invention of languages was a very difficult task, and that it required a very long time—ages, perhaps—to bring an idiom to perfection. We are inclined to be of the contrary opinion. God has given to man, as he has to other animals, all the faculties that are necessary to attain the ends of his creation. These faculties, in animals, we call *instinct*; and by whatever high-sounding names our pride may induce us to call them in ourselves, they are, after all, no more than a power given by the Almighty Being. He made man a social animal, because that was necessary to the purposes of his creation; for the same purposes, it was necessary that men should under-

stand each other, that they should exchange plans, projects and ideas. God, therefore, gave them the means of so doing, and these means consisted of physical organs and mental faculties equal to the task. By means of these faculties, they soon found words by which to convey their perceptions of natural and moral objects to one another, and means to retain them in their memory by some method or order of classification, without which they would have been lost in a confusion of articulate sounds. Hence it has happened that there is no language, however barbarous or uncivilized may be the nation that speaks it, that is not systematically arranged; none, in short, that has not a method of its own, or, in other words, a grammar. They are all reducible to certain grammatical principles, and none has yet been found that cannot be so reduced. The American Philosophical Society has proved to a demonstration, that the languages of the aborigines of America are rich in words and in grammatical forms, and it has been said, that it would rather seem that they were composed by philosophers in their closets, than by savages in the wilderness. (See *Report to the Historical and Literary Committee and Correspondence between Mr Duponceau and Mr Heckerfelder*, in the *Historical Transactions of the American Philosophical Society* vol. i.) When the writer to whom we allude made use of this expression, we believe that he sought to accommodate himself to ideas generally received, for he must have known that languages are not made by philosophers in their closets, and he must have been aware of the failure of all those who attempted to invent what they called a *philosophical language*. Leibnitz, it is said, once had such an idea; but it is certain that he never tried to carry it into execution; or, if he did, he soon abandoned the senseless project. To such a degree was the presumption of the learned raised, about the middle of the seventeenth century, that it was thought, that an universal language could be made for the use of all mankind. One Bacher, having heard a German prince say, that he would give 300 crowns to him who should discover such a language, wrote a treatise, in which he asserted, and tried to prove, that he had made the discovery. He presented it to the prince, who paid him with compliments, and an invitation to dinner. The work is entitled *Character præ Notitia Linguarum universæ* (Frankfort, 1661), and is now very scarce. In 1668, John Wilkins, dean of Rippon, and afterwards bishop of Chester, published a thick folio volume, entitled an *Essay towards a real Character and Philosophical Language*, which contained an alphabet, a grammar, and a dictionary of his supposed perfect idiom. Afterwards, a M. Faiguet, who is called, in the French *Encyclopædia*, *trésorier de France*, but who, in fact, was only a receiver of public moneys in some provincial town, wrote, for that compilation, a scheme of a philosophical language, with which the editors did not disdain to swell their work, and which remains there as a monument of the folly and presumption of mankind. The productions of this writer and of bishop Wilkins, show the superiority of nature over philosophy. Nature invents, philosophy constructs. These philosophers had no idea of grammatical forms except those of the languages that they knew; that is to say, those that they had learned at college, and those they had received from their masters. Therefore, neither the monosyllabic system of the Chinese, nor the polysynthetic of the Americans, ever occurred to their minds; all the improvements that they could think of on the forms which they were familiar with, was, to apply to them the principles of little minds, *uniformity*. To show how they went to work, we will give a few short samples of their respective inventions. M. Faiguet thus formed, in

his philosophical language, the substantive verb to be:

Infinitive.	Indicative Present.
Être = <i>aaa</i>	Je suis = <i>jo aa</i>
Avoir été = <i>aia</i>	Tues = <i>to aa</i>
Devoir être = <i>aue</i>	Il est = <i>lo aa</i>
Êtant = <i>sent</i>	Nous sommes = <i>no aa</i>
	Vous êtes = <i>vo aa</i>
	Ils sont = <i>so aa</i>

It is needless to proceed farther: every one will see that the structure of the French language is servilely imitated, with a little of the Latin; and the only improvement, or rather alteration, is a tiresome uniformity in the termination of words. Bishop Wilkins's system is more metaphysical, and of course more complicated. He affects an antithetical arrangement of his words, according to the ideas which they express; thus he says, if *Du* signifies God, then *ida* must signify its opposite, or an idol; if *dab* be spirit, *odab* will be body; if *dad* be heaven, *odad* will signify hell. With respect to dissyllables, if *pida* be presence, *pid-as* will be absence; if *tadu* be power, *idus* will be impotence, &c. His numerals are as follows:

Pobal, 10;	pobol, 20;	pobel, 30.
Pobar, 100;	pobor, 200;	pober, 300.
Pobam, 1000;	pobom, 2000;	pobem, 3000.
Poban, 100,000;	pobon, 200,000;	poben, 300,000.

One thousand	six hundred	sixty	six.
Pobam	pobur	pobul	pobu.

His arrangement of words in regular rows of prefixed syllables and terminations, is very different from the order which nature follows in all her works, in the structure of languages as in every thing else. She aims not at a childish uniformity. Hers is not the garden where "grove nods at grove; each alley has a brother." She delights on the contrary, in "pleasing intricacies," and every where introduces an "artful wildness," to "perplex" while it embellishes the scene. But not so presumptuous man. Under the mask of a false philosophy, he sets himself up as a rival to nature, which he neither knows nor understands. True philosophy, in a more humble spirit, observes and studies her noble works, contented to admire, and not presuming to imitate.

All those who have attempted to invent a new language, have taken for their models those that they were most familiar with. Father Lami, however, the author of an esteemed French work upon rhetoric, speaking of the possibility of composing a fictitious idiom, proposes, as a type, the language of the Mongul Tartars, probably to make a show of some little knowledge he had of that tongue. But none of these writers thought of framing a language on abstract principles, founded on the most natural arrangement and concatenation of ideas: even the transitive verbs of the Hebrew and other Oriental languages, including in one word the idea of the objective as well as of the governing pronoun, does not appear to have occurred to their minds. It would have been in vain, however, that they should have sought for a system of grammatical forms more natural than another, since, as we have before observed, all the existing grammatical systems, differing as they do from each other, are equally the work of nature, operating through the minds of men, possessing various physical and moral qualities, and producing different results, though all equally tending to the same end—the intercourse of human minds with each other, through the medium of the organs of speech.

We will not, therefore, stop to inquire whether any of the existing languages are more perfect than the others. Perfection is relative to its object. Whatever is adequate to the end for which it was made, cannot be improved but with respect to some

new objects, to which the times or circumstances require that it should be adapted. And that improvement in language is the work of nature, not of philosophy, literature, or science. Necessity sometimes, and sometimes caprice, introduces new words into a language, and chance directs the choice. The same process takes place in the improvement of languages, or rather in the additions made to them, as in their formation. Words are borrowed from neighbouring idioms, or framed by analogy from those in common use, by the first man who thinks he has occasion for them, and they are adopted, or not, by the multitude, as chance or fashion directs. Words are often introduced without necessity, and without much regard to euphony, or the genius of the idiom. It has lately become fashionable to say *approval* for *approbation*, *withdrawal* instead of *withdrawing*; and many other similar new-coined words are gradually coming into use. These innovations make the language more copious, not more perfect. The synonyms, in process of time, assume shades of difference in their meaning, which are not thought of when the words are first used. But we are constantly asked whether the Greek, that enchants us so much in the works of Homer and Pindar, is not a more perfect language than, for instance, the Iroquois, or the Algonkin. We answer, that it is not. We must not confound *perfection* with *cultivation*. The wild rose that grows in our forests is not less a perfect flower than that which adorns our gardens. The latter is more pleasing to our fastidious senses; but will even the most skilful gardener dare to say that he has perfected the work of his Creator? Languages are instruments which have come perfect from the heads of the makers. But they are played on better or worse by different artists. Homer played well on the Greek: he would have played equally well on the Iroquois. If we are to judge of the perfection of a language by the method and regularity of its grammatical forms, that of the Lenni Lenape, of which we have an excellent grammar, by Zeisberger, published in the third volume of the new series of the American Philosophical Transactions, is far superior to our own English, the most anomalous of all idioms, made up almost entirely of monosyllables, full of sibilants and inarticulate vowel sounds; in short, a language which, *a priori*, would be probably pronounced barbarous and unlovely—but hear that instrument played upon by Milton, Shakspeare, Dryden, Pope! If you think that it is the superior perfection of the language that ravishes your senses, and carries you up to the third heavens, you will be much mistaken. It is only the talent of the immortal artists. It is the art of the gardener, who has cultivated this wild tree, and made it produce delicious fruits. But the perfection of a language does not consist in the regularity or in the anomaly of its forms, in its being compounded of monosyllables or polysyllables, or of such or such consonant or vowel sounds predominating in its utterance. Nature in this, as in all her other works, delights in variety. The imperial lily and the humble violet are alike perfect flowers; the barren pine, the stately oak, and the fragrant orange-tree, are alike perfect plants, various in their organization and in their structure, but all adequate to the end for which they were created. Languages were made for the purpose of communication between men, and all are adequate to that end. We have heard that the Chinese language is so imperfect, that men are obliged, in conversation, in order to explain their meaning, to trace, with their fingers, in the air, the figure of written characters. This is exaggerated. We have seen sensible and intelligent Chinese, who have assured us that they never are at a loss to explain their ideas by spoken words. It happens

sometimes, even in speaking English, that when we use a word which, being differently written, has different meanings, we spell that word, to show in what sense we understand it. The Chinese probably do the same, by means of their characters, but not to the extent that the love of the marvellous, or incorrect information, has induced some writers to maintain. In the same manner, those who have lived long among the Indians, all concur in assuring us that those nations converse with one another, on all subjects, in their own idioms, with the greatest ease. Our missionaries preach to them, and find no difficulty in making them understand the abstract doctrines of our religion; and what must dispel every doubt upon this point is, that the whole of the Old and New Testaments has been translated, by the venerable Eliot, into the language of the Massachusetts Indians.

Let us cease, therefore, to speak of the comparative perfection of languages with respect to each other. They are various instruments formed by nature, which genius may cultivate and render more pleasing to our senses, but not more adequate to their end, and the organization of which no talent can change, and no genius can imitate. If it be true, as we firmly believe, that languages were various in their original formation, after the traces of the primitive language had, by the divine will, been entirely obliterated from the minds of men, it becomes needless to inquire whether the first language was monosyllabic or polysyllabic, and whether the first words were formed by *onomatopœia*—from an imitation of natural sounds. No doubt there are, in every language, words which have been formed by that kind of process, even in modern times, as, for instance, the word *bomb*. But it does not follow that this has been a general rule. In most of the Indian languages, the word which signifies *thunder* has no resemblance to the noise made by that explosion: for instance, in the Chickasaw, it is *elloha*; Creek, *tenitke*; Huron, *inon*; Cadoes, *deshinin*; Nootka, *twa*; and there are many other languages in which, in that word, no symptoms of *onomatopœia* appear. It is curious, however, to find that, in the language of the Arkansas, the word for *thunder* is *tonno*, and in that of the Yaco, called by De Laet *Javini* (a people of Guiana, now extinct), it is *tonimernu*. Chance will produce such similarities, which, when thus isolated, prove nothing for or against the affinity of languages, or their derivation from each other.

LANGUAGES. See *Philology*.

LANGUEDOC; before the revolution, a large province of France, divided into Upper and Lower; bounded east by the Rhone, which separates it from Dauphiny, the county of Venaissin, and Provence; south by Roussillon and the Mediterranean; west by Gascony, and north by Forez, Quercy and Rouergue. Its extent was about 270 miles in length, and 120 in breadth. The land is, in general, very fertile in grain, fruits, and wine. Toulouse was the capital of Upper, and Montpellier the capital of Lower Languedoc. It is now divided into the eight following departments:

Department.	Chief Towns.
Gard, .. ..	Nîmes.
Hérault, .. ..	Montpellier.
Ardèche, .. ..	Privas.
Lozère, .. ..	Mende.
Tarn, .. ..	Alby.
Upper Garonne, .. ..	Toulouse.
Aude, .. ..	Carcassonne.
Upper Loire, .. ..	Le Puy.

(See *Departments*.)

The celebrated canal of Languedoc commences at Cette, and joins the Garonne near Toulouse, forming a communication between the Mediterranean and the Atlantic. It was constructed in the reign of

Louis XIV., and is about 140 miles in length. See *Canals*.

LANIARD, or LANNIERS; a short piece of rope or line, fastened to several machines in a ship, and serving to secure them in a particular place, or to manage them more conveniently: such are the laniards of the gun-ports, the laniards of the bows, the laniard of the cat-hook, &c. The principal laniards used in a ship are those employed to extend the shrouds and stays of the mast by the communication with the dead-eyes and bitts, so as to form a sort of mechanical power resembling that of a tackle.

LANIGERA; the specific appellation of the chinchilla of South America. The animal which furnishes the beautiful fur known by the name of *chinchilla*, has, until very recently, been almost entirely unknown to naturalists, except through the imperfect account given by the abbé Molina, in his natural history of Chile. Living specimens have occasionally been brought to Europe. Unfortunately, however, these specimens all died about the period of their arrival, and no opportunity was allowed of examining them alive. The British magical society have recently been more fortunate in receiving a living specimen in good health, from which they have published a beautiful representation of the animal, accompanied by an accurate description of its characters. This we copy from the first number of the *Delineation of the Gardens and Menagerie of the Zoological Society*, along with Molina's account of the habits of the animal. The length of the body in this specimen is about nine inches, and that of the tail nearly five. Its proportions are close-set, and its limbs comparatively short, the posterior being considerably larger than the anterior. The fur is long, close, somewhat crisped and entangled; grayish or ashy-coloured above, and paler beneath. The form of the head resembles that of the rabbit. The eyes are full, large, and black, and the ears broad, naked, rounded at the tips, and nearly as long as the head. The mustaches are plentiful and very long, the longest being twice the length of the head, some of them black, and others white. Four short toes, with a distinct rudiment of a thumb, terminate the anterior feet: and the posterior are furnished with the same number; three of them long, the middle more produced than the two lateral ones, and the fourth external to the others, very short, and placed to the behind. On all these toes the claws are short, and nearly hidden by tufts of bristly hairs. The tail is about half the length of the body, of equal thickness throughout, and covered with long bushy hairs. It is usually kept turned up towards the back, but can be reverted, as in the squirrels. The *chinchilla*, says Molina, is another species of field-rat, of great estimation for the extreme fineness of its wool, &c. Its fur, as delicate as the silken webs of the golden spiders, may be so termed. It is of an ash-colour and sufficiently long for spinning. The little comb which produces it is six inches long from the base of the root of the tail, with small, pointed ears, a few mangle, teeth like the house rat, and a tail of moderate length, clothed with a delicate fur. It lives in burrows under ground, in the open country of the northern provinces of Chile, and is found being in company with others of its species. It feeds upon the roots of various bushy plants which grow abundantly in those parts, and produces twice a year, five or six young ones. It is so docile and mild in temper, that, if taken into the hands, neither bites nor tries to escape. If placed in a glass-bosom, it remains there as quiet as if it were in its own nest. This extraordinary placid manner

be due to its pusillanimity. As it is peculiarly cleanly, there can be no fear of its soiling the clothes of those who handle it, or of its communicating any bad smell to them, for it is entirely free from that ill odour which characterizes the other species of rats. For this reason it might well be kept in houses with no annoyance, and at a trifling expense, which would be abundantly repaid by the profits on its wool. The ancient Peruvians, who were far more industrious than the moderns, made of this wool coverlets for beds and valuable stuffs. To the account of its habits given by Molina, we can only add, that it usually sits on its haunches, and is even able to raise itself up and stand upon its hinder feet. It feeds in a sitting posture, grasping its food, and conveying it to its mouth by means of its fore paws. In its temper it is generally mild and tractable, but it will not always suffer itself to be handled without resistance, and sometimes bites the hand which attempts to fondle it, when not in a humour to be played with. Although a native of the Alpine valleys of Chile, and, consequently, subjected, in its own country, to the effects of a low temperature of the atmosphere, against which its thick coat affords an admirable protection, it was thought necessary to keep it, during the winter, in a moderately warm room, and a piece of flannel was even introduced into its sleeping apartment, for its greater comfort; but this indulgence was most pertinaciously rejected, and, as often as the flannel was replaced, so often was it dragged by the little animal into the outer compartment of the cage, where it amused itself with pulling it about, rolling it up, and slaking it with its feet and teeth. In other respects, it has exhibited but little playfulness, and gives few signs of activity, seldom disturbing its usual quietude by any sudden or extraordinary gambols, but occasionally displaying strong symptoms of alarm when startled by any unusual occurrence. It is, in fact, a remarkably tranquil and peaceable animal, unless when its timidity gets the better of its gentleness.

A second individual of this interesting species has lately been added to the collection by the kindness of Lady Knighton, in whose possession it had remained for twelve months previous. This specimen is larger in size and rougher in its fur than the one above described: its colour is also less uniformly gray, deriving a somewhat mottled appearance from the numerous blackish spots which are scattered over the back and sides. It is possible this may be the Peruvian variety, mentioned in the extract from Schmidtmeyer's Travels, as furnishing a less delicate and valuable fur than the Chilian animal. It is equally good tempered and mild in its disposition, and, probably in consequence of having been domiciliated in a private house, instead of having been exhibited in a public collection, is much more tame and playful. In its late abode, it was frequently suffered to run about the room, when it would show off its agility by leaping to the height of the table. Its food consisted principally of dry herbage, such as hay and clover, on which it appears to have thriven greatly. That of the society's original specimen has hitherto been chiefly grain of various kinds, and succulent roots. When the new comer was first introduced, it was placed in the same cage with the other specimen; but the latter appeared by no means disposed to submit to the presence of the intruder. A ferocious kind of scuffling fight immediately ensued between them, and the latter would unquestionably have fallen a victim, had it not been rescued. Since that time, they have inhabited separate cages, placed side by side. Such an isolated fact can, of course, have little weight in opposition to the testimony of

Molina, that the chinchilla is fond of company. It is, nevertheless, a remarkable circumstance, and deserves to be mentioned in illustration of the habits of these animals.

LANJUINAIS, JEAN DENIS, count de, peer of France, member of the academy of inscriptions and belles-lettres for thirty-eight years, a staunch defender of liberal institutions, was born March 12, 1753, at Rennes, of respectable parents. In 1771, he became an advocate in Rennes; in 1775, professor of the canon law; in 1779, member of the estates of Brittany; in 1789, member of the third estate in the constituent assembly, and, at a later period, of the convention. He was the first in the states general, who, in the report on the state of things in his province (Brittany), gave a faithful picture of the oppressions committed by the nobility, and declared the following measures to be the general wish of the nation—the abolition of feudal rights; the abolition of the nobility, and the establishment of a representative constitutional government; offering, at the same time, in the name of his constituency—the *sénéchaussée* of Rennes—to give up its privileges of exemption from several taxes, &c., though enjoyed from ancient times. He opposed, with courage and energy, the arrogant pretensions of the privileged class and the intrigues of Mirabeau, and, at a later period, resisted, with equal firmness, the violence of the Mountain party. The object of his wishes was constitutional liberty; and, when the republic was proclaimed, and Louis XVI. was denounced, he was as zealous in defence of the rights of his prince as he had been, and continued to be, for the rights of the nation. Attacked by the Maratists, and even threatened in the convention by a crowd of insurgents, he displayed great courage and dignity. He afterwards retired to Rennes, where, proscribed by the Jacobins, he lived eight months in concealment. He owed his preservation to his faithful wife, and the heroic fidelity of his servant, Julie Poirier, whom Legouvé has celebrated in his poem *Mérite des Femmes*. After the downfall of the terrorists, Lanjuinais again took his seat in the convention. Soon after, he was chosen president, and opposed the usurpations of Bonaparte. March 22, 1800, he was made senator. Though he had opposed the consulate for life, and the elevation of Bonaparte to the throne, the emperor named him commander of the legion of honour, and created him count. In 1814, Lanjuinais voted for the deposition of Napoleon and the establishment of the provisory government, and aided in preparing the constitution proposed by the senate. Louis XVIII. made him a peer, June 4, 1814. During the hundred days, he repeatedly refused to take the oath of allegiance to Napoleon, and voted against the *acte additionnel*. Napoleon approved of his election, by the city of Paris, to the house of representatives, and his elevation by that body to the place of their president. After the second restoration, Lanjuinais opposed, in the chamber of peers, all the extravagant and arrogant pretensions of the clergy, defended the liberty of the press and individual freedom, the law of election and the charter. He voted against the war with Spain, against the reduction of the *rentes*, and the septennial elections of the chamber. The speeches and writings of count Lanjuinais are profound and comprehensive. Among the latter are his *Mémoires sur la Religion*, which is directed against the extension of the ecclesiastical jurisdiction; his *Constitutions de la Nation Française* (2 vols., 1819); his work on the three Concordates, and some historical essays, chiefly in the *Revue encyclopédique*. In 1806, he was elected a member of the institute, in the class of inscriptions and belles-lettres; and, in 1816, the king confirmed him in this place. Lanjuinais died January 15, 1827.

LANSDOWNE, WILLIAM PETTY, marquis of, was born in 1737. He succeeded to the Irish title of earl of Shelburne, on the death of his father, in 1761, and, in 1763, obtained the office of president of the board of trade, which he resigned to join the opposition led by Mr Pitt (lord Chatham), with whom he returned to office in 1766. When a change of ministry took place, in 1768, he was again displaced, and continued to be a parliamentary antagonist of ministers till 1782, when he was nominated secretary of state for the foreign department. On the death of the premier, the marquis of Rockingham, he was succeeded by lord Shelburne, who was soon obliged to give way to the coalition between lord North and Mr Fox. In 1784, he became an English peer, by the titles of marquis of Lansdowne and earl of Wycombe. He now employed himself in the cultivation of science and literature, and collected a valuable library, the MSS. belonging to which were, after his death, purchased for the British museum. His death took place in 1805. Lord Lansdowne was twice married. By his second wife, lady Louisa Fitzpatrick, he became the father of the present marquis.

LANTERN (*laterna*, Lat.; *lanterne*, Fr.); a common contrivance to carry a lamp or candle in, being a kind of cover usually made of tin, with sashes of some transparent matter, as glass, horn, &c., to transmit the light. Theopompus, a Greek comic poet, and Empedocles of Agrigentum, are the first who have spoken of this kind of illumination. In the *Antiquités d'Herculanum*, vol. viii., will be found represented a collection of ancient lanterns, one of which, of a round form, was discovered in one of the great roads of Herculaneum, in 1760, and another, 1764, at Pompeii, in the vestibule of a house, by the side of a human skeleton. The use to which these instruments were put was various. A modern author has stated, without sufficient proof, however, that the games of the circus, at Rome, and the sacred games in Greece, were celebrated by this kind of light. Plutarch expressly says that they were used in augury. It is more certain still that they were common among the military, and were always carried before any troops who had to march by night. These were borne upon the top of a pike, and were constructed of a fashion to throw light only behind them.

*Dark Lantern*; one with only a single opening, which may also be closed up when the light is to be entirely hidden, or opened when there is occasion for its assistance to discover some object.—See *Magic Lantern*.

*Fest of Lanterns*, in China; a celebrated feast held on the 15th day of the first month, and thus denominated from the immense number of lanterns hung out of the houses, and in the streets, the number of which has been reported even to exceed 200,000,000. Some of these have been valued at 2000 crowns. They are adorned with gilding, painting, jappanning, sculpture, &c. The size of many of these lanterns is represented to be quite huge: some reach nearly thirty feet in diameter. They are constructed so as to resemble halls or chambers; and two or three such machines together would make a handsome house; so that the Chinese eat, lodge, receive visits, have balls, and act plays, in a lantern. They light up in them an infinite number of torches or lamps, which at a distance, have a beautiful effect. In these they exhibit various kinds of shows to divert the people. Besides these enormous machines, there is a multitude of smaller ones, which usually consist of six faces or lights, each about four feet high, and one and a half broad, framed in wood, finely gilt and adorned: over these they stretch a fine transparent silk, curiously painted with flowers, trees, and some-

times with human figures: the painting is very extraordinary, and the colours extremely bright; and when the torches are lighted, the appearance is exceedingly striking and lively.

In architecture, *lantern* signifies a little dome raised over the roof of a building, to give light, and serve as a sort of crowning to the fabric. The same term is likewise used for a square cage of carpentry placed over the ridge of a corridor or gallery, between two rows of shops (as in the royal exchange, London), to illumine them.

The *lantern*, on ship-board, is a well-known machine, of which there are many in a ship, particularly for the purpose of directing the course of other ships in a fleet or convoy; such as the poop and top-lantern.

LANTERN FLY (*fulgora*); a genus of insects, belonging to the *Aemiptera*, and closely allied to the locusts and grasshoppers, from which it is distinguished by the great prolongation of the head. Few circumstances are more remarkable than the phosphoric light emitted by some insects, as by the glow-worm and fire-fly, but more especially by the species under consideration. This is said to possess the lucid quality in so eminent a degree, as to be used by the inhabitants of the countries where they are found, for the purposes of illumination. The largest of these insects is the *F. lateralis*, which is found in great abundance in South America. Madame Merun gave an entertaining account of the alarm into which she was thrown by the light produced from them, before she was apprised of their shining nature. It appears the Indians brought her a number of the lantern flies shut up in a box. During the night, they made out a noise, that they awoke her, and induced her to open the box, when, to her astonishment and alarm, a strong light proceeded from it, and as many of the insects as left it, so many flames appeared. There are many other species of these flies, one of which—the Chinese—almost equals the South American in splendour. In both of those, the light proceeds from the elongated and hollow part of the head, so other portion of the animal being luminous. A full account of all the species will be found in Fabricius, *Sp. Rhynch.*, and Olivier, *Encycl. Method.*, article *Fulgora*.

LANZI, LUIGI, the celebrated archaeologist, was born at Treia, in the Mark of Ancona, in June, 1731, and became a pupil of the Jesuits, and a member of the order. He made himself master of the whole field of classical studies, and the ruins of Rome awakened his curiosity to the examination of the remains of ancient art, in treating of which he evinced profound learning and critical acumen. From Rome, Lanzi went to Florence, and made himself acquainted with all the masterpieces of art collected there. In 1782, he published a *Guida della Galleria di Firenze*, on which he laboured during the rest of his life. This work not only satisfied the inquirer by its extensive learning, but amused the mere searcher after pleasure, by its pleasing descriptions. He was chosen president of the *Accademia*, in 1807, on account of the purity of his language. A patriotic feeling had engaged Lanzi in the study of Etruscan antiquity, which was then little cultivated. Learned Tuscans, in the middle of the eighteenth century, had attempted to elevate Etruscan civilization, by maintaining that the Etruscan religion and mythology were entirely unaffected by Grecian influence. Lanzi's researches led him to form a different opinion. The remains of the Etruscan language and art denoted, in his opinion, a Grecian origin, not disclaiming all national vanity, he openly maintained the prevailing influence of Greece on Etruscan civilization. German scholars have adopted his opinion.

A critical method and profound erudition render his *Saggio di Lingua Etrusca e di altre antiche d'Italia, per servire alla Storia de' Popoli, delle Lingue e delle Belle Arti* (Rome, 1789, 3 vols.), a classical work. Lanzi next undertook a history of the art of painting in Italy, at the suggestion of the grand-duke of Tuscany (who died in 1824); and this work is of equal merit with that just mentioned. The charms of his style render this erudite production highly attractive. Of this *Storia pittorica dell'Italia dal Risorgimento delle Belle Arti fin presso al Fine del XVIII. Secolo*, the third edition (Bassano, 1809, 6 vols.) deserves the preference, as containing his own last additions. The first edition appeared in 1795, the fourth in 1822 (Florence; English, by Thomas Roscoe, London, 1828). His inquiries respecting the Etruscan Vases, so called (Florence, 1806), is a work of great learning, the most valuable treasures of which have been still more generally diffused by Millin. He also published Latin Inscriptions, which are much esteemed, a translation of Hesiod's Works and Days, and some theological productions, the fruit of his last years. Since his death, which took place March 30, 1811, some of them have been collected by the cavalier Onofrio Boni, in the *Opere Postume* (Florence, 1817, 2 vols., 4to). Inghirami published, in 1824, a new edition, with corrections and additions, of Lanzi's *Notizie della Scultura degli Antichi*, with engravings. As a man, Lanzi was amiable, and readily assisted others in their researches and learned labours. He was buried in the church of Santa Croce, at Florence, where the remains of so many great men repose. Onofrio Boni of Crotone has written an *Elogio dell' Ab. D. Luigi Lanzi*, and the abbate J. B. Zannoni, sub-librarian at Florence, a biography of this distinguished man.

LAOCOON, a priest of Neptune (according to some, of Apollo), at Troy, after the pretended retreat of the Greeks, was sacrificing a bull to Neptune, on the shore, when two enormous serpents appeared swimming from the island of Tenedos, and advanced towards the altar. The people fled; but Laocoon and his sons fell victims to the monsters. The sons were first attacked, and then the father, who attempted to defend them. Wreathing themselves round him, the serpents raised their heads high above him, while, in his agony, he endeavoured to extricate himself from their folds. They then hastened to the temple of Pallas, where, placing themselves at the feet of the goddess, they hid themselves under her shield. The people saw, in this omen, Laocoon's punishment for his impiety, in having pierced with his spear the wooden horse, which was consecrated to Minerva. Thus Virgil (*Æn.* ii. 199) relates the story. Other authors, for instance, Hyginus, give different accounts, though agreeing in the main points. The story has frequently furnished a subject to the poets. Sophocles introduced it into a tragedy. But it is chiefly interesting to us, as having given occasion to one of the finest works of sculpture—the group of Laocoon, now in the Vatican. This was discovered in 1506, by some persons digging in a vineyard, on the site of the baths of Titus. Pope Julius II. bought it for an annual pension, and placed it in the Belvedere, in the Vatican, where it has again been placed since its restoration from Paris. The reservation is perfect, except that the right arm of Laocoon was wanting: this was restored by a skilful pupil of Michael Angelo. This group is so perfect a work, so grand, so instructive for the student of the fine arts, that many authors of all nations, particularly Germans, have written on it; of whom we may mention Goethe, Heyne, Lessing, Hirt, Herder. It is a most difficult subject. It represents three persons in pain, but in different attitudes of struggling or fear,

according to their ages, and the mental anguish of the father. All connoisseurs declare the group perfect, the product of the most thorough knowledge of anatomy, of character, and of ideal perfection. According to Pliny, it was the common opinion that this group was made of one stone, by the sculptors Agesander, Polydorus, and Athenodorus, all three natives of Rhodes, and the two latter probably sons of the former. Doubts exist respecting the era of this work. Maffei places it in the eighty-eighth Olympiad, or the first years of the Peloponnesian war; Winckelmann, in the time of Lysippus and Alexander; Lessing makes it probable that those three artists lived under the first emperors. It may be fairly doubted whether the statue, mentioned by Pliny, is the same which we now have; at least, acute observers have found that the group does not consist of one block, though the junctions are very carefully concealed. To this it may be answered, that they were not, perhaps, perceptible in the time of Pliny. Several copies exist of this matchless production; one in bronze, from a model by Giacompo Tatti or Sansovino, which was carried to France. Bacio Bandinelli made a copy, which is in the Medici gallery, at Florence. The group is placed on a pedestal, about the height of a man, which seems to be too low, Laocoon being above the natural size. Lessing wrote a work, called *Laocoon*, or the Boundaries of Painting and Poetry, in which he draws illustrations from this subject, because it has been handled by a poet and by plastic artists.

LAODICE; 1. a daughter of Priam and Hecuba, who became enamoured of Acamas, son of Theseus, when he came, with Diomedes, from the Greeks to Troy, on an embassy, to demand the restoration of Helen. She had a son by Acamas, whom she called Munitus. She afterwards married Helicaon, son of Antenor, and Telephus, king of Mysia. Some called her Astyoche. According to the Greek scholiast of Lycophron, Laodice threw herself down from the top of a tower, and was killed, when Troy was sacked by the Greeks.

2. One of the Oceanides.

3. A daughter of Cinyras, by whom Elatus had some children.

4. A daughter of Agamemnon, called also *Electra*.

5. A sister of Mithridates, who married Ariarathes, king of Cappadocia, and afterwards her own brother, Mithridates. During the absence of Mithridates, she prostituted herself to her servants, believing that her husband was dead; but when she saw her expectations frustrated, she attempted to poison Mithridates, for which she was put to death.

6. A queen of Cappadocia, put to death by her subjects for poisoning five of her children.

7. A sister and wife of Antiochus II. She put to death Berenice, whom her husband had married. She was murdered by order of Ptolemy Euergetes.

8. A daughter of Demetrius, shamefully put to death by Ammonius, the tyrannical minister of the vicious Alexander Bala, king of Syria.

9. A daughter of Seleucus.

10. The mother of Seleucus.

LAODICEA; a city of Asia, on the borders of Caria, Phrygia, and Lydia, celebrated for its commerce and the fine wool of its sheep. It was originally called *Diopolis*, and afterwards *Rhoas*. It received the name of *Laodicea*, in honour of Laodice, the wife of Antiochus. There were several other places of the same name.

LAOMEDON; in fabulous history, the son of Ilus, king of Troy. He married Strymo, called by some *Placia* or *Leucippe*, by whom he had Podarces, afterwards known by the name of *Priam*, and Hesione. He built the walls of Troy, and was assisted by

Apollo and Neptune, whom Jupiter had banished from heaven, and condemned to be subservient to the will of Laomedon for one year. When the walls were finished, Laomedon refused to reward the labours of the gods; and, soon after, his territories were laid waste by the sea, or Neptune, and his subjects were visited by a pestilence sent by Apollo. Sacrifices were offered to the offended divinities, but the calamities of the Trojans increased, and nothing could appease the gods, according to the words of the oracle, but annually to expose to a sea-monster a Trojan virgin. Whenever the monster appeared, the marriageable maidens were assembled, and one was doomed to death, by lot, for the good of her country. When this calamity had continued for five or six years, the lot fell upon Hesione, Laomedon's daughter. The king was unwilling to part with a daughter whom he loved with uncommon tenderness, but his refusal would irritate more strongly the wrath of the gods. In the midst of this fear and hesitation, Hercules came, and offered to deliver the Trojans from this public calamity, if Laomedon would promise to reward him with a number of fine horses. The king consented; but, when the monster was destroyed, he refused to fulfil his engagements, upon which Hercules besieged Troy, and took it by force of arms. Laomedon was put to death after a reign of twenty-nine years; his daughter Hesione was given in marriage to Telamon, one of the conqueror's attendants, and Podarces was ransomed by the Trojans, and placed upon his father's throne. According to Hyginus, the wrath of Neptune and Apollo was kindled against Laomedon because he refused to offer on their altars, as a sacrifice, all the first-born of his cattle, according to a vow he had made.

LAON, BATTLE OF, March 9, 1814. See *Châtillon*.

LA PARLE; the chief village of a French colony in the south of Africa. About 150 years ago, a number of French Protestants fled to that distant corner of the world, to worship freely, according to the dictates of their consciences. In 1739, the Dutch prohibited preaching in French; Dutch is therefore, at present, the chief language. The colony consists of about 4000 whites of French descent, and 6000 Hottentot slaves. The whites still possess the greatest attachment to France, though for so long a time separated from the civilised world. The colony has lately attracted attention through French missionaries, and may become important in the propagation of Christianity in that region.

LAPÉROUSE, JOHN FRANCIS GALAUP DE; a French navigator, distinguished for his talents, and still more remarkable for the mystery attending his fate. He was born at Albi, in Languedoc, in 1741, and entered, at an early age, into the naval service of his country. During the American war, he had the command of an expedition sent to Hudson's bay, when he destroyed the trading establishments of the British. After the restoration of peace, the French government having determined on the prosecution of a voyage of discovery, M. de Lapérouse was fixed on to conduct the undertaking. Two vessels—the *Boussole* and the *Astrolabe*—were placed under his command; and, leaving France in 1785, he proceeded to the South sea, and, having visited the coast of California, and other places farther north, he crossed the Pacific, to continue his researches on the eastern coasts and islands of Asia. In April, 1787, the ships sailed from Manilla towards the north; and, after passing the islands of Formosa, Quelpaert, the coasts of Corea and Japan, they sailed between Chinese Tartary and Saghalien, without being able to determine whether it was

an island or a peninsula; returning south, discovered the straits which bear the name of *Lapérouse*, and, sailing north on the eastern coast of Saghalien, at length, September 6, arrived at the harbour of St Peter and St Paul, on the coast of Kamtschatka. There they staid to refit the ships, and experienced the utmost hospitality from the Russian local authorities. From St Peter and St Paul, Lapérouse sent copies of his journals, &c., to France, by M. de Lesseps, who proceeded over land across Siberia to Petersburg. From these papers was drawn up the relation of his voyage, published at Paris (1797, four volumes 4to.), an English translation of which appeared in 1798 (three volumes 8vo.). September 30, the vessels sailed in search of further discoveries. They crossed the equinoctial line without meeting with any land, till December 1, when they saw the Navigator's islands, and, a few days after, they landed at Maouma, one of this group. Here M. de Langie, the captain of the *Astrolabe*, M. Lamanon, the naturalist attached to the expedition, and ten other persons, were killed; a what appears to have been an unprovoked attack of the natives. After this misfortune, Lapérouse visited Otolava, an island near Maouma, and then steered for the English colony in New South Wales. January 23, 1788, they made the coast of New Holland, and, on the 26th, anchored in Botany Bay. They left Botany Bay in March, and, in a letter which the commodore wrote February 7, he stated his intention to continue his researches till December, when he expected, after visiting the French islands, to arrive at the Isle of France. This was the latest intelligence received of the fate of the expedition; and M. d'Entrecasteaux, who was despatched by the French government, in 1791, in search of Lapérouse, was unable to trace the course he had taken, or gain any clue to the catastrophe which had befallen him and his companions. In 1825, the attention of the public was excited towards this mysterious affair, by a story published by the French minister of the navy, purporting that an American captain had declared that he had seen, in the hands of one of the crew of an island in the tract between Louisiana and New Caledonia, a cross of the order of St Louis, and some medals, which appeared to have been procured from the shipwreck of Lapérouse. In consequence of this information, the commander of a vessel which sailed from Toulon, in April, 1806, on a voyage of discovery, received orders to make researches in the quarter specified, in order to restore to their country any of the shipwrecked crew who might yet remain in existence. Other intelligence, relative to the wreck of two large vessels, on two different islands of the New Hebrides, was obtained by captain Dillon, the commander of an English vessel at Turocia, in his passage from Valparaiso to Pondicherry, in May, 1826, in consequence of which he was sent out to ascertain the truth of the matter. The two discovered by him on this mission, were, that two ships struck on a reef at Mallicolo, 11° 4' latitude, 160° 20' E. longitude; one of them immediately went down, and all on board perished; some of the crew of the other escaped, part of whom were murdered by the savages; the remainder in a small vessel, and set sail from Mallicolo; but the fate of them is not known. It is not, indeed, certain that these were the vessels of Lapérouse.

LAPIDARY, in the preparation of gems in sculpture; an artifice who cuts precious stones. This art is of great antiquity. There are various machines employed in the cutting of precious stones, according to their quality. The *Canal*, which

extremely hard, is cut in a wheel of soft steel turned by a mill, with diamond dust, tempered with olive-oil, which also serves to polish it.

**LAPIDARY STYLE** (from the Latin *lapis*, stone); that which is proper for inscriptions on monuments. Hence the phrase is sometimes used for a laconic, expressive style.

**LAPIDOLITE.** See *Mica*.

**LAPIS LAZULI.** This superb mineral, which has been seen regularly crystallized only in a few instances, occurs massive, of a rich azure-blue colour; fracture uneven; scratches glass; opaque; easily broken; specific gravity, 2.85. In a strong heat, it intumesces, and melts into a yellowish-black mass. It consists, by one analysis, of 46 silex, 28 lime, 14.5 alumine, 3 oxide of iron, 6.5 sulphate of lime, and 2 water; but a later and more interesting research has given 34 silex, 33 alumine, 3 sulphur, and 22 soda. The finest specimens are brought from China, Persia, and Great Bucharia. It is much esteemed for ornamental purposes, especially for inlaid work. The most splendid exhibition of this rare substance is made in the celebrated marble palace built by Catharine, at St Petersburg, for her favourite Orlov, in which, according to Patrin, there are entire apartments inlaid with lapis lazuli. The ancients were in the habit of engraving upon it, of whose works several specimens are to be seen in the royal library at Paris. But its chief value consists in its affording the very precious pigment called *ultramarine*. (q. v.)

**LAPITHÆ**; a people of Thessaly. The chief of the Lapithæ assembled to celebrate the nuptials of Peirithoos, one of their number. The Centaurs were also invited to partake the festivity, which was interrupted by the violence of the Centaurs. The Lapithæ resented the injury. Many of the Centaurs were slain, and they, at last, were obliged to retire. (See *Pirithoos* and *Centaurs*.) Hesiod (*Scut*) and Ovid (*Met.* xii.) have described the battle of the Centaurs and Lapithæ.

**LAPLACE, PIERRE SIMON**, marquis de, a celebrated mathematician and astronomer, was born at Beaumont-en-Auge, in the department of Calvados, in March, 1749. The circumstances of his parents were extremely humble, and he was indebted for the means of acquiring his early instruction to the generosity of some rich individuals to whom his uncommon talents and astonishing aptitude for mathematical studies had accidentally become known. The expectations which had been formed of him were quickly realized by the great rapidity of his progress, which was such that at a very early age he was appointed a professor of the mathematics in the college of his native town. This field, however, soon appeared too confined for his aspiring views, and he abandoned it in a short time in order to prosecute his studies with greater advantages, and seek his fortune in Paris. In the capital, the brilliant talents of the young geometer soon procured him protectors; among others d'Alembert, who admitted him to his friendship, and in some measure directed his first steps in the career of the sciences. Laplace profited so well by the counsels and lessons of this illustrious master, that in a short time he signalized himself by the capital discovery of the invariability of the mean distances of the planets from the sun, and by the establishment of some theories of great importance in analysis. His first essays were made under the auspices of the president Saron, to whom he dedicated his works, and who defrayed the expense of their publication. Through this high patronage, which he had sufficient dexterity to turn to the greatest account, he was appointed to succeed Bezout in the situation of examiner of the royal corps of artillery; an office which

left him sufficient leisure to prosecute the studies which he had commenced with such distinguished success. At the early age of twenty-four he was admitted into the Academy of Sciences, and from this time devoted himself with ardour to the composition of a series of memoirs on the most important questions of physical astronomy, and to the development in all their details, of the consequences that result from the general laws which regulate the system of the universe. Besides these and other researches connected with the improvement and extension of mathematical science, his attention was turned successfully to the investigation of the principles, and to the experimental researches of chemistry; and, associated with his illustrious and unfortunate friend, Lavoisier, he was the first to repeat in France the experiments of Cavendish to effect the decomposition of water. During the Revolution, when distinguished excellence of any kind was considered by those who had possessed themselves of the executive power of the state as a sufficient cause for proscription, Laplace was several times in danger of meeting a premature fate. It must, however, be admitted that he was not one of those retiring unobtrusive sons of genius who gladly relinquish the objects of political ambition for the calm pursuits of philosophy; on the contrary, he entered into all the frenzies of that distracted period with the same enthusiasm which he displayed in his other occupations; and the extravagant and even ridiculous excess to which he carried his professions in favour of liberty, equality, and republicanism, especially when contrasted with the supple and subservient conduct of his subsequent political conduct, greatly diminished the respect which would have been willingly yielded to his profound genius and distinguished services in the cause of science. At the establishment of the Polytechnic School he was appointed one of the professors in that admirably conceived institution. In 1796 he did homage to the Council of Five Hundred by presenting to them his *Exposition du Système de Monde*; a work which was received by the scientific world in general with unbounded admiration. In 1799, he was nominated by the Consuls to the ministry of the interior. In this situation he soon found, probably, that the effects of human passions are not so easily submitted to the calculus as those of the forces of nature; at all events his success as a minister of state was by no means commensurate with his high reputation as a mathematician. Bonaparte, who himself aspired to the renown of science, and who always manifested the most friendly dispositions towards Laplace, said of him, in reference to the inaptitude which he displayed in the management of practical matters, that he never seized any question in its true point of view, that he sought for subtleties in every thing, that his ideas were problematical, and that, in short, he carried into the administration the spirit of the infinitesimal calculus. The same year he was called to a place in the senate: of which body he was subsequently vice-chancellor and president. In 1806, he was raised to the dignity of Count of the Empire. But although he was indebted for all these offices and honours to the personal favour of Bonaparte, yet, on the emperor's reverse of fortune in 1814, he was one of the first to push matters to extremity against his ancient benefactor, and to vote for the overthrow of the imperial power, and the establishment of a provisional government. On the re-establishment of the Bourbons, the facility with which he had deserted his former master, and his zeal in the service of the restored dynasty, were rewarded with the title of marquis, and a seat in the chamber of peers. How different the fate of his amiable and more upright and consistent colleague Monge, who,

on the same occasion, was stript of his employments, and had his name erased from the list of the Institute, because he had the magnanimity to respect, in his fallen fortunes, the man whom he had professed to reverence and admire in the plenitude of his power. In 1816, Laplace was named a member of the French Academy, an honour to which he was eminently entitled by the admirable clearness, and purity, and elegance of his style. He died in March, 1827, full of years and glory. His principal works are his *Traité de Mécanique céleste* (1799—1805, four vols., 4to); his *Théorie du Mouvement des Planètes*; *Essai sur les Probabilités*; and *Théorie analytique des Probabilités*.

**LAPLAND**; the most northern country in Europe, bounded north by the Arctic ocean, east by the White sea, south by Sweden, and west by Norway and the Atlantic. Its extreme breadth is estimated to be 300 miles, and its length, from cape Orlof, on the White sea, to the entrance of Saltersford, on the Atlantic, about 700. Lapland is divided into three parts, called *Russian*, *Swedish*, and *Danish*, or *Norwegian*. The part of Lapland lying along the northern shore of the gulf of Bothnia, consists of an extensive plain, abounding in immense forests of spruce and Scots fir; but at the distance of eighty miles from that inland sea, the ground becomes gradually elevated, and is at last full of lofty mountains, which rise, between the latitude of 67° and 68° 30', to a height of from 5500 to 6200 feet, which, in this hyperborean region, is 2700 feet above the line of perpetual congelation. The principal rivers are the Torneo, the Kemi, the Lulea, and Pitea. The Yana, the principal river in the north-east, and the Alten, the principal in the north-west, both run into the Northern ocean. In lakes, Lapland, particularly its mountainous part, abounds. In the maritime districts, there prevails an approach to uniformity of temperature; the winters are not severe, but the summers are raw and foggy; while, in the interior, the winter is intensely cold, but the heat of summer is steady and fructifying. The mean annual temperature at the North Cape (lat. 71° 11' 30") is six degrees higher than at Enontekis, in the interior (in lat. 68° 30'); yet, at the latter, the thermometer rises, in July, to 64°, while, at the Cape, it seldom reaches 50. Lapland abounds in iron; and copper, lead, zinc and arsenic are not uncommon. Barley, or big, is the most common grain. In the low ground, rye is likewise cultivated, and occasionally oats. The berry-bearing plants also are numerous. The most common animals are hares; the others are bears, martens, gluttons, beavers, otters, ermines, squirrels, lemmings (or mountain rats), foxes, and wolves. The domestic quadrupeds are oxen, cows, dogs, sheep and goats. The reindeer is the most valuable animal in Lapland. It serves as the principal beast of burden; its milk is highly valued, and its flesh supplies the chief nourishment of the inhabitants. The mountain Laplanders have no fixed habitation, but wander about in quest of food for their flocks of reindeer, and lodge in tents or huts, which are usually about nine feet in height, and twelve in length. Their diet is chiefly of animal food. During winter, they carry on some traffic with the Swedes. This takes place at Torneo, and other towns on the gulf of Bothnia, and consists in exchanging skins, furs, dried fish, venison, and gloves for flannel, cloth, hemp, copper, iron, and various utensils, but particularly for spirituous liquors, meal, salt and tobacco. The Laplanders, or, as they call themselves *Same*, (*Laplander*, or *Lappe*, being merely a nickname), are a nation of Finnish extraction. The population is estimated thus: 1900 in Swedish Lapland, nearly 5000 in Norwegian, and 8800 in Russian. Besides these, there are in the country several colonies of

Swedes, Norwegians and Finns. The whole population of the country, which is as large as France, cannot exceed 65,000. The height of the Laplanders is between four and five feet; often less. They are of a dark complexion, with black hair; strong, handy and active. They are naturally gentle and mild; have no characteristic vices nor virtues. Generally speaking, they have little excitability, but love their country, and are happy in their way. They tan hides, make twine of the sinews of the reindeer, weave coverings for their tents, knit gloves, make various utensils, canoes, sledges, and the necessary articles of dress. The dress of both sexes is nearly the same, that of the women is almost solely distinguished by their ornaments. Both sexes wear caps, coats, trousers and boots, either of leather or fur and canvas cloth. In summer, they live in tents; in winter, in huts built of poles covered with birch twigs and earth, having at the top a hole for the smoke. They live on fish and the flesh of reindeer. According to their food, the Laplanders are divided into *Reindeer Laplanders* or *Mountain Laplanders*, and *Fishing Laplanders*. The former wander from pasture to pasture with their reindeer. A wealthy *Laplander* possesses a thousand or more of these animals, which are used to draw the sledges, and to carry loads. The *Fishing Laplanders*, however, who possess few or no reindeer, live almost entirely on fish. They kill saibles and birds, and catch the eider-duck, as do also the *Reindeer Laplanders*, if, by disease or other misfortunes, they lose their reindeer. The *Laplanders* formerly worshipped fetiches. At present, they are all baptised, but they have mixed their old superstitions with Christianity, which has been forced upon them; and it is not uncommon for a *Laplander* to be baptised whenever he comes to a populous place where there are missionaries.

**LAPO**, ARNOLPH, a celebrated sculptor and architect, born at Florence, 1232, first introduced a better taste into architecture by his great works, and very happily united solidity and grace. He began the building of the cathedral of Florence (to which Brunelleschi afterwards added the admirable dome), the strong walls of Florence, the convent at Anghiari, and several churches and other edifices at Florence. He died in 1300.

**LAPSE**, in ecclesiastical law; a slip or omission of a patron to present a clerk to a benefice within six months of its being void; in which case, the benefice is said to be in *lapse*, or *lapsed*, and the right of presentation devolves to the ordinary.

**LAPSED LEGACY** is where the legatee dies before the testator, or where a legacy is given upon a future contingency, and the legatee dies before the contingency happens.

**LAPSIDED**; the state of a ship which is built in such a manner as to have one side heavier than the other, and, by consequence, to retain a constant heel or inclination towards the heavier; unless when she is brought upright by placing a greater quantity of the cargo or ballast on the other side.

**LAPWING** (*fringa vanellus*, Lin.). This bird is about the size of a pigeon, and belongs to the snipe and plover tribe. It is found in Europe in large flocks, except during the pairing season, when it separates for the purposes of incubation. The female lays five eggs, of a dirty olive, spotted with black: she makes no nest, but deposits them upon a little dry grass, rudely scraped together: the young birds run about very soon after they are hatched. During this period, the old ones are very assiduous in their attention to their charge: on the approach of any person to the place of their deposit, they flutter round his head with great inquietude, and if he persists in advancing, they will endeavour to dash

him away, by running off as if lame, and inviting pursuit. These birds have a singular mode of collecting their food, which consists of worms. When they observe the small elevation in the ground which the worm makes before it returns below ground, in the morning, by emptying itself, they gently open it at top with their bill, and tap on the ground, at the side of it. This attracts the worm to the surface, when it becomes the prey of the ingenious hunter. These birds are very lively and active, being almost continually in motion, sporting and frolicking in the air, in all directions, and assuming a variety of attitudes. They run along the ground very nimbly, and spring and bound from spot to spot with great agility. In the month of October, they are very fat, and are then said to be excellent eating. Their eggs are considered a great delicacy, and bring high prices in the London markets.

**LAQUERING**; the laying on metals coloured or transparent varnishes, to produce the appearance of a different colour in the metal, or to preserve it from rust. Thus laquered brass appears gilt, and tin is made yellow. Seed-lac is the chief composition for laquers, but turpentine makes a cheaper laquer.

**LARBOARD**; a name given by seamen to the left side of a ship, when the spectator's face is turned in the direction of the head.

**Larboard-Track** is when a ship is close-hauled, with the wind blowing on her larboard side.

**LARCENY** is the fraudulent taking by a person of the goods of another, without his consent, with the intent, on the part of the taker, to appropriate them to his own use. As to the taking, the mere removing of the goods is sufficient to constitute the crime; as, where the thief took down goods and put them into a parcel, for the purpose of carrying them away, but was detected and arrested before carrying them away, this was held to be a sufficient taking to constitute larceny. But, where a person only changed the position of a package of cloth, by raising it on end, for the purpose of taking out the cloth from the pile, and was detected in his purpose before he had opened the bale, this was held not to be a sufficient taking to amount to this offence. The doctrine, in this respect, is, that, to make the crime of larceny, a person committing it must get the article into his possession. The intent is a material circumstance; and, if one person takes the goods of another openly, before his eyes, though with the design of appropriating them to his own use, it is not larceny, but only trespass: so, if goods be taken by negligence or mistake, it is not larceny; as if sheep stray into one's field, and he shears them by mistake, as his own. The necessity of an intention to steal, in order to constitute larceny, is illustrated by the case of a servant assisting some thieves to steal his master's goods, with the consent of his master, merely that the thieves, who had previously formed the design of committing the theft, might be detected: it was held that larceny on the part of the servant, but it was held to be so on the part of the others, though it was acted, in their behalf, that the taking was not without the consent of the master, it being essential to larceny, that it should be committed against the owner's consent; but the court held it to come under the description of crime, for the thieves had previously formed the design of stealing the goods, and the master did not consent to their appropriating them to their own use, but only to their proceeding so far that they might be detected and convicted of the crime.

A person has property in goods, and a right to possession of them, he cannot, in general, commit the crime of larceny in taking them, but, if he only has the custody of them, and no property in them,

he may steal them. Thus, if a bailee or lessee of chattels appropriates them to his own use, it is not, in general, larceny. Yet it has been held that, when a common carrier, having charge of a package or box of goods, opens it and takes out a part of the goods, with the intent to steal them, this is theft. But the common law makes a very subtle distinction in this respect; for, though breaking the package, and taking a part, with the design of appropriating the articles, is theft, yet selling the whole package entire has been held not to be so, but only the violation of a trust. The cases where a chattel is taken by a person to whom it has been intrusted, and who converts it to his own use, present very nice discriminations of larceny from mere breaches of trust, in regard to which the distinction is made by various circumstances. If the person gets possession of the goods under a false pretence, with the design of stealing them, yet, if they come into his possession on a contract or trust, it has been held, in many cases, not to be a larceny; as, where a horse was bargained for at a fair, and the purchaser rode him off, saying he would return directly and pay the purchase money, but did not come back at all, having intended to swindle the vender, it was held not to be theft. If, however, the purpose for which the article was intrusted to another is accomplished, and he afterwards converts it to his own use, with the intention of stealing it, this is larceny; as, where a horse was let to go to a certain place and back, and the hirer, having gone and returned, then sold the horse, it was held to be theft, for, the particular purpose for which the horse had been intrusted to him, had been served. And the courts generally lean towards construing the offence to be a larceny, and not merely a trespass, where the party gains possession by some false pretence, with the original intent to steal; and with good reason, since it is adding a breach of trust to the crime of larceny. If the owner does not part with the possession of the goods, though the person, intending to steal them, contrives to bring them within his reach by some false pretence, this raises no doubt of its being a larceny; as, where one sent to a hosier's for a quantity of stockings, under pretence of wishing to purchase some, and having selected a part out of a parcel brought by a servant, which he pretended he was going to purchase, under some pretence, sent the servant away, and then decamped with the whole parcel, it was held to be larceny, for the owner had never intrusted him with the parcel, or consented to part with the possession. The same construction was put upon the case, when a servant was sent with some goods to a certain person, and another, pretending to be the person to whom they were sent, received them, with the intent of stealing them. The cases of ring-dropping are instances of it; such getting possession of money or goods by false pretences, being held to be larceny, though the goods come into the possession of the thief by consent of the owner; that is, when a person, in company with another, pretends to find a ring, which was previously dropped for the purpose, and the companion, being imposed upon, proposes to share in the good fortune, to which the finder consents; but not having money, proposes to his companion to take the ring, giving cash, a watch, or something of half the supposed value of the ring, as a pledge, until he can dispose of the ring, when its value is to be equally divided. The transfer having been made, the swindler goes off with the article that he has received, and his companion finds the ring is of little value. This is held to be larceny.

As to the kinds of things, the taking of which is larceny, they must, according to the common law, be personal property, it being a maxim that, though

real estate may be trespassed upon, it cannot be stolen; and so fixtures, and whatever is a part of the *realty*, as it is called, could not be subjects of larceny. Thus it was held that a standing tree, fruit upon the tree, ore in a mine, a fence, lead, brass, or other metal, attached to a building, a copper boiler set in bricks, and whatever else would pass by a conveyance of an estate, was not a subject of larceny, and the taking of such things was only a trespass on the real estate. But this distinction is mostly abolished by statutes, for which there was the stronger reason, as many of these things were such as were peculiarly exposed to be stolen. So, again, by the common law, the feloniously taking of written instruments, they not being considered as property, but merely as evidence of contracts, was held not to be larceny; but this doctrine has been partially abrogated by statutes, and the felonious taking of bonds, bills of exchange, &c., is larceny. As to animals, birds, &c., the felonious taking of domesticated ones is felony; but it is not so with those esteemed to be of a wild nature, as bears, foxes, &c., although they may belong to, or have been purchased by some individual, unless they are tamed, or are in the possession and under the control of some one. The felonious taking of a hive of bees is held to be larceny, unless it be a wild hive in the forest, the taking of which is held not to be larceny. Nothing can be stolen which is not a subject of property; but the crime of larceny is not confined to the depriving the owner of the possession of the article. It is sufficient to constitute the offence, to take the article from the possession of one having only a special property, as a carrier or other bailee; and it is a sufficient allegation of the ownership, in the indictment, to state that the article belonged to such person having a special property. In regard to shrouds and coffins of lead, or other materials of value, the question of ownership has heretofore been made, and they are held to belong to the heirs, executors, or legatees of the person deceased, and it may be so alleged in the indictment.

Larceny was formerly divided in England into two kinds, *grand* and *petty*; the former being the stealing of an article over the value of one shilling, the latter, that of an article not over that value. But this distinction was abolished by a statute of 7 and 8 George IV. In England, the punishment for grand larceny was death; but, most frequently, of late years, it has been commuted for transportation; and, now, the punishment of all simple larceny, of whatever value, is, by the statute above-mentioned, imprisonment or transportation. Great discretion is necessarily left with the court, in regard to the punishment for this offence. Some species of larceny, as from the person, are more severely punished than others, by the English law; and a larceny committed in a dwelling-house, by night, is generally considered an aggravated crime, and is punished accordingly. A severer punishment is awarded, on a second or third conviction of the same offender.

LARCH (*larix*); a genus of plants, included, by many able botanists, together with the spruces, under *pinus*; and, indeed, there seems to be no essential difference in the parts of fructification; the leaves, however, are in separate sheaths, and differ from those both of pines and spruces, in being fasciculate and deciduous. The American larch, or hackmatack, is a noble tree, with a straight trunk, often rising to the height of 100 feet, and giving out numerous slender branches. It is a native of Canada, the northern parts of the United States of America, and the higher regions of the Alleghany mountains. Its southern limit along the sea-coast may be placed at about latitude 41°; but it is not very abundant

even in Vermont, New Hampshire, and Maine. In Canada, according to Michaux, it constitutes extensive masses of forest on the upper parts of the Saguenai, and about lake Mistassini; and it was observed, by major Long, as far westward as lake Winnipeg. The wood, though heavy, is very highly valued, being remarkably strong and durable, and far superior to that of any pine or spruce. In Mass. it is always used for the knees of vessels, where it can be procured. The European larch, a tree very similar in stature and appearance, but having none of double the size, is found throughout Siberia, and in most of the northern and mountainous parts of Europe. It is, however, entirely wanting in Britain and the Pyrenees. The wood is used for a variety of purposes, and is exceedingly durable. An instance is recorded of a vessel built of cypress and larch, which must have remained under water for a thousand years, and the timber of which had become so hard as to resist, entirely, the tools of the workmen. It is much used, in naval architecture, for making the frame-work of vessels, being capable of sustaining much greater pressure even than oak; and in Switzerland, entire houses have been constructed of it, which, however, have the disadvantage of becoming brown, or even black, with age. It affords excellent staves for casks, capable of holding spirituous liquor. The article of commerce called *Vénice turpentine* is obtained from this tree: and a single individual will yield seven or eight pounds annually, for forty or fifty years. The wood, however, is injured by the process. The cedar of Lebanon, the largest and most majestic of the *conifera* of the eastern continent, is also a species of larch. Besides mount Lebanon, where the few remaining stocks are preserved with religious veneration, it inhabits Siberia and the Himalaya mountains. The cones are much larger than those of the preceding species. The wood is said to be soft, and of very little value.

LARCHER, PETER HENRY, an eminent French scholar and translator, was born at Dijon, October 12, 1726. He was an intense student of Greek literature, and an assiduous collector of early editions. His first translation was the *Æthiopis* of Euripides, which attracted little attention: but he became a contributor to several literary journals, and translated from the English the *Mistaken Scrivener*, from Pope's *Miscellanies*, and *See John Pringle's Observations on the Diseases of the Arm*. He also wrote notes to the French version of *Robinson Crusoe*. He followed with a translation of the *Comedies* of Chereas and Callirhoe, which was republished in the *Bibliothèque des Romans*. In 1765, a difference took place between him and Voltaire, on whose *Philosophy of History* he published remarks under the title of a Supplement; to which the latter replied in his well known *Défense de son Œuvre*. Larcher rejoined in a *Réponse à la Défense de son Œuvre*, with which the controversy closed on his part; but not so with the merciless wit of his opponent. He soon after undertook a translation of Herodotus, and, in 1774, published his *Grand Mémoire sur l'usage*, to which the academy of inscriptions awarded their prize. His translation of Xenophon led to his being elected into that academy. His Herodotus was published in 1786, of which a new and very improved edition appeared in 1802. He was subsequently received into the academy, and finally appointed professor of Greek at the same university, but was too aged for active service. He died December 22, 1812, and was regretted as an accomplished scholar and amiable man.

LARD; the fat of swine, which differs in its constitution from that of almost every other quadruped, as

it covers the animal all over, and forms a thick, distinct, and continued layer betwixt the flesh and the skin, somewhat like the blubber in whales, applicable to various purposes, both culinary and medicinal, and particularly to the composition of ointments. The usual mode of preparation is, to melt it in a jar placed in a kettle of water, and in this state to boil it, and run it into bladders that have been cleaned with great care. The smaller the bladders are, the better the lard will keep. The fat which adheres to the parts connected with the intestines, differs from common lard, and is preferable for the greasing of carriage wheels.

LARDNER, NATHANIEL; a learned divine, born 1684, at Hawkhurst, in Kent. At the age of sixteen, he was sent to the university of Utrecht, and afterwards to that of Leyden. He returned to England in 1703, and commenced a preacher about the age of twenty-five. In 1713, he went to reside in the family of lady Treby, as domestic chaplain, and tutor to her son, whom he afterwards accompanied on a tour through part of France and the Netherlands. In 1723, he was engaged, in conjunction with other ministers, in carrying on a course of lectures at a chapel in the old Jewry, London. In 1727, he published in 2 vols., 8vo, the first part of the *Credibility of the Gospel History*; the twelfth part appeared in 1755, and was followed by three supplementary volumes, comprising a history of the apostles and evangelists, with observations on the New Testament. The university of Aberdeen, in 1745, conferred on him the degree of D. D. In the latter part of his life, he retired to Hawkhurst, where he died, July 24, 1768, at the age of eighty-four. Besides his principal work, he was the author of *Jewish and Heathen Testimonies to the Truth of the Christian Religion* (1764—67, 4 vols., 4to); the *History of the Heretics of the two first Centuries* (4to, 1780); a *Vindication of three of our Saviour's Miracles*, and other theological compositions. A collective edition of his works, with his life by doctor Kippis, was published in 1788 (11 vols., 8vo.)

LARES (*familiares*) were the domestic and family tutelary gods among the Romans. They were images of wood, stone and metal, and generally stood upon the hearth in a kind of shrine (*lararium*). The higher classes had them also in their bedchambers or private *lararia* (domestic chapels). On important occasions, a young pig, a lamb, or a calf, was sacrificed to them. From these domestic *lares* must be distinguished those which were publicly worshipped by the whole state, by a city or class of men. Silvanus was the general *lar* of the peasants, and Mars of the soldiery. The public *lares* were twin sons of Mercury and the nymph Lara. At Rome, in the beginning of May, a festival was solemnized in honour of them, and of the reigning emperor, who was considered a public *lar*. See *Penates*.

LARISSA, a city of Thessaly, on the Peneus, celebrated in ancient times for its bull-fights, which were conducted in the same manner as they are at present in Madrid, was the rendezvous place of Julius Cæsar's army before the battle of Pharsalia. It is now the largest, richest, and most populous city in Thessaly, and the seat of a Greek archbishopric, with 4000 houses, and 25,000 inhabitants, of whom about one fourth are Greeks. It has houses for dyeing, manufactures of morocco leather, considerable commerce, and some attention is paid to the cultivation of the vine. It was the head-quarters and centre of the military operations of the Turks against the Greeks from the time of Ali Pacha, who laid the foundation of his power in Larissa. From this city so, Kourschid Pacha, and all the other seraskiers who succeeded him, commenced their campaigns against Livadin and Epirus.

LARIVE, J. MAUDUIT DE, one of the most distinguished tragic actors of France, after Lekain and Talma, was born in 1749, at La Rochelle. Having made his *début* in Lyons, he appeared in Paris, in 1771. He was particularly distinguished in heroic parts. During the reign of terror, he was arrested, and saved only by a secretary of the committee of public safety, who destroyed the proofs against him and the other actors. Before new documents could be collected, Robespierre was overthrown. Geoffroy's *critiques*, and Talma's rising fame induced him to leave the stage rather early. He bought a country-seat in the valley of Montmorency, and was elected mayor of the place. In 1806, he went, for a short time, to the court of Joseph Bonaparte then king of Naples, to establish a French theatre in his capital. In 1816, he appeared once more in the part of Tancred, though sixty-seven years old, for a charitable purpose, with great success. Larive died in 1822. Of his several works, the most important is his *Cours de Déclamation* (3 vols., Paris, 1804—1810).

LARK (*alauda*). In this genus of birds, the bill is straight, slender, bending a little towards the end, and sharp-pointed; the nostrils are covered with feathers, and the tongue bifid. The toes are free, the hinder one thickest, and nearly equal to the outer. There are several species which deserve notice.

The sky-lark (*A. arvensis*), which is the most harmonious of this musical family, is almost universally diffused throughout Europe, is every where extremely prolific, and sought for. These birds are easily tamed, and become so familiar as to eat from the hand. The sky-lark commences his song early in the spring, and continues it during the whole summer, and is one of those few birds that chant whilst on the wing. When it first rises from the earth, its notes are feeble and interrupted; as it ascends, however, they gradually swell to their full tone, and, long after the bird has reached a height where it is lost to the eye, it still continues to charm the ear with its melody. It mounts almost perpendicularly, and by successive springs, and descends in an oblique direction, unless threatened with danger, when it drops like a stone. The female forms her nest on the ground, generally between two clods of earth, and lines it with dry grass. She lays four or five eggs, which are hatched in about a fortnight, and she generally produces two broods in the year. In the autumn, when these birds assemble in flocks, they are taken in vast numbers. Pennant states that as many as 4000 dozen have been caught near Dunstable alone.

The wood-lark (*A. arborea*) is distinguished by its small size and less distinct colours. It is generally found near the borders of woods, perches on trees, and sings during the night, so as sometimes to be mistaken for the nightingale. When kept in a cage, near one of the latter birds, it often strives to excel it, and, if not speedily removed, will fall a victim to emulation. The female lays five eggs, of a dusky colour, interspersed with deep brown spots, and like the former species, raises two broods in the year.

There is but one true lark, the shore-lark (*A. alpestris*), found in America, and this is also an inhabitant of Europe, though it is much more common, and migrates farther south, in America. It is of a reddish drab colour, with a whitish tint beneath; a broad patch on the breast and under each eye, as well as the lateral tail feathers black.

The brown lark of Wilson properly belongs to the genus *anthus*. This bird, however, possesses many of the habits of the lark, as that of singing when rising on the wing, seldom perching on trees, building on the ground, &c. The brown lark is also an

inhabitant of both continents. It is of a pale rufous colour beneath, with the breast spotted with black; tail feathers blackish, the outer half white; the second, white at tip. It is usually found in open fields, cultivated grounds, &c., near the water, and feeds exclusively on insects.

The meadow-lark, which Wilson classed with the *alauda*, does not belong to this genus, being a *sturnus*, or rather a *sturnella* (Viell), a genus somewhat allied to *alauda*. See *Meadow-Lark*.

**LARKSPUR** (*delphinium*); a genus of plants allied to the ranunculus and columbine, distinguished by its petaloid calyx, the superior leaflet of which terminates in a long spur. The stem is herbaceous, bearing alternate leaves, which are usually very much divided; and the flowers are disposed in terminal racemes. Some of the species are common in our gardens, where they are cultivated for the beauty and brilliant colours of their flowers, the prevailing tint of which is blue. Fifty species are known, all belonging to the northern hemisphere, and most of them to the regions around the Mediterranean and Black seas. Five only inhabit North America.

**LAROCHE-JACQUELIN**. See *Roche Jacquelin*, and *La Vendée*.

**LA ROMANA**, MARQUIS DE. See *Romana*.

**LARTA**. See *Arta*.

**LARVÆ**; a name given to evil spirits and apparitions, which, according to the notions of the Romans, issued from their graves in the night, and came to terrify the world. The word properly signifies a *mask*, whose horrid and uncouth appearance serves to frighten children. See *Lemures*.

**LASCARIS**; the name of two noble Greeks of the fifteenth century, descendants of the imperial family, and both natives of Constantinople, who, on the taking of that capital by the Turks, in 1453, fled to Italy.

*Constantine*, the elder, settled first at Milan, where he was received into the grand-duke's household, as tutor to his daughter. He afterwards visited Rome and Naples, in which latter city he opened a school of eloquence, and, finally, took up his abode at Messina, whither the fame of his literary attainments, especially in the Greek language, attracted many distinguished disciples, and, among others, the celebrated Pietro Bembo, afterwards known as the cardinal of that name. He was the author of a Greek Grammar, and of some other works in that language and in Latin, which were first printed at Milan, in 1476, and again at Venice, in 1495, at the Aldine press. He died about the close of the century.

*John*, the younger of the two, surnamed *Rhyndacenus*, took up his residence at Padua, under the protection of Lorenzo de' Medici, who distinguished him by his favour, and despatched him into Greece, to purchase valuable manuscripts. The sultan's orders gained him access to the libraries, so that he accomplished his mission much to the satisfaction of his employer, and enriched the Florentine collection with the fruits of his researches. In 1494, he quitted Italy, and entered the service of Louis XII. of France, who made him his envoy to the Venetian senate; but, on the elevation of John de' Medici to the papedom, by the title of Leo X., Lascaris went to Rome, at the invitation of that pontiff, and, on the foundation of his Greek college there, was appointed its first principal, and superintendent of the Greek press. To promote the ends of this institution, of which the ascertaining and preserving the true pronunciation of the Greek language was one of the chief, Lascaris made a second journey into Greece, and brought back with him some youths of good families, who were to communicate and receive instruction. The remainder of his life was divided

between Paris, where he assisted Francis I. in forming the royal library, and Rome, in which latter city he died of the gout, at the age of ninety, in 1526. He published a translation of Polybius and of the Argonautics of Apollonius, together with a Greek Anthology (1494, folio); annotations on the works of Sophocles and Homer; four of the plays of Euripides, and a collection of epigrams and apophthegms in Greek and Latin (Paris, 4to, 1527).

**LASCARS**; native Indian sailors, many of whom are in the service of the East India company.

**LAS CASAS**. See *Casas*.

**LASCY**, PETER, count de; a military officer, born in Ireland, in 1678. After the conquest of Ireland by William III., he entered the French service. After the peace of Ryswick, he entered into the Austrian army and served against the Turks. He was afterwards employed by the king of Poland, and then by Peter the Great of Russia. In 1709, he was wounded at Pultowa; and he assisted in the taking of Riga, of which he was made governor. He was made a lieutenant-general in 1720. Catharine I. appointed him governor of Livonia. He died in 1751, having attained the rank of field-marshal. The prince de Ligne published a collection of the works, and a journal of the campaigns, of marshal Lascy.

**LASCY**, JOSEPH FRANCIS MARSHALL, count de, one of the foregoing, was born at Petersburg in 1722. In 1744, he entered into the Austrian service, and made a campaign in Italy. He gradually rose to the rank of general, after having displayed his military talents at the battles of Lowositz, Breunau, and Hochkirchen; and, in 1760, he penetrated to Berlin, at the head of 15,000 men; for which bold exploit, he was made a commander of the order of Maria Theresa, and, in 1762 received the baton of marshal. Under Joseph II., he was a member of the council of war at Vienna, and was the author of the military regulations adopted by that prince. He was employed against the Turks in 1788, and again after the death of Laudohn. He died at Vienna, November 30, 1801.

**LASHER** (*cottus scorpius*); a formidable-looking and singular fish, belonging to the great order of *acanthopterygiens* (Cuvier). It is about half as long as high, having the head and anterior part much larger in proportion than the posterior. The head is blackish, the black variegated with pale and white patches, placed transversely; sides divided by a rough longitudinal line, below which they are yellow, becoming whiter as they approach the belly. The gill-covers and head are furnished with formidable spines, which are capable of inflicting a painful wound, which circumstances appears to have been well known to the ancients: "*Et capitis duntaxat scorpius scorpius ictu.*" This fish has the faculty of swelling out its gill-covers and cheeks to an enormous size. It is found in all parts of the northern Atlantic ocean, being very frequent about Newfoundland and the Eastern States, where it is called *sculpin*. In Greenland, it forms a favourite article of food.

**LASSA**; a city of Asia, the capital of Great Tibet, little known to Europeans. It is chiefly distinguished as the residence of the Dalai-lama, or the great head of the Shaman religion. Monks &c. are usually crowded with royal and noble personages, from all parts of Asia, who come to present their homage, and to offer splendid presents to the earthly divinity. Lon. 91° 6' E.; lat. 29° 25' N. See *Lama*.

**LASSO**, ORLANDO DI (Orlando Lassus); one of the greatest musicians of the sixteenth century. He was born at Mons, in Hainaut, in 1530. Thomas (De Thou) relates that he was carried off, while a

child, on account of his fine voice. Ferd. Gonsaga, viceroy of Sicily, took him to Italy and had him instructed in music. Having lost his voice in his eighteenth year, he was occupied three years in Naples as a teacher of music. He then became chapel-master in the Lateran church in Rome. Here he remained two years, and then returned to his native country to see his parents, whom, however, he did not find living. He then travelled, with Julius Cæsar Brancaccio, to England and France, and again lived, for some years, in Antwerp, whence he went to Munich as chapel-master to Albert duke of Bavaria. Charles IX. of France invited him to Paris; but Lasso learned, on his way to that city, the death of the king, and was immediately re-established in his place by duke William. He remained in this office till his death. Orlando was equally celebrated for his sacred and his secular music. He was the improver of figured counterpoint. His productions were numerous, but are, at present, rarely to be met with. His sons published a collection of his *motets* under the name *Magnum Opus Musicum* (Munich, 1604, 17 volumes, folio). In the royal library at Munich, is the richest collection of his works.

LATAKIA (anciently *Laodicea*); a seaport in Syria, fifty miles south Antioch, seventy south-west Aleppo, lon.  $35^{\circ} 44' E.$ ; lat.  $35^{\circ} 32' N.$ ; population, in 1810, about 10,000; since reduced to 4000. It is a Greek bishop's see. It is situated at the base, and on the south side of a small peninsula, which projects half a league into the sea. Its port, like all the others on this coast, is a sort of basin, environed by a mole, the entrance of which is very narrow. It might contain twenty-five or thirty vessels, but the Turks have suffered it to be so choked up as scarcely to admit four. Ships of above 400 tons cannot ride there, and hardly a year passes, that one is not stranded in the entrance. Notwithstanding this, Latakia carries on a great commerce, consisting chiefly of tobacco, of which upwards of twenty cargoes are annually sent to Damietta. The returns from thence are rice, which is bartered, in Upper Syria, for oil and cottons. This place is subject to violent earthquakes. One, in 1796, destroyed a great part of the city, and 2000 of the inhabitants; another, in 1822, overthrew a third of the buildings.

LATERAN; a square in Rome, so called from an ancient Roman family of the same name. Nero put to death the last possessor, Plautius Lateranus, and seized his estates. Thus the Lateran palace became the property of the emperor. Constantine the Great gave it to the popes, who occupied it for 1000 years, till the removal of their residence from Rome to Avignon. The church of St John of Lateran, connected with this palace, was built by Constantine. It is the episcopal church of the pope, and the principal church of Rome; hence the inscription over the principal door—"Omnium urbis et orbis ecclesiarum mater et caput" (the mother and head of all the churches of the city and the world). It is also called *Lateran*. Its great antiquity, the recollection of seven councils which have been held in it, the rare relics which are preserved in it, and its splendid architecture, render this church particularly worthy of veneration. At the portal is the balcony, from which the pope bestows his blessing upon the people. The chief altar of this church, none but the pope can read mass; for within it is a wooden one of great antiquity, upon which the apostle Peter is said to have read mass. In this church, also, are to be seen two stools of red marble, which have an opening in the middle of the seat, and which are said to have been used for the investigation of the sex of the newly created pope; but, in the baths of Caracalla, where they were found, they were probably put to an entirely

different use. At the present time, every newly elected pope takes solemn possession of this church, accompanied by a cavalcade. Upon the Lateran Place stands a chapel, to which belongs the *Scala santa* (a staircase of twenty-eight steps, which is said to have come from the house of Pilate, and which believers ascend on their knees), and the chapel of *San Giovanni in Fonte*, built by the emperor Constantine, the cupola of which consists of eight porphyry pillars, considered the most beautiful in Rome.

LATE WAKE; a ceremony formerly used at funerals, in some parts of the Highlands of Scotland. The evening after the death of any person, the relations and friends of the deceased met at the house, attended by a bagpipe or fiddle. The nearest of kin, wife, son or daughter, opened a melancholy ball, dancing and *greeting* (i. e. crying violently) at the same time, and this continued till daylight; but with gambols and frolics, among the younger part of the company. If the corpse remained unburied for two nights, the same rites were renewed. An anecdote is told of a disconsolate widow, who, on the opening of the ball, being asked by the piper what tune he should play, said, "Oh, mak it a light spring (lively tune), for my heart is heavy."

LATIMER, HUGH, an eminent English prelate and reformer in the sixteenth century, was the son of a respectable yeoman at Thurcaston, in Leicestershire, where he was born about the year 1470. He received his early education at a country school, whence he was removed to Cambridge in his fourteenth year. He first became openly obnoxious to the enemies of innovation, by a series of discourses, in which he dwelt upon the uncertainty of tradition, the vanity of works of supererogation, and the pride and usurpation of the Roman hierarchy. At length, the bishop of Ely interdicted his preaching within the jurisdiction of the university; but doctor Barnes, prior of the Augustines, being friendly to the reformation, licensed Latimer to preach in his chapel, which was exempt from episcopal interference. The progress of the new opinions was represented to cardinal Wolsey, who, at the importunity of archbishop Warham, created a court of bishops and deacons to put the laws in execution against heretics. Before this court, Bilney, and Latimer were summoned, and the former, who was deemed the principal, being induced to recant, the whole were set at liberty; and Latimer was licensed, by the bishop of London, to preach throughout England. Bilney afterwards disclaimed his abjuration, and suffered martyrdom at Norwich. The fate of his friend by no means intimidated Latimer, who had the courage to write a letter of remonstrance to Henry VIII., on the evil of prohibiting the use of the Bible in English. Although this epistle produced no effect, Henry presented the writer to the living of West Kinton, in Wiltshire. The ascendancy of Anne Boleyn, and rise of Thomas Cromwell, proved favourable to Latimer, and he was, in 1535, appointed bishop of Worcester. It was then the custom for bishops to make presents, on new-year's day, to the king, and, among the rest, Latimer waited at court with his gift, which, instead of a purse of gold, was a New Testament, having the leaf turned down to this passage—"Whoremongers and adulterers God will judge." Henry was not, however, offended; and, when the sturdy prelate was, some time after, called before him to answer for some passages in a sermon which he had preached at court, he defended himself so honestly, that he was dismissed with a smile. The fall of Anne Boleyn and Cromwell prepared the way for reverses, and the six articles being carried in parliament, Latimer resigned his bishopric, rather

than hold any office in a church which enforced such terms of communion, and retired into the country. Here he remained in privacy, until obliged to repair to London for medical advice. There he was discovered by the emissaries of Gardiner, and imprisoned for the remainder of Henry's reign. On the accession of Edward, he was released, and became highly popular at court by his preaching, during that reign, but never could be induced to resume his episcopal functions. He took up his abode with archbishop Cranmer at Lambeth, where his chief employment was to hear complaints and procure redress for the poor. Soon after Mary ascended the throne, Latimer was cited to appear before the council, in doing which, an opportunity was afforded him to quit the kingdom. He, however, prepared with alacrity to obey the citation, and, as he passed through Smithfield, exclaimed, "This place has long groaned for me." About the same time, Cranmer and bishop Ridley were also committed to the Tower, and the three prelates were confined in the same room. From the Tower they were conveyed to Oxford, and confined in the common prison, preparatory to a disputation, in which Latimer behaved with intrepidity and simplicity, refusing to deliver any thing more than a free confession of his opinions. The three prelates, although condemned, remained in prison sixteen months, chiefly because the statutes under which they had been tried had been formally repealed. In 1555, however, new and more sanguinary laws having been enacted, in support of the Roman religion, a commission was issued by cardinal Pole, the pope's legate, to try Latimer and Ridley for heresy. Much pains were taken, during this second trial, to induce them to sign articles of subscription, which they steadfastly refused, and were, in consequence, delivered over to the secular arm, and condemned to the flames. This sentence was put in execution about a fortnight after their condemnation, Oct. 16, 1555. At the place of execution, having thrown off the old gown which was wrapped about him, Latimer appeared in a shroud, prepared for the purpose, and, with his fellow-sufferer, was fastened to the stake with an iron chain. A fagot, ready kindled, was then placed at Ridley's feet, to whom Latimer exclaimed, "Be of good comfort, master Ridley, and play the man. We shall this day light such a candle, by God's grace, in England, as, I trust, shall never be put out." He then recommended his soul to God, and, with firmness and composure, expired. His preaching was popular in his own times, in which his simplicity, familiarity, and drollery were highly estimated.

**LATIN EMPIRE.** See *Byzantine Empire*.

**LATIN LANGUAGE.** See *Roman Language and Literature*.

**LATINS** (*Latini*); an ancient people of Latium in Italy, who sprang from a mixture of the aborigines with Arcadian-Pelasgian and Trojan colonists. The derivation of their name is unknown. It is not probable that they received it from king Latinus. Janus, Saturn, Picus, and Faunus, who were deified by their subjects, are represented to have been the most ancient Latin kings. These names were probably appellations of the old Pelasgian divinities. During the reign of Faunus, Hercules and Evander are said to have arrived in Latium; the latter taught the aborigines the use of the alphabet, music, and other arts, and also succeeded Faunus in the government. About sixty years afterwards lived king Latinus, at whose court Æneas (q. v.) arrived, married his daughter Lavinia, and succeeded to his throne. The city of Alba Longa was built by Ascanius, the son of Æneas by a former marriage, and made the seat of the Latin kings. Henceforward we know nothing

of the history of Latium, whose kings all bore the surname of *Sylvius*, until Romulus and Remus laid the foundations of a new city. Jealousy kindled a war between these two sister states, the Latins and the Romans, which terminated with the subjugation of the Latins and the demolition of their capital. Rome became the capital of all Latium, where king Servius united the Latins with the Romans in a permanent confederacy. From this epoch, we may date the beginning of the greatness and splendour of Rome; for, without the valour and friendship of the Latins, she would never have obtained the dominion of the world. Tarquinius Superbus endeavoured to draw this alliance still closer; but, after his banishment, he excited the Latins to rise against Rome. This war of the Romans with the Latins, the first since the alliance which had been made between them, was decided in favour of Rome by the valor of the dictator, and the treaty was renewed. In the year of Rome 414, there was a still more dangerous rupture between them. The Latins made war upon the Samnites, who implored the assistance of the Romans. A dispute arose between Rome and Latium, in which the latter went so far as to demand that one consul and half of the senate should be Latins. This demand was indignantly rejected by the Romans, and, in the war which followed, the Latins were reduced after a very severe struggle. When the Romans had nearly obtained the dominion of the world, the Latins made another attempt to regain their freedom, by engaging in the Social war (A. U. C. 663), and they succeeded so far as to recover many of their privileges. (See *Rome and Latium*.) Niebuhr's History of Rome (introduction chapter) contains a critical examination of the acts of the Latins.

**LATINUS**; a son of Faunus by Marica. He was king of the aborigines in Italy. He married Anthea, by whom he had a son and a daughter. The son died in his infancy, and the daughter, called Lavinia, was secretly promised in marriage, by her mother, to Turnus, king of the Rutuli, one of her most powerful admirers. The gods opposed this union, and the oracle declared that Lavinia must become the wife of a foreign prince. The arrival of Æneas in Italy seemed favourable to this prediction, and Latium, by offering his daughter to the foreign prince, and making him his friend and ally, seemed to have fulfilled the commands of the oracle. Turnus, however, disapproved of the conduct of Latium; he claimed Lavinia as his lawful wife, and prepared to support his cause by arms. Æneas took up arms in his own defence, and Latium was the seat of the war. After mutual losses, it was agreed that the quarrel should be decided by a combat between the two chiefs, and Latinus promised his daughter to the conqueror. Æneas obtained the victory, and married Lavinia. Latinus soon after died, and was succeeded by his son-in-law. This is the form of the legend in the Æneid; other accounts are different.

**LATITUDE**, GEOGRAPHICAL; the distance of a place, on the surface of the earth, from the equator, measured by that arc of the meridian of the place which is intercepted between the place and the equator. Geographical latitude is either north or south, according as the place, reckoned from the equator of the earth, lies towards the north or the south pole. Latitude is the measure of the angle formed by a vertical line drawn from the place to the centre of the earth and the plane of the equator. Since, however, this vertical line, if continued to the heavens, passes through the zenith of that place, and the plane of the terrestrial equator, continued to the heavens, meets the celestial equator, the latitude of a place is also determined by the distance between

the celestial equator and the zenith, or, in other words, by the complement of the altitude of the equator; and, as the complement of the altitude of the equator is the altitude of the pole, the latitude of a place is equal to the altitude of the pole at that place. Places situated in the equator itself have neither latitude nor altitude, because their two poles lie in the horizon. Nor can the latitude of a place be more than 90°, because the altitude can never exceed 90°, that is to say, because the pole, at the most, can only be in the zenith itself. Latitudes, together with longitudes (q. v.), serve to fix the situation of places on the globe, and their distance from each other. The determination of local positions is the foundation of geography, and of the correct projection of maps.—In astronomy, *latitude* is used to signify the distance of a heavenly body from the ecliptic, which distance is measured by the arc of a great circle (circle of latitude), perpendicular to the ecliptic, which is intercepted between the ecliptic and the body. Here, also, latitude is north and south. A heavenly body in the ecliptic has no latitude, for which reason the sun has no latitude, and that of the planets is very small. The latitude of a heavenly body can never exceed 90°. It is determined by the right ascension and declination. The latitude of stars is laid down in the list of the fixed stars. An extensive list of the geographical latitudes of places is contained in the Berlin Collection of Astronomical Tables, vol. i. p. 43, et seq.

*Heliocentric latitude of a planet*, is its latitude or distance from the ecliptic, such as it would appear from the sun. This, when the planet comes to the same point of its orbit, is always the same, or unchangeable.

*Geocentric latitude of a planet*, is its latitude as seen from the earth. This, though the planet be in the same point of its orbit, is not always the same, but alters according to the position of the earth in respect to the planet. The latitude of a star is altered only by the aberration of light, and the secular variation of latitude.

**LATITUDINARIAN**, among divines, denotes a person of moderation with regard to religious opinions, in contradistinction to the rigid adherents to particular doctrines. This name was first given, by way of distinction, to those excellent persons, in England, who, about the middle and towards the close of the seventeenth century, endeavoured to allay the contests that prevailed between the more violent Episcopalians on the one hand, and the more rigid Presbyterians and Independents on the other, and also between the Arminians and Calvinists. At present, it generally denotes one who departs, in opinion, from the strict principles of orthodoxy.

**LATIUM**; the principal country of ancient Italy, and the residence of the Latins. The limits, which appear to have been changed at different periods, are generally represented to be the Tiber on the north, and the promontory of Circeii (Monte Circello) on the south; but this is probably too extensive. According to Strabo, there were, besides the Latins, Rutuli, Volsci, Hernici, and Æqui in this region. The actual extent of Latium, at the time of the building of Rome, may have amounted, at the most, to about forty-six miles in diameter, and the actual boundaries were probably the Tiber on the west, the Anio on the north, mount Algidum on the east, and, on the south, the city of Ardea, which was situated at the distance of 160 stadia from Rome. Latium afterwards extended to the river Liris (Garigliano), but the northern and eastern boundaries remained the same. In the earliest times, there was a large aulic grove situated on the coast, at the mouth of the Tiber, which extended as far as the city of Lau-

rentum. This grove not only gave the name to the city, but also to the surrounding country, which was hence called *Laurentinus ager*, and the inhabitants were styled *Laurentes*. This grove is said to have been standing in the time of the emperor Commodus. Between the Tiber and the city of Laurentum was the place where Æneas pitched his camp, which bore the name of Troy. To the eastward of this place, twenty-four stadia from the Tiber, was the city of Laurentum. Farther on, lay the little river Numicus and the sources of the Juturna; and still farther to the east, was situated the city of Lavinium. Beyond the sources of the Numicus and the Juturna, was the mountain upon which, thirty years after the building of Lavinium, was placed the city of Alba Longa. Behind this, towards the Hernici, lay Aricia; still farther above, in the extreme north-easterly corner of Latium, was the city of Præneste; towards the northern extremity of the same province, was the city of Tibur, and between these two cities and Rome, were Gabii and Tusculum. All these cities were colonies of Alba Longa. The first colony of the Romans was Ostia, established by Ancus Martius, below Rome. In the time of the Romans, Latium was very thinly inhabited; and, 100 years after the building of Rome, complaints began to be made on account of the desolation of the country and its unhealthy atmosphere. With the enormous wealth which the Romans acquired from the conquest of Greece and Asia, villas, which contained great numbers of slaves, were built in this desolate region, and the air was thus rendered somewhat healthier. In this way cities and villages sprang up around Rome, which were afterwards deserted and destroyed. The rivers of Latium were the Tiber, the Liris, the Anio, Numicus, Ufens, Amasenus, and Almo. The Ufens flowed through the Pontine marshes. These marshes were known from the earliest times, and extended between the rivers Ufens and Nymphæus to a great distance. There were also some lakes in Latium, of which lake Regillus was the principal. The mountains of this province were, with few exceptions (as, for example, the Alban mountain and mount Algidum) merely hills. For a minute description of this region, see the *Description of Latium*, with twenty engravings; and a map of the Campagna di Roma, London, quarto; and Cramer's *Description of Ancient Italy*, Oxford, 1826.

The Latin right (*jus Latii*) originally belonged to the Latin allies of Rome, but was afterwards extended to some other states on their accession to the alliance. The members of these states were not enrolled among the Roman citizens, but had a census of their own. They were required to raise auxiliary troops, which did not serve in the Roman legion, but as a separate force. They had the right of voting at Rome, but under certain limitations, and they elected their own magistrates. All who enjoyed neither the Roman citizenship (*civitas Romana*), nor the Latin right, were called *foreigners* (*peregrini*).

**LATONA** (by the Greeks called Λατονα, in the Doric dialect Λατω), daughter of Cœus and Phœbe (according to some, of Saturn), became the mother of Apollo and Diana by Jupiter. During her pregnancy, she was persecuted by Juno, by whose command the dragon Pytho threatened her everywhere with death and ruin, and the earth was not permitted to allow her a place for her delivery. After long wanderings, she found rest on the island of Delos (q. v.), which rose from the sea to receive her. The giant Tityus, having attempted to offer her violence, was killed by Apollo and Diana. According to another fable, this giant was struck dead by Jupiter, with lightning, before her pregnancy. Jupiter changed too some Lycian peasants into frogs, because they would not permit her

to drink, on her flight from Delos, from which Juno had again driven her (Ovid's *Metam.* vi. 4). Latona is represented as a mild, benevolent goddess, in a sea-green dress. With Diana she cured the wounded Æneas, and crowned him with glory. When Diana fled to Olympus, from the anger of Juno, Latona carried to her her quiver and arrows, which she had left behind. Latona was worshipped chiefly in Lycia, Delos, Athens, and other cities of Greece. In Crete, a festival was celebrated in honour of her, called *Ecdysia*. She is sometimes considered as the symbol of night, because the sun proceeds, as it were, from the night. Hence, also, some derive her name from the Greek *latanois* (to hide).

LATOUR D'AUVERGNE-CORRET, THEOPHILUS DE, one of the bravest soldiers mentioned in military history, was born in 1743, at Carhaix, in the department of Finistère (Brittany), early decided to become a soldier, and was aid-de-camp to the duke De Crillon at the siege of Mahon. When the revolution broke out, he was among the first to rally round its standard, and distinguished himself among 8000 grenadiers, in the army of the Pyrenees. Higher appointments were offered to him, but he always declined, declaring that he was only fit to command a company of grenadiers. His corps generally made the van-guard, and was called the *infernal column*. After the peace of Bale, he fell into the hands of the British, and was a prisoner a year in England. After his exchange, he occupied himself with literary labours, and, in 1799, again bore arms instead of a son of his friend Lebrigard, fought under Massena, in Switzerland, and fell at Neuburg, in 1800, while attached to the army of the Rhine, having been, not long before, named first grenadier of France by the first consul. A monument was erected on the spot where he fell. His heart was embalmed, and carried, in a silver box, by one of the company in which he had served. His name was always called, and the bravest grenadier answered—"Died on the field of honour." As an author, he made himself known by a singular work on the early history of Brittany.

LATROBITE; a mineral named after the reverend C. I. Latrobe. It is found massive and crystallized; but the crystals not well defined; colour, pale pink; scratches glass; specific gravity, 28. It is composed of

Silex, . . . . .	44.65
Alumina, . . . . .	38.21
Lime, . . . . .	8.29
Potash, . . . . .	6.57
Oxide of manganese, . . . . .	3.16

It is found at Amitok island, near the coast of Labrador, and is accompanied by mica and carbonate of lime.

LATTAIGNANT, GABRIEL CHARLES, abbé de, a poet, the memory of whose songs has not yet perished in France, and who rendered himself known by the popular opera *Fanchon*, was born in Paris, towards the end of the seventeenth century. He was canon at Rheims, and counsellor of the parliament of Paris, but united great gaiety with his serious occupations. After having taken part in all the pleasures of life, he retired to a monastery, and died 1779. His poems were published in four volumes, 12mo., which were followed, after his death, by his songs and writings not before printed.

LATUDE, HENRI MAZERS DE, born in 1724, at Montagnac, in Languedoc, was imprisoned, when twenty years old, in the Bastille, in the reign of Louis XV., because, in order to gain the favour of Madame de Pompadour, he had persuaded her that an attempt was to be made on her life, by a box containing the most subtle poison. The box actually arrived, but contained nothing but ashes, sent by Latude himself.

His repeated attempts to escape rendered his confinement more rigorous, and he remained in prison thirty-five years. He was delivered from his confinement in 1779. He then wrote his memoirs, which became a formidable weapon in the hands of the revolutionary party. The national assembly decreed him a pension, which was afterwards, however, withdrawn. The heirs of Amelot and Madame de Pompadour were sentenced to make him indemnification. He died in 1804, eighty years old.

LAUD, WILLIAM, archbishop of Canterbury, in the reign of Charles I., was born at Reading, in Berkshire, in 1573, and received his education at John's college, Oxford, of which he became a fellow in 1593. He took priest's orders in 1601, and, the following year, preached a divinity lecture, in which he maintained the perpetual visibility of the church of Rome until the reformation, which doctrine being disapproved by doctor Abbot, master of University college, the foundation of that animosity was laid, which ever after subsisted between them. In 1608, he was made chaplain to Neile, bishop of Rochester, who gave him the rectory of Cuckstane, in Kent, and he soon after preached his first sermon before James I. In 1611, he became president of his college, and one of the king's chaplains, and, in 1617, accompanied James I. to Scotland, to aid him in his attempt to bring the church of Scotland to a conformity with that of England. In 1620, he was installed a prebend of Westminster, and, the next year, nominated to the see of St David's. About this time, James took upon himself to interdict the introduction into the pulpit of the doctrines of predestination, election, the irresistibility of free grace, or of any matter relative to the powers, prerogatives, and sovereignty of foreign princes. These measures being attributed to the counsels of bishop Laud, the Calvinistic or Puritanic party were much incensed at his conduct. On the accession of Charles I., Laud's influence, by the countenance of Buckingham, became very great; and he was ordered to furnish the king with a list of all the divines in the kingdom, against whose names he marked O. or P., to signify Orthodox or Puritan. In 1626, he was translated to the see of Bath and Wells, and, in 1628, to that of London. On the sequestration of archbishop Abbot, in consequence of having accidentally shot a game-keeper, Laud was appointed one of the commissioners for exercising the archiepiscopal jurisdiction, and, being a zealous supporter of the hated administration of Buckingham, became in the highest degree unpopular. On the assassination of that favourite by Felton, bishop Laud, suspecting that some members of parliament might be privy to the deed, prevailed on the king to send to the judges for their opinion, "whether, by law, Felton might not be racked?" Bishop Laud was also the most active member of the high commission court, the arbitrary and oppressive proceedings of which were so justly odious to the nation. In 1630, he was elected chancellor of the university of Oxford, to which he was a great benefactor, and which he enriched with an invaluable collection of manuscripts, in a great number of languages, ancient, modern, and Oriental. In 1633, he attended Charles into Scotland, who went there to be crowned; and, on his return, he was promoted to the see of Canterbury, become vacant by the death of archbishop Abbot. On the same day, an agent from the court of Rome came to him personally, and offered him a cardinal's hat—a fact which shows how strongly he was suspected of a predilection for the church of Rome. He, however, declined the proposal, feeling, as he expresses himself in his diary, "That something drove within him which would not suffer that till Rome were other

than it is." In 1634, he commenced a metropolitan visitation, in which the rigour of his proceedings, to produce conformity, was exceedingly unpopular. In 1635, he was appointed one of the commissioners of the treasury, in which situation he remained a year. The prosecution of Prynne, Burton, and Bastwick, for libel, took place in 1632, the odium of which, and the severe sentences that followed, rested principally upon him. In 1637, he procured a decree of the star-chamber, limiting the number of printers, and forbidding the printing of any book not licensed by the bishop of London or archbishop of Canterbury, for the time being, or by the chancellor or vice-chancellor of the universities. Catalogues of all books from abroad were also to be furnished to the same authorities; and so arbitrary was the conduct of Charles's ministers, at this period, that numbers, both of the clergy and laity, sought to quit the country. A proclamation was issued to restrain them, unless certified to be conformable to the discipline of the church. After a lapse of twelve years, a parliament was convened in April, 1640; the commons commenced by appointing committees of religion and grievances, on which it was suddenly dissolved, after sitting only three weeks. All sorts of means were then put in force to raise supplies, by loan, benevolence, ship-money, &c., those who refused payment being fined and imprisoned by the star-chamber or council-table. A clerical convocation was also authorized by the king, to sit, independent of the parliament. This body, besides granting subsidies, prepared a collection of constitutions and canons ecclesiastical, which, being approved by the privy council, was made public, and gave such general disgust to the moderate of all parties, and produced so great a number of petitions to the privy council, that Charles was obliged to suspend them. On the calling of the long parliament, the new canons were summarily disposed of, as subversive, both of the rights of parliament, and of the liberties and property of the subject, and the long gathering storm immediately burst over the head of the archbishop. The next day, articles presented against him by the Scottish commissioners were read in the house of lords, which when referred to the commons, a motion was put and carried, that he had been guilty of high treason. The celebrated Denzil Holles was immediately sent to the house of lords, to impeach him in the name of all the commons of England, and he was delivered into the custody of the black rod. Feb. 26, 1641, fourteen articles of impeachment were brought up from the commons, and he was committed to the Tower. Soon after his commitment, the house of commons ordered him, jointly with those who had passed sentence against Prynne, Bastwick, and Burton, to make them satisfaction for the damages which they had sustained by their sentence and imprisonment. He was also fined £20,000 for his proceedings in the imposition of the canons, and was otherwise treated with extreme severity. He remained in prison three years before he was brought to trial, which at length, on the production of ten additional articles, took place March 12, 1644, and lasted twenty days. Many of the charges against him were insignificant and poorly supported; but it appeared that he was guilty of many arbitrary, illegal, and cruel actions. His own defence was acute and able; and his argument—that he could not be justly made responsible for the actions of the whole council—if not absolutely a legal, was a strong moral defence. The lords were still more staggered by his counsel showing that, if even guilty of these acts, they amounted not to high treason. A case was made for the judges, who very much questioned if they were so, and the peers deferred giving judgment.

On this delay, the house of commons passed a bill of attainder, Jan. 4, 1644—45, in a thin house, in which the archbishop was declared guilty of high treason, and condemned to suffer death—as unjustifiable a step, in a constitutional point of view, as any of which he was accused. To stop this attainder, he produced the king's pardon, under the great seal; but it was overruled by both houses, and all he could obtain by petitioning, was to have his sentence altered from hanging to beheading. He accordingly met his death with great firmness, Jan. 10, 1644—45, on a scaffold erected on Tower-hill, in the seventy-second year of his age. His warmest admirers admit his extreme rashness, and little is left which can be fairly pleaded for his severity and violence, except the probability that he acted on principles which he deemed correct. Much praise has been bestowed upon his piety, but his diary shows it to have been mingled with much puerility and superstition; his dreams being regularly recorded, as well as the hopes and fears which they excited. Speaking of his learning and morals, Hume observes, "that he was virtuous, if severity of manners alone, and abstinence from pleasure, could deserve that name. He was learned, if polemical knowledge could entitle him to that praise." Among his works are sermons; Annotations upon the Life and Death of King James; his Diary, edited by Wharton; the Second Volume of the Remains of Archbishop Laud, written by himself; *Officium Quotidianum*, or a Manual of Private Devotion; and a Summary of Devotion.

LAUDANUM. See *Opium*.

LAUDER, WILLIAM, a literary impostor, who attempted to prove Milton a plagiarist, was a native of Scotland. In 1747, he published, in the Gentleman's Magazine, an Essay on Milton's Use and Imitation of the Moderns, the object of which was to prove that Milton had made free with the works of certain Latin poets of modern date, in the composition of his *Paradise Lost*. Mr Douglas, afterwards bishop of Salisbury, in a letter, entitled Milton Vindicated from the Charge of Plagiarism, showed that the passages which had been cited by Lauder, from Massenius, Staphorstius, Taubmannus, and others, had been interpolated by Lauder himself, from Hogg's Latin translation of the *Paradise Lost*. He subsequently acknowledged his fault, and soon after quitted England for the West Indies, where he died in 1771. See Nichol's *Literary Anecdotes*.

LAUDON. See *Louder*.

LAUENBURG, or SAXE-LAUENBURG; a Danish duchy, belonging to the German confederacy. It formerly belonged to Hanover, passed with that country, in 1803, under French government, was restored, in 1813, to its former state; in 1816, was ceded to Prussia. The Prussian government afterwards gave it up to Denmark. (See *Kiel, Peace of*.) It contains, at present, 400 square miles, with 32,000 inhabitants, is situated on the right bank of the Elbe, and is surrounded by the territories of Hamburg, Lubeck, Hanover, Mecklenburg, and Holstein. Grazing and tillage, together with the transit trade, are the sources of its wealth. It exports much wood for fuel and building. The toll on the Elbe, paid in the city of Lauenburg is said to amount to 50,000 Danish dollars annually. According to the constitution, confirmed by the king, twenty-two landholders and the three cities have each one vote in the diet. The free peasants in 111 villages are not represented. Ratzeburg, the capital, is situated on an island in a lake.

LAUMONITE; a mineral, named in honour of Gillet de Laumont. It occurs in aggregated crystalline masses, deeply striated, or in separate crystals, of several varieties of form, and sometimes in that of

its primary crystal, an oblique rhombic prism, of which the inclination of the terminal plane is from one acute angle to the other. It is white, sometimes with a tinge of red, and is translucent, and hard enough to scratch glass. By exposure to the air (even a very short time), it becomes opaque, tender, and eventually falls into a white powder; specific gravity, 2·2. Before the blow-pipe, it intumescens, and fuses with difficulty into a colourless glass. It is composed of silice 48·50, alumine 22·70, lime 12·10, and water 16·00. It was first noticed in the lead-mines of Huelgoet, lining the cavities of veins. It has since been found in trap in Ireland and Faroe, Transylvania, Nova Scotia, and in the United States, near New Haven, Connecticut.

LAUNCH. See *Boat*.

LAUNCHING. See *Ship*.

LAURA; Petrarch's mistress. It was long erroneously supposed that this lady, who has been celebrated in the sweetest strains of poetry, was only an allegorical person, or a descendant of the houses of Chabaud and Sade, who remained single, and lived at Vaucluse, where the poet had an opportunity of becoming acquainted with her. According to the investigations of the abbé Sade, *Mémoires pour la Vie de François Pétrarque* (Amsterdam, 1764—67, 3 vols., 4to); of Tiraboschi, in his *History of Italian Literature*; of Baldelli, *Del Petrarca* (Florence, 1797, 4to); of the abbé Arnayon, *Pétrarque à Vaucluse*, and *Retour de la Fontaine de l'Aucluse* (Paris, 1803, and Avignon, 1805); of Guérin, *Description de la Fontaine de Vaucluse* (Avignon, 1804, 12mo); and, lastly, of Ginguené, in his *Histoire littéraire d'Italie* (2d vol.), Laura was descended from the old Provençal family of Noves, which has now been extinct 300 years, and was the daughter of the chevalier Audibert Noves, who lived in Avignon. She was born at the village of Noves, or in Avignon, in 1307 or 1308, and, after the death of her father, who left her, his oldest daughter, a large fortune, she married (1325) the young Hugh de Sade, of a distinguished family in Avignon. Laura was one of the most beautiful women of the city, which, being at that time the residence of the pope, attracted many strangers. Among them was the young Petrarch, whose ancestors had been banished from Tuscany, during the quarrels of the Guelphs and Ghibelines. It was on the 6th of April, 1327, on Monday of the passion-week, at six o'clock in the morning, that Petrarch, then twenty-three years old, first saw, as he himself says, the beautiful Laura, in the church of the nuns of St Clara; and, from that moment, he was seized with a passion as violent as it was lasting. His vain efforts to lead her from the path of duty, and his ineffectual attempts to conquer a hopeless passion, plainly show that his love was by no means Platonic. He acknowledges, however, that he never received the smallest favour from her, and bestows the highest praise on her virtue. Laura certainly felt flattered by the devotion of the young poet, and was polite and kind towards him, as long as she saw nothing in his attentions to alarm her; but treated him with severity whenever he endeavoured to express the warmth of his passion. For more than twenty years, Petrarch sang the object of his love, and endeavoured to excite a reciprocal passion, or to conquer his own. During this long period, by alternate severity and kindness, Laura succeeded in retaining him a captive to her charms, without ever suffering the least stain on her honour. She never saw the poet in her own house, because the manners of the time, as well as the jealousy of her husband, forbade it. After her marriage, she always lived at Avignon, in the house of her father-in-law, situated on the Rhone, below the papal

palace; and it was from the summit of the rock, on which the palace was built, that Petrarch delighted to gaze on her, as she walked in her garden. In the same year (1334), that Petrarch went to Vaucluse, to recover his peace of mind in this lovely solitude, Laura was attacked by an epidemic disease, which made great ravages; but she recovered, and was dearer than ever to the poet. In 1339, the painter Simon of Sienna, who had been called to Avignon to adorn the papal palace, painted Laura's picture, and gave it to the poet, who repaid him with two sonnets. Whether Laura consented to have her portrait taken for Petrarch, or whether he only obtained a copy, or whether the image of the beautiful lady was so deeply stamped on the mind of the painter, that he could afterwards paint her from recollection, cannot now be ascertained; but it is certain, that he afterwards introduced Laura into several pictures, as, for instance, those on the ceiling of the cathedral at Avignon. When Petrarch returned to Avignon, after having been crowned with laurel at the capital, Laura, whether flattered by his fame, or touched by the constancy of a lover whom long absence had rendered more dear to her, received him kindly. Petrarch saw her more frequently, and his visits to Vaucluse became less frequent and long. His poems, which were spread all over Europe, made the beauty of his mistress very celebrated, and all strangers, who came to Avignon, wished to see Laura. Charles of Luxemburg, afterwards the emperor Charles IV. saw her at a ball which was given him, and, beckoning to the other ladies to make way, he approached her, and kissed her on the forehead and eyes. But the repeated fatigues of maternity, and the domestic trouble which she suffered from the ill humour of her husband, and the bad conduct of her eldest daughter, made at length such a change in her appearance, that those who saw her for the first time were disappointed. A pestilence which arose in the East, and spread desolation over Europe for three years, at length reached Avignon, in 1348, and, on the 6th April, at six o'clock in the morning, the hour when Petrarch has designated, in his mournful recollections, as that of the birth of his love, Laura fell a victim to this disease, and was buried on the same day, in the church of the convent of the Minorites. In 1538, some antiquaries obtained permission to open Laura's grave. They found a parchment enclosed in a leaden box, on which was written a sonnet, bearing Petrarch's signature. It was not, however, written in the spirit of that celebrated poet, but appeared to be the work of a friend. They also found a medal, bearing a female figure, with the inscription M. J. M. J. (perhaps, *Madonna Laura Morta Juvet*). Francis I., who visited Avignon the same year, sought out Laura's grave, wrote an epitaph on her, and ordered a monument to be erected to her; but it was never done. The box and the medal were purchased (1730), of the under sacristan, by some Englishmen; but the sonnet was lost, when the coffin, belonging to the family of Sade, was destroyed in 1791. The tomb itself was overturned, together with the church, during the revolution. The prefect of Vaucluse (1804) caused the tomb stones, which had been given to the family of Sade, to be placed in the old cathedral of Avignon. The abbé Cuvier has endeavoured to prove, without any sufficient grounds, that Petrarch's Laura was descended from the family of Baux, and was the daughter of Ademar de Baux. (See his *La Muse de Pétrarque dans les Collines de l'Aucluse*, Paris and Avignon, 1808. See the article *Pétrarch*.)

LAUREL (*laurus*); a genus of plants consisting of trees or shrubs, mostly aromatic, and often remarkable for the beauty of their foliage. The leaves are

simple, generally alternate, and the flowers small and inconspicuous. It is one of the few genera belonging to the Linnæan class *enneandria*. The species inhabit the tropical parts of the globe, and the warm regions in the vicinity; two of the American species, however, extend to a high northern latitude. Cinnamon, cassia, and camphor are obtained from different species of *laurus*. The sweet bay (*L. nobilis*), so celebrated by the ancient poets, and used to decorate temples and the brows of victors, is a small ornamental evergreen tree, inhabiting the south of Europe, and north of Africa. At the present time, the leaves and berries are chiefly employed for culinary purposes. The red bay (*L. Caroliniensis*) inhabits the alluvial district of the southern parts of the United States of America from latitude 37° to the gulf of Mexico, and is found westward beyond the mouths of the Mississippi. It is a beautiful tree, growing in the low grounds, in company with the cypress, and sometimes attains the height of sixty or seventy feet, with a trunk a foot or eighteen inches in diameter. The leaves have an aroma very similar to that of the *L. nobilis*, and may be employed for the same purposes. The wood, which is strong, fine-grained, and capable of receiving a brilliant polish, was formerly employed, in cabinet-making, and afforded very beautiful furniture; but the difficulty of finding stocks of sufficient size, together with the facility of procuring mahogany, has brought it into disuse. At present it is chiefly employed in naval architecture, whenever it attains large dimensions. The wood is used also, in preference to any other, for tree-nails (wooden pins which fasten the planks of a ship to the timbers.) The sassafras, so remarkable for having its leaves either simple, or divided into two or three lobes, is also a species of *laurus*. Though usually appearing as a shrub, it not unfrequently attains considerable dimensions, growing, in a rich soil, to the height of forty or fifty feet, or even more, with a trunk of proportional diameter. It is common in America, as far north as lat. 43°, and extends westward even into Mexico. The bark of the roots, which is the most powerfully aromatic part of the plant, has been in high repute as a medicine from the discovery of America, and is still exported to Europe in considerable quantities, but its virtues have been very much overrated, although it is yet frequently employed in pharmacy. A very agreeable beverage is made, in some parts of the United States, of this bark, in combination with other substances, and it is also employed in dyeing, affording a beautiful orange colour. The *L. benzoin*, or fever-bush, is also an agreeably aromatic shrub, as widely extended throughout the United States as the preceding. Four other species of *laurus* are found in the Southern States. Michaux strenuously recommends the introduction of the camphor tree (*L. camphora*) into the Southern States, and is of opinion, that it would soon become naturalized. The alligator pear, which forms a frequent article of nutriment in the West Indies, and is much cultivated for that purpose, is also the fruit of a species of *laurus*.

LAURENS, HENRY, a distinguished American statesman of the revolution, was born at Charleston, South Carolina, in 1724. His ancestors were French Protestant refugees, who had left France about the time of the revocation of the edict of Nantes. After receiving a good education, he was placed in the counting-house of a merchant of Charleston, but was soon afterwards sent to London to fit himself for commercial pursuits, under the eye of a gentleman who had been engaged in business in Charleston. On his return, he entered into business, and, by his industry and activity, acquired an ample fortune. Having retired from business, he went, in 1771, to

Europe, in order to superintend the education of his sons, and was in London when he received the first accounts of the troubles which were beginning to agitate the colonies. With thirty-eight other Americans, he endeavoured, in 1774, by petition, to dissuade parliament from passing the Boston port bill, and exerted himself to prevent a war; but finding that nothing would be of any avail for that purpose, save dishonourable submission, he hastened home to take part with his countrymen. He arrived in Charleston in December, 1774, was chosen president of the council of safety, and soon manifested that he had lost none of his energy and habits of business. In 1776, he was elected a delegate to congress; soon after taking his seat, was made president of that body, and continued such until the close of the year 1778. He then resigned, and, in 1779, received the appointment of minister plenipotentiary from the United States to Holland. On his way thither, he was captured by the British, carried to London, and committed to the Tower. For the first month of his confinement, he was permitted to walk out with an armed guard; but this indulgence was subsequently taken from him for a time, in consequence of lord George Gordon, then a prisoner also, having met and asked him to walk with him, which, although Mr Laurens refused to do, and immediately returned to his room, was interpreted into a transgression of orders. His confinement lasted for more than fourteen months, during which, various efforts were made by the British government, to shake his constancy, but without effect. Soon after his release, he received a commission from congress to be one of their ministers for negotiating a peace with Great Britain, and, having repaired to Paris, he signed, November 30, 1782, with doctor Franklin and John Jay, the preliminaries of the treaty. On his return home, he was received with every mark of esteem, but declined all offices. His health had been broken by his imprisonment, and, after passing the last years of his life in agricultural pursuits, he died December 8, 1792, nearly seventy years of age. According to an injunction contained in his will, his body was burned, and his bones collected and buried.

LAURENS, JOHN, lieutenant-colonel, son of the foregoing, after receiving a liberal education in England, returned to his country, and joined the American army in 1777. The following summary account of his military career is taken from Garden's interesting Anecdotes of the American revolution. "His first essay in arms was at Brandywine. At the battle of Germantown, he exhibited prodigies of valour, in attempting to expel the enemy from Chew's house, and was severely wounded. He was engaged at Monmouth, and greatly increased his reputation at Rhode Island. At Coosahatchie, defending the pass with a handful of men, against the whole force of Prevost he was again wounded, and was probably indebted for his life to the gallantry of captain Wigg, who gave him his horse to carry him from the field, when incapable of moving, his own having been shot under him. He headed the light infantry, and was among the first to mount the British lines at Savannah; displayed the greatest activity and courage during the siege of Charleston; entered, with the forlorn hope, the British redoubt carried by storm at Yorktown, and received with his own hand the sword of the commander; by indefatigable activity thwarted every effort of the British garrison in Charleston, confining them, for upwards of twelve months, to the narrow limits of the city and neck, except when, under the protection of their shipping, they indulged in distant predatory expeditions; and, unhappily, at the very close of the war, too carelessly exposing himself in a trifling skirmish near Comba-

hee, sealed his devotion to his country in death." It is related by judge Johnson, in his life of general Greene, that the greater part of the night, in which the fatal skirmish took place, was spent by Laurens in a jocund company of ladies; that the expected rencounter was the subject of the gayest badinage; and that the company did not separate until two hours before the time when the colonel was in motion with his detachment. The sorrow at the news of his death was deep and universal. Washington, into whose family and affection he had won admission, mourned him as a lost son. Such a combination as was found in him of chivalrous gallantry, patriotism, ardour, elevation, and rectitude of soul, with unaffected modesty, information, frankness, vivacity, and polish of manners, has rarely been seen. He was the delight of every social circle, and the admiration of his companions in arms. There is one act of his life, which, perhaps, more than any other, entitles him to the gratitude of his country. In the autumn of 1780, he was sent, as a special minister, to France, in order to negotiate a loan from the French government, and, on his arrival in Paris, immediately entered upon the business of his mission; but, after a delay of more than two months, on the part of the government, to return a definitive answer to his application, he determined, contrary to all the rules of etiquette, to present a memorial himself to the king, at the levee. He first made the minister, count de Vergennes, as well as doctor Franklin, the American envoy, aware of his intention, and, notwithstanding the urgent entreaties of the latter, carried it into effect. The king, however, received the memorial graciously, and matters were soon arranged in a satisfactory manner. The consequences of his successful boldness in this affair were all-important for the American cause, which would have been, perhaps, irretrievably ruined by any further procrastination. An account of the transaction, from the pen of the secretary of the mission, is to be found in the *American Quarterly Review*, vol. i. p. 425.

LAURISTON, JAMES ALEXANDER BERNARD LAW, count de, grandson of the celebrated projector Law, was born in 1768. He embraced the military profession at an early age, and served in the artillery, in which he obtained a rapid promotion, owing to his own activity, and to the friendship of general Bonaparte, whose aid-de-camp he was, and who employed him on several important missions. He commanded, in 1800, in quality of brigadier-general, the fourth regiment of flying artillery, at La Fère. In 1801, he was chosen to convey to England the ratification of the preliminaries of peace, and was received with enthusiasm by the people of London, who took the horses from his carriage, and conducted him in triumph, to Downing street. He served in every campaign of importance in Spain, Germany, and Russia. In 1809, he penetrated into Hungary, and took the fortress of Raab, after a bombardment of eight days. July 6, he decided the victory in favour of the French at the battle of Wagram, by coming up to the charge, at full trot, with 100 pieces of artillery. In 1811, he was appointed ambassador to St Petersburg. The object of his mission was to obtain the occupation of the ports of Riga and Revel, and to exclude British ships from the Baltic. This mission having failed, M. de Lauriston was employed in the Russian campaign, and, after the taking of Moscow, was sent with proposals for an armistice to the emperor Alexander, which were rejected. After the disastrous retreat from Moscow, he commanded the army of observation on the banks of the Elbe, and, during three months, defended that river with a small force, preventing the enemy from penetrating into Hanover. He fought with great valour at the battle of Leipsic,

but, being taken prisoner, was conducted to Berlin, where he was treated with favour and distinction. After the conclusion of the general peace, Louis XVIII. created him a knight of St Louis, grand cordon of the legion of honour, and captain-lieutenant of the Gray Musketeers. After March 20, 1815, he followed the king's household to the frontiers of France, and then retired to his estate of Rochecourt, near La Fère, without mingling in any of the transactions of the hundred days. On the return of Louis, he was nominated president of the electoral college of the department of L'Aisne, lieutenant-general of the first division of royal foot-guards, and member of the commission appointed to examine into the conduct of such officers as had served from March 20 to July 8, 1815. He was created a commander of St Louis in 1816, and presided, in the course of the same year, at the trial of admiral Lincol, count Delebarde, &c. In 1823, he was appointed marshal, and commanded the second corps de réserve of the army in Spain. He died in 1828.

LAUSANNE, capital of the Pays-de-Vaud, a Swiss canton, has 1300 houses, with 10,000 inhabitants; lon. 6° 45' 30" E; lat. 46° 31' 45" N. It is most beautifully situated about a mile from the lake of Geneva. Lausanne lies high, with the lake and snowy Piedmontese Alps in front, whilst the shore of the lake is covered with vineyards. Since 1536, there has been an academy at Lausanne, which, in 1803, was elevated to an academical institute, with fourteen professors and a rector. It has works in gold and silver, printing-offices, and some trade in wine; but its chief profits are derived from the numerous foreigners who resort to it from all countries on account of its charming situation, or to perfect themselves in French. Lausanne has a *société d'émulation*, societies for natural history and agriculture, and a Bible society. Formerly the city belonged to Berne, whose bailiff lived in the episcopal palace. The bishop transferred his residence to Freiburg, when Lausanne embraced the Calvinistic religion. Haller, Vahnen, and Gibbon resided here for a considerable period.

LAUSITZ. See *Luatitz*.

LAUTER. See *Kaiserslautern*.

LAVA. See *Volcanoes*.

LVALETTE; the name of several individuals distinguished in French history, of whom we shall mention only two, the subject of this article and that of the following.—Jean Parisot de Lavalade, the forty-eighth grand master of the knights of Malta, was born in 1494, of an ancient family. Lvalette, unanimously elected grand master in 1557, showed himself equally active and wise as head of his order and as a general. His ambassadors were admitted at the council of Trent among those of the most powerful monarchs. He restored the internal organization of his order, but distinguished himself particularly by the heroic defence of Malta against Soliman II., who attacked it with a force of 80,000 men, and whom he forced, after a siege of several months, to retire in 1565, with a loss of more than 80,000 men. He then took the fortress La Valetta in Malta, refused the cardinal's hat, and died in 1568. See *Malta*.

LVALETTE, MARIE CHAMANS, count de, was born at Paris, in 1769, of obscure parents. His mother was a nurse, often employed by the famous accoucheur Baudelocque, who, perceiving the promising talents of the youth, furnished her with the means of giving him an education far superior to his birth. Young Lvalette was destined for the clerical profession, and wore the habit of an abbe for some time, but afterwards took to the study of the law. The revolution, in 1789, gave another direction to his ambition. He became an officer in the national guards, and in August, 1792, defended the Tuilleries

He afterwards served in the army of the Rhine and that of Italy, with such distinction, that he rose rapidly. Bonaparte made him his aid-de-camp, intrusted him with his secret correspondence, and gave him in marriage Mlle. Beauharnais, the niece of Joséphine. He accompanied Bonaparte to Egypt, and, soon after the establishment of the consular government, was made count, and a commander of the legion of honour. In 1814, he was removed from the post-office; but when Louis quitted Paris, in 1815, he repaired to the office, in company with general Sebastiani, and summoned his successor, M. Ferrand, to surrender his place, only allowing him a few minutes to collect his papers, but, at the same time, treating him with great politeness. He then took measures to accelerate the progress of Napoleon, and conducted himself with extraordinary vigilance and activity. For these services he was created a peer of France (June 2), and continued in his office till the return of the king. In the month of November following, he was brought to trial, and condemned to death as an accomplice of Napoleon. His appeal and application for pardon having failed, preparations for his execution on Thursday, December 21, were making, when his wife, having obtained permission to visit him, came, on the 20th, in a sedan chair, and dined with him, attended by her daughter and the governess. About seven in the evening, the two latter appeared at the keeper's lodge, apparently supporting Madame Lavalette, who was closely muffled up, held a handkerchief before her eyes, and exhibited every symptom of the profoundest distress. After a few minutes, the keeper of the prison repaired to Lavalette's apartment, where he found Madame Lavalette in his place. He set his turnkeys and keepers in motion, but, in spite of their activity, nothing was found but the sedan chair, in which the young daughter had taken the place of her father, who had suddenly disappeared at the *Quai des Orfèvres*. The jailer was then removed and confined, the barriers were closed, and expresses were sent in every direction, with the description of Lavalette's person, who contrived to lie closely concealed for a fortnight, in spite of the vigilance of the police, during which time he meditated on the most effectual method of completing his escape. He had recourse, for that purpose, to three Englishmen—Messrs Bruce, Hutchinson, and Sir Robert Wilson, who were already known for their zeal in support of the principles of liberty, and for their hostility to the tyranny exercised by the Bourbons. By means of these gentlemen, he procured the uniform of a general officer in the British service, and repaired, January 7, at half-past nine at night, to the apartments of captain Hutchinson. The next morning, at seven o'clock, he got into a cabriolet with Sir Robert Wilson, passed the barriers without being recognised, and arrived the following day at Mons, where his guide took leave of him. He then took the road to Munich, where he found an asylum among powerful friends and connexions. Irritated by his escape, the government had the cruelty to retain his wife for some time in prison, because she had been necessary to the escape of her husband—a treatment which disordered her senses, and she has since been a confirmed lunatic. Lavalette was pardoned, and returned to France in 1821.

LAVATER, JOHN GASPAR, was born in 1741, at Zurich, in Switzerland, where his father enjoyed the reputation of a skilful physician and good citizen. The severity of his mother somewhat depressed the mind of the boy, who was endowed with a lively imagination, and he early gave himself up to solitary reveries. While yet at school, he was

persuaded that he had received direct answers to his prayers. His imagination, even at that early period, appears to have been so actively employed, that he never acquired much knowledge of philosophy or classical antiquity. In 1763, he travelled, in company with Fuseli—afterwards a distinguished painter in London—to Leipsic and Berlin, and became acquainted with the scholars and theologians of Northern Germany. In 1764, he returned to his native city, and, in 1767, appeared as a poet in his *Schweizerlieder*, which, as well as his *Aussichten in die Ewigkeit* (1768), gained him many admirers. In 1769, he was appointed one of the ministers at the orphan church at Zurich. His sermons were rendered attractive by their pleasing style, his enthusiastic zeal, and a certain mysticism which always characterised him. They were printed in 1772, and were admired even in foreign countries. All his activity was, in fact, devoted to the service of religion, until he undertook his work on physiognomy. Lavater had become acquainted with a great number of persons, and his lively imagination had led him to the conclusion that there exists a much greater connexion between the internal man and the external expression in the face than is generally supposed. He reduced this external expression of disposition and character to a system, and considered the lines of the countenance as sure indications of the temper. He had adopted this idea in 1769, and collected the features of distinguished people from all parts of the world. His great work (in four volumes 4to), under the modest title *Physiognomical Fragments* (1775 et seq.), made him known all over Europe. It was rendered valuable by the many portraits it contained, mostly well executed by some of the engravers of Germany. Lavater had added explanations, in a poetical style, full of enthusiastic exclamations. As may easily be imagined, a theory so novel found warm admirers, whose zeal often rendered it ridiculous, and Lichtenberg satirized it in his *Essay on Cues and Tails*—one of his most successful compositions. Lichtenberg's exclamations on the contour of a pig's tail, or a happily-adjusted cue, equal the raptures of Lavater viewing the physiognomy of an Alexander. According to Las Cases, Napoleon declared himself convinced, by long experience, that no reliance was to be placed on the expression of the face—an opinion which is perhaps true to a greater extent in respect to talents than disposition. Lavater himself seems to have given up his theory in a great degree. (See *Physiognomy*.) He published several other works, including poems and works of religious instruction, and his reputation became so great, that his journeys resembled triumphs. He refused better appointments in foreign countries, and became minister at St. Peter's church in Zurich. During the revolution, he spoke with boldness against the new order of things, the Swiss directory, &c., and was finally transported to Bale, in the year 1796. He was again set at liberty; but, on the capture of Zurich (in September 26, 1799), by Massena, while occupied in the street, assisting the distressed, and giving refreshment to exhausted soldiers, he received a shot in his side.\* He lingered above a year, during which he wrote several works, and died January 2, 1801. Lavater was one of the most virtuous of men, so that a

\* According to Raoul-Rochette's *Histoire de la Révolution Helvétique* (Paris, 1822), neither a Russian nor a Frenchman was his murderer: "Le crime appartient tout entier à la fureur des partis; et Lavater qui connaissait son assassin, emporta dans la tombe cet horrible secret avec tous les autres secrets de sa belle âme et de son inépuisable charité."

biographer says of him, "Had he lived in early times, he would now be adored as a saint, because every thing which the church requires from a saint he had in perfection—charity, love of mankind, and unremitting zeal in the cause of Christ." He did much for practical theology. Lavater owed little to learning, but drew chiefly from himself. His work on Physiognomy has been several times translated into English. Of the English translations, we may mention Hunter's (Lond., 1789, 5 volumes 4to.) A valuable French edition appeared in 1809 (Paris, 10 vols.)

**LAVENDER**; a delightfully fragrant plant, is a native of the south of Europe. All the labiate plants are aromatic and stimulating, but these properties are more exalted in this plant than in any other of the tribe, especially when it grows in a warm and sunny exposure. Indeed, in such situations, it sometimes contains one fourth of its weight of camphor. To the abundance of this plant is attributed the superiority of the honey in certain parts of Europe. The volatile oil, distilled water, and tincture of lavender, are much employed in official preparations, and as perfumes. The flowers yield by far the greatest proportion of oil.

**LAVINIA**; a daughter of king Latinus and Amata. She was betrothed to her relation, king Turnus, but, because the oracle ordered her father to marry her to a foreign prince, she was given to Æneas, after the death of Turnus. (See *Latinus*.) At her husband's death, she was left pregnant, and, being fearful of the tyranny of Ascanius, her son-in-law, she fled into the woods, where she brought forth a son, called *Æneas Sylvius*.

**LAVINIUM**, or **LAVINUM**; a town of Italy, said to have been built by Æneas, and called in honour of Lavinia, the founder's wife. It was the capital of Latium, during the reign of Æneas.

**LAVOISIER**, ANTHONY LAWRENCE, a celebrated French chemist, whose name is connected with the antiphlogistic theory of chemistry, to the reception of which he contributed by his writings and discoveries. He was born at Paris, Aug. 16, 1743, and was the son of opulent parents, who gave him a good education. He acquired an intimate knowledge of the physical sciences, and first distinguished himself by a prize memoir on the best method of lighting the streets. Two years after, in 1768, he was chosen a member of the academy. About this time, he published several tracts, in periodical works, on the analysis of gypsum, the crystallization of salt, the congelation of water, on thunder, the aurora borealis, &c. Journeys to different parts of France furnished him materials for a mineralogical chart of the kingdom, intended as the basis of a work on the revolutions of the globe, and the formation of the strata of the earth, outlines of which appeared in the memoirs of the academy for 1772, and 1787. The discoveries of Black, Cavendish, Macbride, and Priestley, relative to the nature of elastic fluids or gases, attracted the notice of Lavoisier, who entered on the same field of inquiry, with all his characteristic ardour in the cause of science; and, possessing the advantage of a considerable fortune, he conducted his experiments on a large scale, and obtained highly interesting results. In 1774 appeared his *Opuscules chimiques*, comprising a general view of what was then known relative to gaseous bodies, with several new experiments, remarkable for their ingenuity and accuracy. Doctor Priestley's discovery of what he called *dephlogisticated air*, afterwards generally termed *oxygen gas*, furnished Lavoisier with a fresh subject of research; and, in 1778, he published an essay on this substance, and its influence in the production of acids, developing the principle of a new chemical theory. This was further illustrated by his

experiments on the composition of water, by burning together the oxygen and hydrogen gases, and by its analysis affording the same principles; and the system was completed by his theories of combustion and oxidation (see *Oxygen*), the decomposition of atmospheric air, his doctrine of caloric and its influence in causing the solid, liquid, and gaseous states of bodies; and the whole theory was laid before the public in his *Elements of Chemistry*, which appeared in 1789, and was speedily translated into English and other languages. (See *Chemistry*, and *Chemical Nomenclature*.) M. Lavoisier rendered many services to the arts and sciences, both in a public and private capacity. When the new system of weights and measures were brought forward, he contributed to its improvement by some novel experiments on the expansion of metals. He was consulted by the national convention as to the best method of manufacturing assignats, and securing them from being forged. In 1791, the committee of the constituent assembly applied to him for information preparatory to the adoption of an improved system of taxation, a consequence of which he drew up a work, which was published under the title of *Richesses territoriales de la France*, relating to the production and consumption of the country. About this time, he was appointed one of the commissioners of the national treasury—an office which afforded him an opportunity of exercising his spirit of systematic arrangement. His house became a vast laboratory; the most skilful artists were employed to construct the necessary instruments and apparatus for his philosophical researches. He had *conversazioni* at his house twice a week, at which were discussed the theories, opinions, and discoveries of learned contemporaries. With other farmers-general, he was condemned to death by the revolutionary tribunal of Paris, on the charge of being a conspirator, and of having adulterated the tobacco with ingredients obnoxious to the health of the citizens, and, on this frivolous pretext, was beheaded by the guillotine, May 8, 1794. When he found his fate inevitable, he petitioned for a few days respite, in order to make some interesting and important experiments which he had in view; but the favour was denied him. M. Lavoisier married, in 1771, the daughter of a farmer-general, a lady of agreeable manners and considerable talents, who not only participated in her husband's philosophical researches, but also cultivated the arts with great success, and engraved with her own hand the plates for one of his publications. She subsequently became the wife of count Rumford.

**LAVORA**, or **TERRA DI LAVORO**; a principality of Naples, bounded north by Abruzzo Ultra, and Abruzzo Citra, east by Molise, and Principato Ultra, south by Principato Ultra, and the gulf of Naples, and west by the Mediterranean and the Campagna di Roma; about 140 miles in length, and thirty-three wide where broadest. It is populous and fertile, yielding abundance of corn, wine, oil, and other productions of Italy. Anciently it was called *Campania*; in the middle ages, the *Castellum of Capua*. Caserta is the capital; Gaeta the principal port. Population, 625,500; square miles, 1694.

**LAW, LEGISLATION, CODES.**—1. *Law* is the very soul of a people; not merely those which are contained in the letter of their ordinances and statute books, but still more those which have grown up of themselves from their manners, and religion, and history. Several modern continental jurists, as John G. Schlosser, and Hugo, have shown how little, in legislation, caprice can prevail over the silent but irresistible influence of public opinion. And even the authors of the Code Napoléon have said, with no less elegance than truth, that no legislator can escape

that invisible power, that silent judgment of the people, which tends to correct the mistakes of arbitrary legislation, and to defend the people from the law, and the lawgiver from himself. Frequent experiments have shown that laws, at variance with the manners and religious views of a people, cannot be forced upon them, however well meant, and however beneficial may have been their influence upon other nations; and that, by means of laws, a legislator, can no more elevate his countrymen to a higher degree of refinement, without passing through the intervening steps, than he can reduce them again to a condition above which they have risen in the natural course of events. Hence Frederic II. of Prussia was more happy in his reforms than Joseph II. For it was by no means the intention of the Prussian legislator to give his subjects a new system of law, but rather to sanction that which they already possessed; to adapt the letter of the ancient laws to the notions of right which had gained a footing in the spirit of the nation, and, above all, to remove all those uncertainties which had necessarily sprung from the use of a foreign code, which had checked improvement in practice. Indeed, it is not the duty of a skilful legislator to create new laws; but only to develop those which existed prior to any express recognition, and to introduce, with prudence, those positive rules which cannot be deduced from general principles, as the determination of the length of minority, the period of superannuation, the amount of punishments, &c.; in which the principles of natural right are reduced to a practical application. To the province of the practical legislator belong also those forms which are required in the application of legal principles; as the formalities of contracts and of judicial processes, and the rules of evidence, in all which it should be kept in mind that these positive institutions do not, of themselves, constitute law, but are the mere mechanism to facilitate the use of it. They should be viewed only as the means of promoting a higher end. The view of the original ground of laws is a point on which not only the schools of European jurists differ, but on which the most important principles of public law come into collision.

2. The schools of modern jurisconsults may be reduced, in reference to their principal characteristics, to four, although these are variously modified, and, in many respects, run into one another. In the last century, with few exceptions, the *practical* school predominated, which, on the one hand, esteemed the authority of courts and individual jurists higher than the law, and, on the other, was influenced, in an important degree, by philosophy, particularly that of Leibnitz and Wolf. Arguments were, for the most part, drawn with great logical precision, from the nature of the case. The members of this school felt themselves justified in departing from the letter of the written law, either whenever it seemed not adapted to the existing case, or reference could be made to the decisions of courts on the same point. By this school were introduced a multitude of new opinions, supposed equities, and milder punishments; and their fundamental views were not altogether erroneous. They proceeded on the true notion, that the laws of a people are the result of its own peculiar character, and must take their hue from this. They tried to help the letter of the old laws, by deductions from the nature of things, and, by adhering to precedents, to attain to that harmony in the administration of justice, which alone can secure the public confidence. The influence exerted by this school on the legislation of the eighteenth century was very great, particularly through Nettelbladt and Daries; and the code of Prussia, in particular, may be considered as

its work. But it wanted a proper system of judicial tribunals, to prevent that fluctuation in practice, in consequence of which all certainty, in regard to law, was lost, so that the result of the decision of the simplest cause could hardly be conjectured beforehand. The practical school was divided again into two parties, which agreed only in this, that the jurisconsults, or the judges, might look beyond positive law; but were opposed to each other in so far that one party recognised nothing but the authority of some favourite casuist, and the usage of courts; the other regarded natural right, and what they called *reasonableness*, as the basis of all their decisions. The former almost always carried the day; for it often happened that the latter opposed them only till they had become familiar with the routine of practice, and felt themselves at home in it. In the last ten years of the eighteenth century, new views suggested themselves to the *philosophical* jurists. A more perfect and living philosophy had examined afresh the foundations of science. Many a fabric was shattered, which had preserved the appearance of soundness only in consequence of negligence. At the same time, society took a new turn, and every thing seemed aiming at an ideal perfection. All former obstructions in the way of legal reform appeared to be set aside. France became a republican state, and the doctrines of natural right were introduced into practice. But things have changed again, so that philosophical law has made but little advance, and has gained but little influence in courts of justice. Philosophical treatises, however, have appeared on some departments; as on criminal law, on civil process, and particularly on public and ecclesiastical law. But such works can have no real value without a profound and accurate treatment of positive law, and have, therefore, produced but little effect. The difference of opinion, in the two parties above-mentioned, has been of practical importance only on one occasion, viz. when it was proposed to prepare new bodies of law for Germany, or to take from the French legislation (which deserves so much respect in regard to public law), the rules of civil and penal law, and the forms of procedure. This plan presupposed that a code might be formed on purely philosophical principles, which, being adapted to mankind in general, would suit all nations and all times, and become the basis and essence of every other. Corrections might be made in this ground-work by degrees, as the development of the science of law pointed out deviations from the requisitions of natural justice; and the peculiarities of the legislation of each people might be added. For even those who believed that all positive legislation was based on a foundation so unalterable and eternal, could not help seeing that the additions to be made, for the purposes of practical application, must be drawn from empirical premises, which were neither suited to all people, nor constant to any given people; so that such a code, drawn from natural law, must still leave a wide field for positive legislation. This view was taken, particularly in considering the value of the French codes, the adoption of which, in Germany, had been recommended. It was inquired whether the civil code of Napoleon had solved the great problem how to establish a code based on natural justice, and capable of so universal application as to be equally adapted to people living on the Vistula and the Seine, on the Elbe, and Po, and Tiber. It was soon perceived that the Code Napoleon did not reach this ideal. On this occasion, the contest between the philosophical and historical jurisprudence came up, which was afterwards particularly revived by Savigny's *Vom Beruf unserer Zeit zur Gesetzgebung*, 1815, (the Call for Codification in our Times.) The

peculiar characteristic of this third school of modern jurists—the *historical*—is, that they regard no legal principles as capable of universal and unconditional application. They view law as a mere result of the accidental relations of a people, and as changing with them. According to the principles of this school, every thing may be right, even slavery, and many other things which the philosophical school declares to be a violation of the universal rights of man, and absolutely wrong. The historical school allows a very narrow sphere to that legislation in which law is based on the will of the lawgiver, and a very large one, on the contrary, to the customary law, which commences and perpetuates itself by popular usages, and the decisions of courts. Its ideal is the Roman law, as it is presented in the writings of jurists before Justinian. Every innovation in the law, on the part of government, it regards as dangerous; and especially new codes, which interrupt the silent growth of legal rules in a country. So far, this school agrees with the views of the practical school above-mentioned, from which in fact, it originated. But it rejects all reasons deduced from a supposed nature of things (or, indeed, from philosophical opinions of right), and derives existing law, not from the decisions of courts and colleges, in which it perceives many glaring errors, but from ancient laws and law-books. It regards as truly right, not what modern times have recognised and followed as right, but what they would have esteemed right, if they had properly understood the ancient sources; and therefore considers that all improvement must be the result of a thorough examination of history. Notwithstanding the manifest inconsistency of this reasoning,—since, if the system of law, in any country, is formed by self-development, the newest shape is always the only one that ought to be recognised, and the present cannot be explained from the past,—this view has met with much acceptance, since it avers that whatever is, is right, from the very fact that it is; and in history, by which almost any principle may be proved or refuted at pleasure, it finds a means of crushing every desire of reform; but it is most favoured because it declares all efforts for something higher to be both foolish and wrong. This view, however, has, doubtless, already reached its acme. It has the merit of having directed to the only successful way of understanding laws by the aid of history; but the erroneous expectation cannot long be maintained, of discovering what should be, from knowing what is, and how that which is, grew up. For, although we may be set in the right way by history, yet nothing but philosophy can direct us to the proper end. History and philosophy supply each other's defects, and either of them, by itself, leads to partial views. It is only together that they can teach us the true science of law, and impart the wisdom requisite for legislation. A fourth view has been advanced, in modern times, which may be termed the *strict judicial* (*legistic*). Justly offended at the authority over the laws assumed by the practical school, and the uncertainty which had resulted from the fluctuations of their practice, impatient of the toilsome researches of an historical jurisprudence, and convinced that the philosophical school could afford materials to the legislator only, and not to the judge, a respectable number of jurists abandoned the authority of existing practice, and returned to the positive laws, though less to the spirit of them than the latter, and frequently to the letter of those laws of which the existence was scarcely known among the people. Much has been said of the injury which attends a sudden change of the laws, by introducing a new code. But, if the object of such a code is to confirm and sanction the ideas of right already prevalent among a people, it can never bring with it con-

sequences so pernicious as followed the calling up from oblivion, and adopting into use, of antiquated laws, Roman forms and subtleties, and the *crus* penal laws of the sixteenth century. In case of the literal application of these old laws, no regard can be paid to the circumstances of the age or to the peculiar character of the particular ordinances; and, in consequence of the incompleteness and want of technical accuracy in the ancient legislation, the laws of the empire, the old and new ordinances of particular countries, papal ordinances, Roman constitutions, and fragments of legal writers, are unavoidably mixed up in the most embarrassing confusion, to form a mosaic, which has the outward appearance of an organised whole, but is wholly destitute of inward, living energy. The historical school is right in maintaining that laws can be properly comprehended only by an historical examination of their development; but it has fallen into the error of the *legistic* school, in asserting that the deficiencies which are found in every positive institution should be supplied, not from the fountain of all right, but either by the aid of historical hypotheses, which attribute the most artificial systems of nations in the early periods of civilisation, or by heterogeneous additions from wholly different systems of legislation. In so doing, the historical school has particularly forgotten that the objects of their veneration, the juridical classics of Rome, owed their greatness to a perpetual habit of reverting to the maxims of natural law (their *equitas*). Even the Roman lawyers recognised an universal right, which exists prior to all positive legislation, and without it, and, at the same time, in and with it,—the rule of conduct wherever the precepts of positive law have not yet reached. There is an important difference between a maxim of law created by a positive ordinance, and one only acknowledged by it as already existing in natural equity. In the first case, the law cannot extend beyond the immediate object of its creation; in the second, it is of universal application. Of special importance is this distinction in deciding concerning relations and acts without the bounds of a state,—for example, a crime committed abroad,—cases in which positive law has a very limited application. But, however narrow the last-mentioned *legistic* view may be, it has effected much good, by bringing to light the imperfection, and, in some sense, the utter worthlessness, of the existing positive law, and thus aided to promote the reform, which in several German states, is so necessary.

3. If the question should arise, From what public organ the improvement of laws should proceed, it may be answered, The various juridical schools exhibit a great practical difference. But, at least, the two principal parties—the historical and philosophical—are perfectly agreed in the opinion, that mere caprice, which sees in laws only a means of promoting its own favourite ends, should be, as far as possible, excluded; and it is also agreed, that legislation is an office with which neither the judiciary nor the executive departments can be concerned without injury to each of them. Nothing can defend men from the arbitrary exercise of power but a separation of the executive, legislative and judicial authorities; for in no other way can each of these three powers be kept within its natural limits. The great discrepancy, both in the intrinsic nature of these powers, and in the character of their results, makes it important that each of them should be administered by a separate organ. To govern is the business of the state. The executive government is the organ of the people's will. The characteristic of its acts is command. Such commands, however, are not irrevocable, for at any moment, they may be repealed. Opinions contrary to them may

advanced; and, if they encroach on previous rights, the aid of courts may be enlisted in opposition to them. Law, on the contrary,—and, on this point, the philosophical and historical jurisprudence agree,—is founded, not upon any will, but on the discovery of a right already existing, which is to be drawn either from the internal legislation of human reason, or the historical development of the nation. The law, too, is not irrevocable, nor can any sanction make it so; but as long as it exists, it is of irresistible and universal force. Finally, the judicial decision is binding only on those who have occasioned its application by resorting to judicial proceedings; but, for such, it is an unchangeable rule, and no power whatever can subvert it. The different character of these public functions must not only be obvious in their external forms, so as to be understood by every one who would know his duty, but the very nature of the provisions which they require for their operation is so different as to furnish sufficient ground for making the executive, legislative and judicial departments distinct in their organisation. But it is a great error of modern (constitutional) politics, that they have conceived of this division of duties, as if all connexion and mutual influence of the three powers must be done away; hence the election of judges by the people, and a legislation which could be neither urged nor restrained by the executive (no veto, or only a limited one). This very naturally produced political dissensions, which could only end in the ruin of the state. But, if the executive power is what it ought to be, nothing can be done in the commonwealth without its orders; and both the legislative and judiciary departments must receive from it the impulse of their activity. The convocation of the legislative body, and the proposal of laws, belong to it; and without its consent, no law can become obligatory upon the people. The execution and promulgation of the laws necessarily rest with the executive, and are necessarily joined with an unlimited veto. On the other hand, the influence of the executive government on the legislative should be merely a negative influence, and on the administration of justice, a formal one; i. e. no law should be passed without its consent, and the judges should receive their offices from the executive, while the executive is to see that they do their duty; but how they shall speak cannot be prescribed to them. (See *Courts*.) This is the only means by which unity and harmony, in the action of the public authorities, can be maintained, while every branch of power is supported by the other, and kept in the right path. The entire separation of these three powers is an error which, wherever it has existed, in ancient or modern times, has brought upon the people as great sufferings, as if they had been subject to an arbitrary and unlimited dominion.

4. The historico-philosophical view of the sources of laws leads us to results concerning the organisation of the legislative authorities, which, it is to be regretted, have been often too much overlooked. The consequence of the unreasonable notion, that legislation is an act of the will, was an idea that the general will of the people might be ascertained, if all the different interests to be found in the people could be brought together; or, as this is, in fact, impossible, it was considered sufficient to unite, in representative assemblies, the most important interests—those of agriculture, commerce, and manufactures. In respect to the administration of government, and the judicious choice of means to promote the high ends of the state, this sort of representation may be found sufficient. But, when the question is respecting the establishment of laws, in the highest sense of the word, the most comprehensive intelligence is re-

quired. A popular representation, for this purpose, should not represent the fluctuating, capricious will of the people, influenced, as it is, by interest, prejudice, and passion. On the contrary, it should be a mirror to reflect all the intellectual power of the nation. Consequently the representatives should be chosen from the most learned, and enlightened, and experienced men, who have the best opportunity to become acquainted with the wants of the people and the defects of the existing laws. That it cannot be concluded that a man possesses these qualifications, because he owns a piece of ground, is very clear. And it is equally manifest, that it is a great mistake to esteem such a possession a security for good intentions. Disinterestedness is no consequence of wealth, but of the habit of self-denial; and he learns it much more perfectly who has been inured to it from his youth, than one who has, perhaps, never known a want. To regard landed proprietors as the proper citizens, and others as mere tolerated tenants of the state, is an absurdity. Landed property is the offspring of the state, and not *vice versa*; and the state cannot so distribute the soil, that it may depend on the will of the owner to deprive others of the means of subsistence. The more a natural, distinct interest separates landed proprietors, and, indeed, in some sense, the cultivators of the soil also, from the rest of the community, the more should it be made a main object of public institutions to prevent one party from gaining a decided and permanent superiority. But political institutions now have frequently the opposite tendency—a circumstance which, in some places, has had a remarkable influence on taxation. The second consequence, resulting from the view of legislation here proposed, is, that the number of representatives needs not be proportionate to the number of the people. In a large state, a larger number of deputies is not needed to represent the intellectual capacity of the people; and a small state, if it regards the ends of legislation, properly needs as many persons in its representative assembly as the larger. For it should comprehend so many different kinds of knowledge and talent, that no subject may arise on which a judicious decision cannot be made by the body, by the aid of persons within itself; and that the laws may all have the stamp of moderation, arising from due attention to all interests, which often leads, though by no means necessarily, to half measures. This is the greatest difficulty for smaller states, and they can only prevent it by accommodating their legislation to that of their neighbours. The management of the public affairs of communities, from the village up to the state, cannot be called legislation, in the sense in which we are now considering the subject: these may be suitably administered by even the smallest state. But if a small state undertakes to establish a peculiar system of civil rights, of legal procedure, of penal laws, &c., it will receive less advantage from such an insulated system than of injury, from the bars to intercourse with its neighbours, which must result from such institutions. Hence it is altogether desirable that, in states which are only minor divisions of one nation, having the same religion, manners, and cultivation, the municipal laws, and the institutions for their administration, should as far as possible, be made common to the whole, although matters of political administration might be kept distinct. Thus they might secure to themselves the advantages enjoyed by larger states, in the preparation of like laws by experienced colleges (as the French council), or by juridical commissions, so as to be accommodated to all the existing institutions. Representative assemblies would be freed from the embarrassment of deliberating and deciding upon topics, of which perhaps few, per-

haps not a man among them, has any knowledge. But this is not to be observed in small states only: very large ones sometimes suffer still more from this evil; for though, on one side, the mass of knowledge united in the body is greater, on the other, a greater number of ignorant men embarrass and confuse: and while too many take part in making laws, but few take an interest in the subject. The thoughtlessness with which this important duty has been performed in England till the present time, is shown by Miller, in an Inquiry into the Present State of the Statute and Criminal Law of England (London, 1822). The people of England, therefore (the paradise of the customary law), are at length beginning to feel the urgent need there is of reducing the chaos of single enactments into general codes. This is called the *consolidation of laws*. Several learned individuals have undertaken to make such compends.

We now propose to offer some observations, explanatory of the views of lawyers accustomed to the jurisprudence of the common law, on this interesting subject. Civilians are (it seems from the preceding part of this article) divided into several schools, professing different opinions, and actuated by different principles. The course of the common law naturally leads those who are engaged in its studies, to take practical rather than theoretical views of almost every department of it. Hence they can hardly be said to be divided into different schools, or to indulge much in what may be called *philosophical, historical, or antiquarian* inquiries. The actual system, as it exists, is that which they principally seek to administer; and it is only occasionally that very gifted or bold minds strike out into new paths, or propose fundamental reforms. In the present age, however, a spirit of inquiry is abroad, and the value and extent of codification have, among other topics, been matter of warm controversy among practical lawyers, as well as among practical statesmen. We shall speak of this subject in the sequel. Legislation, in its broadest sense, includes those exercises of sovereign power, which permanently regulate the general concerns of society. Its chief object is to establish laws. And by a *law*, we understand a rule, prescribed by the sovereign power of a state to its citizens or subjects, declaring some right, enforcing some duty, or prohibiting some act. It is its general applicability, which distinguishes it from a single edict, or temporary and fugitive order of the sovereign will. It is supposed to furnish a permanent and settled direction to all who are embraced within its scope. It is not a sudden executive direction, but an annunciation of what is to govern and direct the rights and duties of the persons to whom it applies, in future. The rule being prescribed, it becomes the guide of all those functionaries who are called to administer it, and of all those citizens and subjects upon whom it is to operate. Neither is supposed to be at liberty to vary its obligations, or evade its provisions. But as, in the ordinary course of affairs in free governments, every person has a right, where the matter admits of judicial discussion, to litigate the question, what are the true object and meaning of a law, and how far it bears upon his rights, privileges, or duties,—it is understood, that in free governments, and especially in republics, the ultimate adjudication of what the law is, and how far it applies to a given case, is to be definitively settled by the judicial department of the government. It would be obviously unfit for the legislative department to settle retrospectively, as to past cases, what was its own meaning, its true office being to prescribe rules for the future. And though the executive department may, in the first instance, settle for itself what the law requires, its decisions cannot, and

ought not to be final; for it has no means to call the proper parties before it to litigate the question, and no power to decree any judgment. Its proper function is to administer the law, and not to make it; to act upon its true construction, and not to fix it. Otherwise, the fundamental principle of a republican government would be overturned; and laws would be, not settled rules of action to be judged of by courts upon the litigation of parties, deriving their rights from, or in opposition to them; but would be arbitrary decisions of the sovereign power, without appeal and without inquiry. In the American states, this principle is thought so fundamental, that their constitutions of government expressly separate the legislative, executive, and judicial departments from each other, and assign to each appropriate duties. It is thought that in no other way can the private rights and the public liberties of the people be secure. A departure from this doctrine would be deemed a direct advancement towards despotism. When, then, in Britain, it is asked what the law is, we are accustomed to consider what it has been declared to be by the judicial department, as the true and final expositor. No one is at liberty to disregard its exposition. No one is deemed above or beyond its reach, as thus declared. If it is supposed to be misconstrued, or rather not to carry into full effect the legislative will, a new or declaratory law is passed, and furnishes the appropriate remedy. And this leads us to remark, that the difference between civilians and common lawyers, in respect to the value and obligatory force of former decisions (which we call *precedents*), is most important. The opinion of no jurist, however high and distinguished is his reputation or ability, is of the least importance in settling the law, or ascertaining its construction. So far as he may, by his arguments, or comments, or learning, instruct the court, or enlighten its judgments, they have their proper weight. But if the court decide against his opinion, it falls to the ground. It has no farther effect. The decision becomes conclusive and binding, and other courts are governed by it, as furnishing for them the just rule of decision. No court would feel itself at liberty to disregard it, unless upon the most urgent occasion, and when it interfered with some other known rule or principle. And even then, with the greatest caution and deference. In countries where the common law prevails, it is deemed of infinite importance, that there should be a fixed and certain rule of decision, and that the rights and property of the whole community should not be delivered over to endless doubts and controversies. Our maxim, in truth, and not in form merely, is, *Miseria est servitus, ubi jus est vagum ac incertum*. All this, it seems, is different in the civil law countries. There, the celebrity of a particular jurist may introduce a decisive change in the rule, or at least in the administration, of the law; and even different schools of opinion may prevail in different ages. Precedents have not, as with us, a final operation and value; and judicial tribunals consider, that a prior decision governs only the particular case, without absolutely fixing the principle involved in it. The practice under the common law has been found to be very beneficial; and experience having given it a sanction and value which supersede all theory and reasoning about it, it is not often that the matter is discussed upon abstract or philosophical views. But there are many grounds, which might be urged in support of this practice, which are capable of vindicating it in the most philosophical discussions. The question, in its most general form, must involve this import. What is best for society, with a view to its advantage, its security, its permanency? Now, it may not be

irrelevant to remark, that in every modern government, practically free, the common law rule has prevailed by general consent; and in those of the American states which were formerly under the civil law jurisdiction, there has been no desire ever expressed to retain their own rule. On the contrary, the common law rule has been eagerly adopted. It is not our purpose to enter into a review of all the grounds on which the common law rule might be vindicated; but there are one or two which deserve attention. In the first place, the rule has the advantage of producing certainty as to rights, privileges, and property. In the next place, it controls the arbitrary discretion of judges, and puts the case beyond the reach of temporary feelings and prejudices, as well as beyond the peculiar opinions and complexional reasoning of a particular judge; for he is hemmed round by authority on every side. In the next place, the consciousness that the decision will form a permanent precedent, affecting all future cases, introduces necessarily great caution and deliberation in giving it. If the case only were to be decided, it might be disposed of upon sudden impressions, and upon circumstances of hardship or compassion, or kindness, or special equity. But as the principles involved in it are to govern all future cases, and those principles must be derived from other analogies of the law, and be consistent with them, there are very strong restraints upon the judgment of any single judge. And there can be no permanent evil attendant upon any adjudications of this sort; for the legislative power may always apply the proper amendatory corrective at its will. And if the judges are actuated by corrupt motives, they may be removed by impeachment. It is no small proof that the system works well, that, in the course of many ages, very few decisions (comparatively speaking) have been overturned by the courts themselves, and that the legislature has not often found it necessary to change the rule prescribed by the courts. In fact, positive laws have been amended a hundred times, by the legislature, where one judicial rule has been interfered with. The changes which have been wrought in the fabric of the laws, have not so much arisen from misapplication of principles by the courts, as from the new state of society having rendered the old institutions and laws inexpedient or inconvenient. The circumstances which have been thus alluded to, have introduced a general and settled course of interpreting the laws, in countries governed by the common law. No such thing is known, in American jurisprudence, as a philosophical, or historical, or practical school of interpretation. There the laws are not subject to any varieties of interpretation grounded upon the present predominance of either of them. Certain maxims were early adopted, and they have never been departed from. Supplementary and auxiliary maxims of interpretation have necessarily been introduced. But, when once incorporated into the system, they have been deemed conclusive and obligatory. The sense of a law once fixed by judicial interpretation, is for ever deemed its true and only sense. Among the rules of interpretation belonging to and fixed in the common law, we shall enumerate a few, some of which, indeed, may be truly said to belong to the universal elements of rational jurisprudence. It is, perhaps, the exactness and uniformity with which they are applied, by judicial tribunals, which give them their principal value.

Laws may be divided into the following classes: **declaratory laws**; **directory laws**; **remedial laws**; and **prohibitory and penal laws**. Declaratory laws only declare what the law shall be, not what it has been, or is; how it shall govern rights in future, not how

it shall act upon the past. Directory laws are those which prescribe rules of conduct, or limit or enlarge rights, or point out modes of remedy. Remedial laws are those whose object it is to redress some private injury, or some public inconvenience. Prohibitory and penal laws are those which forbid certain things to be done or omitted, under a penalty, or vindictory sanction. In the nature of things, there is not any indispensable reason why the same rule should be uniformly applied in the interpretation of all of these different sorts of laws. We shall see that the common law allows some distinction in this respect. The fundamental maxim of the common law, in the interpretation of statutes, or positive laws, is, that the intention of the legislature is to be followed. This intention is to be gathered from the words, the context, the subject matter, the effects and consequences, and the spirit or reason of the law. But the spirit and reason are to be ascertained, not from vague conjecture, but from the motives and language apparent on the face of the law. 1. In respect to words, they are to be understood in their ordinary and natural sense, in their popular meaning and common use, without a strict regard to grammatical propriety or nice criticism. But the ordinary sense may be departed from, if the context or connexion clearly requires it; and then such a sense belonging to the words is to be adopted as best suits the context. 2. Again: terms of art and technical words are to be understood in the sense which they have received in the art or science to which they belong. 3. If words have different meanings, and are capable of a wider or narrower sense, in the given connexion, that is to be adopted which best suits the apparent intention of the legislature, from the scope or the provisions of the law. 4. And this leads us to remark, that the context must often be consulted, in order to arrive at a just conclusion, as to the intent of the legislature. The true sense in which particular words are used in a particular passage, may be often determined by comparing it with other passages and sentences, when there is any ambiguity, or intricacy, or doubt, as to its meaning. 5. And the professed objects of the legislature in making the law often afford an excellent key to unlock its meaning. Hence resort is often had to the preamble of a statute, which usually contains the motives of passing it, in order to explain the meaning, especially where ambiguous phrases are used. 6. For the same purpose, the subject matter of the law is taken into consideration; for the words must necessarily be understood to have regard thereto, and to have a larger or narrower meaning, according as the subject matter requires. It cannot be presumed, that the words of the legislature were designedly used in a manner repugnant to the subject matter. 7. The effects and consequences must also be taken into consideration. If the effects and consequences of a particular construction would be absurd, and apparently repugnant to any legislative intention deducible from the objects or context of the statute, and another construction can be adopted, which harmonizes with the general design, the latter is to be followed. But in all such cases, where the effects and consequences are regarded, they are not permitted to destroy the legislative enactment, or to repeal it, but simply to expound it. If, therefore, the legislature has clearly expressed its will, that is to be followed, let the effects and consequences be what they may. But general expressions, and loose language, are never interpreted so as to include cases which manifestly could not have been in the contemplation of the legislature. 8. The reason and spirit of the law are also regarded; but this is always in subordination to the words, and not to control the

natural and fair interpretation of them. In short, the spirit and the reason are derived principally from examining the whole text, and not a single passage; from a close survey of all the other means of interpretation, and not from mere private reasoning as to what a wise or beneficent legislature might or might not intend. Cases, indeed, may readily be put, which are so extreme, that it would be difficult to believe that any rational legislature could intend what their words are capable of including. But these cases furnish little ground for practical reasoning, and are exactly of that class, where, from the generality of the words, they are capable of contraction or extension, according to the real objects of the legislature. These objects once ascertained, the difficulty vanishes. This natural, and sometimes necessary limitation upon the use of words in a law, we often call construing them by their *equity*. In reality, nothing more is meant, than that they are construed in their mildest, and not in their harshest sense, it being open to adopt either. 9. For the same purpose, in the common law, regard is often had to antecedent and subsequent statutes upon the same subject; for being *in pari materia*, it is natural to suppose, that the legislature had them all in their view in the last enactment, and that the sense which best harmonizes with the whole, is the true sense. 10. For the like reason words and phrases in a statute, the meaning of which has been ascertained (especially in a statute on the same subject), are, when used in a subsequent statute, presumed to be used in the same sense, unless something occurs in it to repel the presumption. 11. As a corollary from the two last rules, it is a maxim of the common law, that all the statutes upon the same subject, or having the same object, are to be construed together as one statute; and then every part is to be taken into consideration. 12. Another rule is, to construe a statute as a whole, so as, if possible, or as nearly as possible, to give effect, and reasonable effect, to every clause, sentence, provision, and even word. Nothing is to be rejected, as void, superfluous, or insignificant, if a proper place and use can be assigned to it. 13. If a reservation in a statute be utterly repugnant to the purview of it, the reservation is to be rejected; if the preamble and the enacting clauses are different, the latter are to be followed. But the reservation may qualify the purview, if consistent with it, and the preamble control the generality of expression of the enacting clauses, if it gives a complete and satisfactory exposition of the apparent legislative intention. 14. The common law is also regarded, as it stood antecedently to the statute, not only to explain terms, but to point out the nature of the mischief, and the nature of the remedy, and thus to furnish a guide to assist in the interpretation. In all cases of a doubtful nature, the common law will prevail, and the statute not be construed to repeal it. 15. Hence, where a remedy is given by statute for a particular case, it is not construed to extend so as to alter the common law in other cases. 16. Remedial statutes are construed liberally; that is, the words are construed in their largest sense, so far as the context permits, and the mischief to be provided against justifies. By remedial statutes, we understand those whose object is to redress grievances, and injuries to persons, or personal rights and property, in civil cases. Thus, statutes made to suppress frauds, to prevent nuisances, to secure the enjoyment of private rights, are deemed remedial. 17. So statutes are to be construed liberally which concern the public good; such as statutes for the advancement of learning, for the maintenance of religion, for the support of the poor, for the institution of charities. 18. The general rule is, that the sovereign or government is not included

within the purview of the general words of a statute, unless named. Thus, a statute respecting all persons generally, is understood not to include the king. He must be specially named. But, nevertheless, in statutes made for the public good, which are construed liberally, the king, although not named, is often included by implication. 19. On the other hand, penal statutes, and statutes for the punishment of crimes, are always construed strictly.—The words are construed most favourably for the citizens and subjects. If they admit of two senses, each of which may well satisfy the intention of the legislature, that construction is always adopted which is most lenient. No case is ever punishable, which is not completely within the words of the statute, whatever may be its enormity. No language is ever strained to impute guilt. If the words are doubtful, that is a defence to the accused; and he is entitled, in such a case, to the most narrow exposition of the terms. This rule pervades the whole criminal jurisprudence of the common law, and is never departed from under any circumstances. It is the great leading principle of that jurisprudence, that men are not to be entangled in the guilt of crimes upon ambiguous expressions. But it is not to be understood, that the statute is to be construed so as to evade its fair operation. It is to have a reasonable exposition, according to its terms; and, though penal, it is not to be deemed odious. 20. Private statutes, also, generally receive a strict construction; for they are passed at the suggestion of the party interested, and are supposed to use his language. 21. Statutes conferring a new jurisdiction, and, especially, a summary jurisdiction contrary to the general course of the common law, are construed strictly. They are deemed to be in derogation of the common rights and liberties of the people under the common law, and are on that account jealously expounded. There are many other rules, of a more special character, for the construction of statutes, which the extreme solicitude of the common law to introduce certainty, and to limit the discretion of judges, has incorporated into maxims. But they are too numerous to be dwelt upon in this place. They all, however, point to one great object—certainty and uniformity of interpretation; and no court would now be bold enough, or rash enough, to gainsay or discredit them. On the contrary, it is the pride of our judicial tribunals constantly to resort to them for the purpose of regulating the necessary exercise of discretion in construing new enactments. The legislative power of a government is generally co-extensive with its sovereignty; and therefore embraces every thing which respects the concerns of the society. But it is in fact employed, if not universally, at least generally, in mere acts of amendment and supplement to the existing laws and institutions. Its office is ordinarily not so much to create systems of laws, as to supply defects, and cure mischiefs in the systems already existing. The question is often discussed in our day, how far it is practicable to give a complete system of positive law, or a complete code of direct legislation. And, if practicable, the farther question arises, how far it is desirable, or founded in sound policy. These questions have been the subject of ardent controversy among the civilians and jurists of the continent of Europe, living under the civil law; and, as many will be supposed, different sides have been taken by men of distinguished ability and learning; and the controversy is, and probably for a long period will be, pursued with great animation and powers of reasoning. In the countries governed by the common law, and especially in England and America, the same questions have been matter of wide discussion among the legal profession, as well as among statesmen, and

a great diversity of opinion has been exhibited on the subject. It will be our object, in the sequel of these remarks, to put the reader in possession of some of the main grounds of the controversy. The legislation of no country, probably, ever gave origin to its whole body of laws. In the very formation of society, the principles of natural justice; and the obligations of good faith, must have been recognised before any common legislature was acknowledged. Debts were contracted, obligations created, property, especially personal property, acquired, and lands cultivated, before any positive rules were fixed, as to the rights of possession and enjoyment growing out of them. The first rudiments of jurisprudence resulted from general consent or acquiescence; and when legislation began to act upon it, it was rather to confirm, alter, or add to, than to supersede, the primitive principles adopted into it. We, in fact, know of no nation, or, at least, of no civilized nation, whose history has reached us, in which a positive system of laws for the exigencies of the whole society was co-eval with its origin; and it would be astonishing if such a nation could be found. Nations, in their origin, are usually barbarous or rude in their habits, customs, and occupations. They are scanty in population and resources, and have neither the leisure, nor the inclination, nor the knowledge, to provide systems for future use, suited to the growing wants of society, or to their own future advancement in the arts. A few positive rules suffice, for the present, to govern them in their most pressing concerns; and the rest are left to be disposed of according to the habits and manners of the people. Habits soon become customs; customs soon become rules; and rules soon fasten themselves as firmly upon the existing institutions, as if they were positive ordinances. Wherever we trace positive laws, in the early stages of society, they are few, and not of any wide extent; directions for special concerns, rather than comprehensive regulations for the universal adjustment of rights. No man can pretend that, in Asia, any such universal rules were established by positive legislation, at the origin of the great nations by which it is peopled. The instructions of Moses, as promulgated by divine authority, for the government of the Jews, are not (as every one perceives) designed for every possible exigency of contract, or right, or injury, or duty, arising in the course of the business and history of that wonderful people. They are rather positive precepts, adapted to great occasions, and to govern those concerns which respected their wants, their spiritual advancement, and their duties as the chosen people of God. The Greeks are not known to us, in their early or later history, as having had a code of universal extent. The Romans, in their early history, had few positive laws; and those seem to have been borrowed from other sources. We often, indeed, see it stated, that the common law of England was originally formed from statutes now obsolete and unknown. But this assertion is wholly gratuitous. There is no reason to suppose that, in the early history of its jurisprudence, more was done than is usual in other nations, at the same period of their progress, such as the promulgating of some leading regulations, or the forming of some great institutions for the security of the public. In fact, a great portion of the English common law is of modern growth, and can be traced distinctly to sources independent of legislation. The common law of England is not two centuries old, and scarcely owes any thing important to positive legislation. In truth, the formation of codes, or systems of general law, for the government of a people, and adapted to their wants, is a business which takes place only in advanced stages of society, when knowledge is considerably diffused, and legis-

lators have the means of ascertaining the best principles of policy and the best rules for justice, not by mere speculation and theory, but by the results of experience, and the reasoning of the learned and the wise. Those codes with which we are best acquainted, are manifestly of this sort. The institutes, and pandects, and code of Justinian, were made in the latter ages of Roman grandeur—nay, when it was far on the decline,—not by instituting a new system, but by embodying the maxims, and rules, and principles, which the ablest jurists had collected in different ages, and from all the various lights of reason, and juridical decision, and general experience. No man imagines that Rome, in her early history, was capable of promulgating, or of acting upon, such a system. And this system, large as it was, has no pretension to be deemed complete, even for Rome itself. It left an infinite number of human concerns undecided by its text, which were, of course, to be submitted to judicial decision, and to receive the judgment of the wise men, who should be called, from time to time, to declare the law *ex æquo et bono*. It may indeed be assumed, as a general truth, that the body of every system of law which has hitherto governed human society, had its origin as customary law; and if it has ever assumed the form of positive legislation, it has been to give it greater sanctity and extent, as well as greater uniformity of operation. This is certainly true in respect to the common law. That system, as administered in Britain and the United States, is, as compared with the positive code, or statutes, of an immeasurably wider extent, both in its principles and its practical operation. A man may live a century, and feel (comparatively speaking) but in few instances the operation of statutes, either as to his rights or duties; but the common law surrounds him, on every side, like the atmosphere which he breathes. Returning, then, to the question before stated, it may be inquired, whether it be practicable, in a refined and civilized state of society, to introduce a positive code, which shall regulate all its concerns. That such a code could be formed in a rude or barbarous age, so as to be adapted to all their future wants and growth, in passing from barbarism to refinement, seems absolutely incredible. That it could be formed in a refined age, when learning, and large experience, and enlightened views, and a sagacious forecast, might guide the judgments of the legislature, is the point before us. In the first place, it has never yet been done by any people, in any age. The two most illustrious instances of codification are that of Justinian and that of Napoleon. Neither of these purports to be a complete system of laws and principles, superseding all others, and abolishing all others. As far as they go, they purport to lay down positive rules to guide the judgment of all tribunals, in cases within them. But other cases are left to be decided as they may arise, upon such principles as are applicable from analogy, from reasoning, from justice, from the customary law, or from judicial discretion. A positive prohibition to decide in cases not provided for by these codes, is not contained in either. But is it possible to foresee, or to provide beforehand, for all such cases? Society is ever varying in its occupations and concerns, in its objects and its pursuits, in its institutions, its pleasures, its inventions, its intelligence, and, in short, in innumerable relations and diversities of measures and means. How is it possible to foresee, or to limit, these relations or diversities? How is it possible, especially in free governments, to reduce all human acts to the same positive elements? to prevent contracts, and obligations, and rights, and equities, and injuries, and duties, from becoming mixed up in an infinite series of permutations and combinations?

Until it has been ascertained what are the utmost limits of human relations, and those limits, with all their intermediate details, can be clearly defined, in every shade of difference, how can any system of laws be adequate to provide for, or to guard them, or to fix the rights growing out of them? To suppose that man is capable of all this, is to suppose that he is omniscient, all-wise, and all-powerful; that he is perfect, or that he can attain perfection; that he can see all the future in the past, and that the past is present to him in all its relations. The statement of such a proposition carries with it its own refutation. While man remains as he is, his powers, and capacities, and acts, must forever be imperfect. But it may be said, that a positive code may be framed, and a declaration made that it shall be deemed the sole guide and rule, and that all other rules shall be prohibited. Certainly this may be done. But the effect of this would be, not to form a perfect code for all the future exigencies of society; but to declare that whatever was left unprovided for in the code, should be neither matter of right nor wrong. It would be to declare, that, as to all other transactions, now and hereafter, society should be utterly lawless; and, of course, it would be to declare, that a system confessedly imperfect, and not meeting the wants or exigencies, the rights or the wishes of society, should still govern it. What would this be, but to provide a bad code for human concerns, which it could not measure or manage? From these considerations, we may assume it as a concession granted on all sides, that a perfect code, to regulate all present, and, *a fortiori*, all future concerns of any civilized society, by positive rules, applicable to them, is morally impossible. The only real question is, whether a positive code can be provided, adequate, in a general sense, to the present known wants of society. That codes may be formed, more or less comprehensive, to regulate many or few concerns, to supply defects, or to give symmetry and order to the law on particular subjects, cannot be doubted. It has been often done. Perhaps no civilized nation has ever existed, in which there was not, at the same time, a written and an unwritten law, or, in other words, a rule of positive institution, and a rule of customary law. All special decrees and ordinances of the sovereign power are of the former kind. Many subjects are of such a nature as to require some positive rule, seeing that natural law cannot fix them upon any invariable basis. For example, there is nothing in the nature of things by which we can say, that land shall, in all possible states of society, descend to the possessor's heirs, or who those heirs shall be; that he shall have a right to dispose of them by testament or deed, and how that testament or deed shall be evidenced; whether bills of exchange and promissory notes shall be negotiable or not, and to what extent binding upon the parties. These subjects, in the origin of society, must either be positively provided for, or no rights can exist (strictly speaking) until they have become, by usage, fixed in a particular form. But most nations, with whose history we are acquainted, have had many positive laws. And to suit their institutions to the exigencies of society, in all its changes, there must be ordinances to change the old and to frame new rules. In ancient Rome, in the modern governments of continental Europe, and especially in France and in Britain, great alterations have, from time to time, been made in the existing system of laws. Fundamental laws have been abrogated; amendatory provisions have been established; existing rules have been methodised, confirmed, explained, and limited; and new rules prescribed for new cases. The ordinances of Louis XIV., of 1673 and 1681, on the subject of maritime

and commercial affairs, are striking instances of this sort. The abolition of feudal tenures; the regulation of uses and charities; the allowance of last wills and testaments, made in a prescribed mode: the provisions to suppress frauds, in the statute of frauds; the registration of conveyances of lands; the negotiability of promissory notes; and, above all, the positive enactments, various and almost innumerable, in the criminal code, are illustrations of the same fact, in the history of British legislation. All these statutes furnished, to a limited extent, a code on the particular subject. And we have recently seen, in the consolidation of the criminal laws of England into a few statutes, under the auspices of Sir Robert Peel, a striking instance of substantive codification of the criminal law of England, in many of its most important provisions. But the objections often urged against codes, are not meant to be applied to legislation of this sort, but to systems, which are promulgated for the government of the great concerns of nations, in all their various departments and interests. How far this can be done, has been a matter of considerable theoretical discussion. But the question has been practically answered by the existence of several positive codes. And among these whose success and wisdom have been most generally acknowledged, are the code of Justinian, and the code of Napoleon. That either of them furnishes complete rules for all the concerns of society, or excludes the necessity of judicial interpretation, or positive legislation, cannot be affirmed. That each of them covers a vast mass of the ordinary concerns of society, and fixes, positively and clearly, a great many wrongs and rights, and points out the proper redress, in cases where rights are to be vindicated and wrongs repressed, cannot well be denied. The question, then, is fairly presented, how far codes of this sort (the only ones which, in the actual state of society, are morally possible), are desirable, and founded in sound policy. It is here, that the advocates and the opponents of codes, under the jurisprudence of the common law, meet on debatable ground. The lovers of ancient institutions, of existing laws, of customary principles, oppose codes as inconvenient, and unnecessary. They hold them to be inconvenient, because they fix a stubborn rule, which dis govern future cases, instead of leaving them open to the free operations of the common law, which adapts itself to all the circumstances of the age. They maintain, also, that codes are unnecessary; for, so far as there is any rule, it is already known in the common law; and positive legislation cannot make it more so. It is added (and it is true), that law is gradually formed, and must differ in different ages, according to the different circumstances of society; that it must be varied according to the progress or regress of a nation; that it can rarely settle comprehensive principles; and must, by degrees, thread its way through the intricacies of human actions; and that no inflexible rule might work quite as much mischief as now at all; that no legislature can make a system better just, or perfect, or harmonious, both from want of time, and experience, and opportunity of knowledge, as judges, who are successively called to administer justice, and gather light from the wisdom of their predecessors. Most, if not all, of these suggestions, may be admitted to be correct, and yet they do not settle the controversy. In the first place, the objectors must admit, that, under the common law, there are positive statutes, which regulate many great concerns and rights of the countries governed by it. The descent and distribution of real estates, the making of last wills and testaments, the forms and ceremonies attendant upon conveyances of real estates, to say nothing of other important subjects, are pre-

vided for by positive statutes. Here we have a rule, which is absolute and inflexible. To say that, if found inconvenient, it may be altered, is, in effect, no argument at all; for the same may be said as to any provision of a systematic code. No code is supposed to be unalterable. Again, if it be said, that the legislature may, and often does, in an early stage of society, fix great principles and institutions, and then leaves the rest to judicial decisions, and thereby shows its wisdom, the true answer is, that the same reasoning applies to all codes, however extensive, if they leave the judicial tribunals at liberty to decide upon new cases, not governed by, or necessarily included in, the terms of the code. So far as the legislature has laid down principles (whether more or less extensive is of no consequence), these govern; beyond them, all is left as before. Again, the common law is itself, as far as it goes, a system of rules. These rules are fixed, certain, and invariable, as to all cases falling within them. They are quite as unyielding as any code can be. When the common law has declared that the eldest son shall be the sole heir, and that the half-blood shall not inherit, a court has no more liberty to depart from these rules, or to refuse to apply them to any case falling within them, upon any notion of hardship or inconvenience, or ill adaptation to the exigencies of society, than it has a right to say, that a last will and testament shall be good, though not executed according to the requirements of a statute. In each case, it is bound, and bound to the same extent. If the question were, whether a positive code should contain a clause prohibiting courts of justice from deciding upon cases not within the purview of the code, there might be much to urge against the policy and reasonableness of such a clause; but it would furnish no objection to other parts of the code. The only point, with reference to a code, which, under this aspect, would deserve consideration, is, how far it would be desirable to provide for cases which may be foreseen, but have not, as yet, actually been subjected to legislative decision. On one side, it may be said, that it would be best to leave all such cases to be decided, as they arise, upon the result of human experience and human judgment, then acting upon all the circumstances. On the other hand, it may be said, that it is better to have a fixed, present rule, to avoid litigation, and to alter it in future, if unexpected inconveniences should arise. The reasoning on each side is sound, when applied to particular cases. On each side, it admits of question, when applied to all cases. It may be best, in many cases, to leave the rule to be made, when the case arises in judicial controversy. In others, it may be far better to establish a present rule, to clear a present doubt, or fix a limit to what is now uncertain. Take the case of a bill of exchange, or promissory note; and suppose the question were, at what time demand of payment should be made, when it was payable on time, and no rule existed, and yet there was an immense amount of property dependent upon having a fixed, uniform rule; and, until so fixed, there must be endless litigation. Can any one doubt of the benefit of a rule, such as is now fixed in the commercial law of our country, for the purpose of securing certainty, viz. that payment must be demanded on the day on which it becomes due. On the other hand, suppose it were now proposed to make a law, fixing what should be the rate of wages in all future times, in all private employments; would it not, at once, occur to be impolitic to act upon a rule, the effects of which might immediately, or in future, press unequally and injuriously upon different interests in society? Again, it is said to be unnecessary to reduce the rules of the common law to a code, for they are as certain

now as they would be in a positive code. They are even more so, because the legislature cannot be presumed able to lay down a positive rule, with all the limitations and qualifications of the common law. Now, both of these suggestions admit of a satisfactory answer. If the rule exists, and has certainty in the common law, it can be stated. If there are any known exceptions, limitations and qualifications, upon a rule, those also can be stated. If nothing beyond a particular limit is known, then legislation can, at least, go to that limit. And as to all other cases, the same uncertainty exists, both at common law and in legislation. The difficulty of the argument consists in assuming, that, because the legislature has prescribed the same rule as the common law, the courts are thereby prohibited from doing what they possessed the power to do before, in the absence of any rule, viz. to find out what is the rule that ought to govern. Now, the legislature may as well leave this power in the courts, after a code, as the common law; and it will be best, unless there is a positive prohibition to the contrary. The other part of the suggestion applies only to the point, whether the code is well or ill formed by the legislature. If badly formed, it will, of course, be proportionally bad; but that furnishes no objection to a code, but to the mode in which it is executed. Then, again, as to the suggestion that it is unnecessary, because the rule already exists in the common law, and has certainty: to this several answers may be given. In the first place, if it be conceded, that there is entire certainty in the rule, at common law, there can be no harm in making the rule positive. It may do good; for it will instruct many, in and out of the profession, in respect to their rights and duty, who are now sadly ignorant of both, or are liable to be misled by their imperfect inquiries, or their limited sources of information. Every man may be able to peruse a concise text; but every man may not have leisure or ability to study a voluminous commentary. Besides, even in relation to the doctrines of the common law, many of them lie scattered in different cases, and many of them are not so clear as not to admit of different interpretations, by minds of different learning and ability. Even lawyers of great research and accuracy, especially where the doctrine, though on the whole clear, is matter of deduction and inference, may not, at once, come to the correct conclusion; and others of less learning and ability may plunge into serious errors. Now, it would be no small gain to have a positive text, which should give, in such cases, the true rule, instead of leaving it open to conjecture and inference by feeble minds. Again, there are many subjects of great intricacy and complexity, which can be fully mastered only by very able minds, resting, as they do, upon nice, and sometimes, upon technical reasonings, not seen by the common reader. In such cases, the text may admit of very exact statement, but the commentaries necessary to deduce it, may be exceedingly elaborate. The demonstration, or last result, may be clear, but the steps in arriving at it, exceedingly perplexed and embarrassing. It may require an analysis by the greatest minds to demonstrate; but, when once announced, it may be understood by the most common minds. For instance, the subject of contingent remainders and executory devises is of uncommon complexity in the common law, and many a lawyer may read Mr Fearn's admirable treatise on the subject, without feeling competent to expound all its doctrines. And yet, put every principle into a positive text, with all its limitations and restrictions (not to be made out by argument and inference, but given in a direct form), and his labours and his reasoning would be materially abridged, and cer-

tainty exist where darkness before overshadowed his mind. Again, the common law has now become an exceedingly voluminous system; and as its expositions rest, not on a positive text, but upon arguments, analogies and commentaries, every person, who desires to know much, must engage in a very extensive system of reading. He may employ half his life in mastering treatises, the substance of which, in a positive code, might occupy but a few hundred pages. The codes of Justinian, for instance, superseded the camel-loads of commentaries, which were anteceded in use, and are all now buried in oblivion. The Napoleon codes have rendered thousands of volumes only works of occasional consultation, which were before required to be studied very diligently, and sometimes in repeated perusal. Again, what is to be done in the common law, where there are conflicting decisions on the same point, or converging series of opposite doctrines, approaching towards a conflict? The rule is here confessedly uncertain. Why should not the legislature interfere, in such a case, and fix a rule, such as, on the whole, stands upon the better reasoning and the general analogies of the law? In point of fact, this is often done. Declaratory laws, in form, are unusual among us; but laws to clear doubts and difficulties are very common. Such interferences ought, doubtless, to be made with caution and prudence, and great deliberation. But this furnishes no just objection to a reasonable exercise of the power. But in the practice under the common law, there is still stronger ground for interference. In the first place, what the common law is, is always open to question; and if authorities are suggested on either side, it is common enough to find the rule deduced from them, doubted, denied, or explained away, by parties in an opposite interest. Courts are bound to hear as well as to decide; and although a court may think the rule of the common law clear, from their own prior researches and reasoning, it will rarely feel at liberty to stop eminent counsel, when they deny the rule, or seek to overthrow the authorities and reasonings by which it is supported. The spirit of our tribunals, and the anxious desire, not only to do, but to appear to do justice, lead to a vast consumption of time in these discussions. If the legislature had once recognised the rule in a positive code, there would be an end of all such reasoning. The only question which could remain, would be, whether the rule were applicable to the case. In the next place, there are, upon some doctrines of the common law, a vast multitude of authorities to examine, compare, and understand, which requires not only great diligence, but great skill. In some cases, there are shades of difference fit for comment; in others, *obiter dicta*, which are to be qualified; in others, doubts thrown out upon collateral heads; in others, reasoning not altogether satisfactory. Under such circumstances, what is to be done? The advocate on the one side comments on every case, and the language of every judge, which furnishes any colour of support for his client. His arguments must be met and answered on the other side, not only because no advocate can know what the judges will decide, but what will be the influence upon their minds of a *dictum*, or doubt, or incidental remark or reason. It is indispensable, therefore, to examine the whole, though perhaps neither party doubts what the amount of authority, on the whole, supports. On one point (we believe) a learned English judge said, many years ago, that there were then more than 170 authorities. It is most probable that the number is now doubled; and yet, upon this very point, a legislative enactment of three lines might put controversy at rest for ever. Perhaps no man in or out of the legal

profession would now doubt what the rule ought to be. The difficulty is, that a rule has either been adopted which works inconveniently in particular cases, or a rule has grown out of a hasty adjudication, which subsequent judicial subtilty has been desirous of escaping from; but it is not easy to do so, without breaking in upon the acknowledged force of the rule. Hence distinctions, nice, and, perhaps, not very satisfactory, are found, as blemishes in some parts of the law, which need the legislative hand to extirpate or correct them. But it has been urged, as has been already incidentally noticed, that it is a great advantage to have law a flexible system, which will yield to the changing circumstances of society; and that a written code gives a permanence to doctrines, which would otherwise be subject to modification, so as to adapt them to the particular character of the times. This objection has been already in part answered. In respect to the common law doctrines, they cannot now be changed, whatever may be the changes of society, without some legislative enactment. They furnish a guide to all cases governed by them, until the legislature shall promulgate a new rule. Courts cannot disturb or vary them; and the question of their application to new cases is equally open, whether there be, or be not a code. The legislature can, with the same ease, vary its code as its common law. It can repeal, amend, or modify either. But another principal objection is often suggested, and that is, that all the parts of the common law are not in a state susceptible of codification; and that, as we cannot form a complete system of it, one great object of a code must fail. It may be admitted, that some parts of the common law are too imperfectly settled in principles, and too little understood in practice, to allow of any exact codification. But these parts are principally obsolete, or of rare occurrence and application in the common business of life; so that, if they admitted of being reduced to a text, it may be well doubted if they were important enough to deserve it. There are other parts, again, which have grown up in modern times, which may be admitted to be yet in an immature and forming state, in respect to which, perhaps, it were better to wait the results of experience, than to anticipate them by positive law. Conceding all this, it falls far short of establishing the inutility of a code in other departments of the common law, not open to the like objections. Because we cannot form a perfect system, does it follow that we are to do nothing? Because we cannot, without rashness, give certainty to all possible or probable details of jurisprudence, shall we leave every thing uncertain and open to controversy? England, in our own time, has consolidated the most important heads of her criminal jurisprudence, to a new and methodized text. No man can doubt, that revisions of this sort may be useful, and, indeed, indispensable for the wants and improvements of society, in its progress from one stage to another. The question of more or less is a mere matter of expediency and policy. It is not a little remarkable, that, in England, almost every change in the general structure of her laws, by positive legislation, has, in all ages, met with a similar objection and resistance, and, when once adopted, has been generally, if not universally satisfactory. But there are many branches of the common law which can, without difficulty, be reduced to a positive text. Their main principles are embodied in treatises, accurate and full, and there can be no want of learned men ready to draw an outline of them for the consideration of the legislature. Our commercial law is generally in this state. The law of bills of exchange and promissory notes, of insurance, of shipping and navigation, of

partnership, of agency and factorage, of sales, of bailments, and many kindred titles, admits of codification to a very high degree of certainty; and yet, in these branches, there is still room enough to controvert particular decisions and authorities, to make it desirable to give a positive sanction to the better doctrine, and thus to save the profession from laborious researches, and the public from expensive litigation. The ordinance of Louis XIV., on commercial law, dried up a thousand sources of disputation; and the present code of commerce of France has settled, in a positive manner, most of the questionable points, which had been found unprovided for by that ordinance, and were resigned to judicial decision in the intermediate period. Besides, a code furnishes the only safe means of incorporating qualifications upon a general principle, which experience has demonstrated to be proper and politic. Courts often lament that a principle is established in too broad terms for the public good, and yet do not feel themselves at liberty to interpose exceptions which the principle does not sanction. This article has already spread out into a great length, and must now be closed. The result of the whole view, as to codes, is, that neither the friends nor the opponents of them are wholly right in their doctrines or their projects; that, in every civilized country, much may be done to simplify the principles and practice of the law by judicious codification, and to give it uniformity and certainty; that how much ought to be done? is a question not admitting of any universal response, but is, or may be, different as to different countries, or, in different ages, as to the same country; that every code, to be useful, must act upon the existing institutions and jurisprudence, and not, generally, supersede them; that what, with reference to the customs, habits, manners, pursuits, interests, and institutions of one country, may be fit and expedient, may be wholly unfit and inexpedient for another; and that the part of true wisdom is, not so much to search out any abstract theory of universal jurisprudence, as to examine what, for each country in particular, may best promote its substantial interests, preserve its rights, protect its morals, and give permanence to its liberties.

LAW MERCHANT. See *Commercial Law*.

LAW OF EXCEPTION (in French, *loi d'exception*). When the situation of a state is so critical that the ordinary powers and laws are no longer considered sufficient, extraordinary and more energetic means are employed. The Romans had a form for such an emergency, which invested the two consuls with a greatly augmented power—"Videant consules, ne quid republica detrimenti capiat (Let the consuls see that the republic receive no injury);" and if this was not sufficient, they appointed a dictator. The remedy was often worse than the disease. Despotical governments require no laws of exception; in these the public power is always free from the restraints which are imposed upon it in constitutional states. In the latter, certain cases happen in which the power of the government must be strengthened, to be able to act with energy and promptness. In Britain, the first and most important regulation, in such an emergency, is the suspension of the *habeas corpus* act for a limited time. The government can then take into custody suspected and dangerous persons, without following the regular process of law. This suspension is not a prerogative of the crown, but can only be granted by parliament, and for a limited period, at the expiration of which all such state prisoners must be released, or subjected to a formal examination. Even then, the suspension does not protect the ministerial officers against the demands for indemnification for an unjustifiable arrest. These com-

plaints, when made against the ministers of the king, are usually comprehended in a separate act of parliament, called the *indemnity bill*, at the discussion of which in parliament, the opposition party is careful to institute a strict examination of the use which the ministers have made of their extraordinary power. A second regulation of this kind is the alien bill (see *Alien Bill*), which invests the government with a power over all foreigners dwelling in Britain, such as does not constitutionally belong to it, giving the right not only to order them out of the country at pleasure, but also to send them to any part of the continent. Bills of pains and penalties, which are admissible in single cases, constitute a sort of law of exception. Parliament maintains the right to pass such bills, which could not belong to it under a correct division of public power, and thus to punish individuals without a judicial sentence. This is to be distinguished from its proper judicial functions, by which the peers of the realm, the house of lords, act as the highest court of justice, and the house of commons comes forward as complainant (as in the case of governor Hastings). There the lords sit formally as a court of justice; a full judicial hearing is granted to the defendant, and his condemnation cannot be pronounced except by a majority of twelve voices (the number of the jury in usual cases). In these cases, the house of lords alone decides upon the motion of the commons, and wholly without the concurrence of the king, whose right to pardon is even circumscribed. But when an individual bill of attainder, or bill of penalties, is brought forward in parliament, then the introduction of the act may take place in the house of lords as well as in the house of commons; and no peculiar legal process is followed, but it depends on the pleasure of each house how the facts, upon which the summary sentence is grounded, shall be proved; and it is only from considerations of natural justice that opportunity is granted to the accused to defend himself. The sentence itself is passed by a simple majority of voices in each house, like other laws; but it must be sanctioned by both houses of parliament, and the assent of the king must be obtained, as in any other law. In fixing the punishment, also, parliament is amenable to no established rule, and the right of the king to pardon wholly ceases, if he has once given his consent. Such a process has always something very odious on the face of it, and, in point of fact, it is very rarely resorted to. Thomas Wentworth, earl of Stafford, the celebrated confidential minister of Charles I., was condemned to death by this form, and it was equally criminal and impolitic in the king to give his consent to this bill of attainder. The same process was introduced against the queen, in 1820, and, wholly independent of her guilt or innocence, this was a sufficient reason for rejecting it.

In the United States of America no such legislative power exists, either in the state or in the national legislature. It is contrary to the genius of a republican government. The constitution of the United States declares, that "No bill of attainder, or *ex post facto* law, shall be passed;" that "the privilege of the writ of *habeas corpus* shall not be suspended unless when, in cases of rebellion or invasion, the public safety requires it." So, also, except in cases of impeachment, every person accused of a capital or infamous crime, (except in the navy or army service) has a right to a trial by jury, and cannot even then be tried, unless upon a presentment or indictment by a grand jury. Such are the privileges guaranteed by the constitution of the United States. And the state constitutions generally embrace the same protective principles. There is also another principle recognised in the constitution of the United States, which is of great importance. It is the provision, that "exces-

sive bail shall not be required, nor excessive fines imposed, nor cruel and unusual punishments inflicted ;" so that, while the present republican constitutions of government exist in America, there can be no such thing as a dictatorship, or a law of exception.

In France, there was no occasion for laws of exception before 1790; the *lettres de cachet* (q. v.) answered all purposes. The parliaments, if they opposed the royal mandates, and prevented their publication, which consisted in entering them in the register of parliament, were at last brought to obedience by a royal session, or *lit de justice*, or by exile to some obscure place; or, if their resistance was obstinate, they were dissolved, as in the last years of Louis XV. But after the struggle for legal order, from want of moderation on both sides, had degenerated into a furious conflict of parties, the laws of exception were often really necessary, though often used merely as instruments of faction. We do not here refer to illegal, though perhaps necessary, measures (*coups d'état*) adopted in extraordinary cases, such as the dissolution of the legislative body on the 18th Fructidor, 1797, the abolition of the tribunate, 1807, &c. But the suspension of the constitution (even the democratical) by the committee of public safety, in 1793, and the rendering the revolutionary tribunal permanent, were genuine laws of exception. The regular administration of the laws was promised by every new government, but, down to the revolution of 1830, the promise was not fulfilled. The liberty of the press was repeatedly restrained, and the regular course of justice perverted by special tribunals. One of the most remarkable laws of exception was that of March 3, 1810, respecting the state-prisoners, by which the ancient *lettres de cachet* were again introduced in almost full force. It was required, indeed, that a warrant of the minister of justice, and a mandate of the privy council, should precede imprisonment, which was to continue no longer than a year; but a regulation, like the *Aubeas corpus* act in Britain, was wanting to enforce the performance of these conditions. Under the reign of Louis XVIII., also, numerous laws of exception were enacted, although the charter (art. 8th) declared, "The French have the right of publishing and printing their opinions, provided they conform to the laws against the abuses of the press." By repeated laws of exception, the censorship was extended not only over the political, but often even over the literary Journals. The assassination of the duke of Berry, in particular, was made the pretence for restricting the liberty of the press, for investing the ministers with authority to confine persons suspected of crimes, or of criminal designs against the king, the state, and the royal family, without a judicial process. These laws were to continue to the end of the session of 1820. The law concerning the censorship was renewed in the session of 1820, and till three months after the commencement of the session of 1821; but the law relating to the imprisonment of suspected persons was tacitly abolished. The last laws of exception in France were the famous ordinances of July, 1830, which resulted in the overthrow and expulsion of the Bourbons.

**LAW OF NATURE, and OF NATIONS.** See *National Law*, and *Natural Law*.

**LAW, JOHN**; a celebrated financial projector, was the son of a goldsmith of Edinburgh, in which city he was born in 1681. He was bred to no profession, but became versed in accounts and was employed in those of the revenue. For the purpose of remedying the deficiency of a circulating medium, he projected the establishment of a bank, with paper issues, to the amount of the value of all the lands in the kingdom; but this scheme was rejected. In

consequence of a duel, he fled from his country, and visited Venice and Genoa, from which cities he was banished, as a designing adventurer; but, at length, secured the patronage of the regent duke of Orleans, and established his bank in 1716, by royal authority. It was at first composed of 1200 shares of 3000 livres each, which soon bore a premium. This bank became the office for all public receipts, and there was annexed to it a Mississippi company, which had grants of land in Louisiana, and was expected to realise immense sums by planting and commerce. 1718, it was declared a royal bank, and the shares rose to twenty times their original value. In 1720, Law was made comptroller-general of the finances; but the shares sank in value as rapidly as they had risen. He was obliged to resign his post, after he had held it only five months, and to retire, first to a seat in the country, and then, for personal safety, to quit the kingdom. He carried with him a small portion only of the vast fortune he at one time possessed, and lived afterwards in great obscurity. After visiting Britain, Holland, Germany, and other countries, he finally settled at Venice, where he died in 1729, still occupied in vast schemes, and fully convinced of the solidity of his system, the failure of which he attributed entirely to enmity and panic. Various opinions have been entertained of the merit of his project; and by some it has been thought to have possessed feasibility, had it been carried more moderately into practice.

**LAW, WILLIAM**; a divine of the church of England, born at Kingcliffe, in Northamptonshire, in 1688, educated at Emanuel College, Cambridge, where he was elected fellow: On the accession of George I., refusing to take the oaths, he vacated his fellowship, and left the university. He then officiated as a curate in London, and as tutor to Edward Gibbon, father of the historian. Mrs Hester Gibbon, aunt of the same eminent individual, and Mrs Elizabeth Henshaw, formed a joint establishment, of which he became a member, at his native village of Kingcliffe, where he died in 1761. The Writings of Mr Law, although in many respects excellent, partake of a gloominess and severity, tinged with a mysticism and enthusiasm, that the study of the writings of Jacob Bohme did not fail to increase. The Serious Call to a Devout and Holy Life, is deemed both by doctor Johnson and Mr Gibbon, one of the most powerful works of devotion in the English language, as is also his Practical Treatise on Christianity, which abounds with satire, spirit, and knowledge of life. He also wrote some other works, and published translations of his favourite Bohme. (See his *Life*, by Tighe, and Gibbon's *Memoirs* of himself.)

**LAWRENCE, Sir THOMAS**, a distinguished English portrait painter, was born at Bristol, in 1726. His father was an inn-keeper, and the artist very early exhibited proofs of his talent for the art: he is said to have sketched portraits very successfully at his fifth year. At the age of six, he was sent to school, where he remained two years; and this, with the exception of a few lessons subsequently, in Latin and French, constituted his whole education. His father would not even permit him to be instrumental in drawing, declaring that his genius would be cramped by the restraint of rules. Young Lawrence, however, had access to the galleries of some of the neighbouring gentry, in which he employed himself in copying historical and other pieces. In 1782, his father removed to Bath, where his son was much employed in taking portraits in crayon; and, having made a copy of the Transfiguration, by Raphael, the society of arts bestowed on him their silver palette, in consequence of its merits. During six years, he was the sole support of his father and a large family. In

1787, the family removed to London, and Lawrence was admitted a student at the royal academy. His subsequent career was successful and brilliant. He was elected royal associate in 1791, and, on the death of Sir J. Reynolds, the next year, was made painter to the king. His reputation grew steadily, and he was soon considered the first portrait painter of the age in England. His scene from the Tempest was a successful attempt at historical painting; but that branch of the art receives too little encouragement in England, in comparison with that of portrait painting, to induce a successful artist, in the latter department, to cultivate the former. In 1815, he was knighted by the prince regent, who also employed him to take the likenesses of the sovereigns, and the most distinguished persons of their suite. During their visit to England, he finished the portrait of the king of Prussia, and went to Aix-la-Chapelle, several years afterwards, to paint Alexander; thence he went to Vienna, where he completed the portraits of the emperor, the archdukes, Metternich, &c., and, in Rome, painted Pius VII. and cardinal Gonsalvi. On his return to England, he was elected president of the royal academy, as successor to West. (q. v.) This office he held till his death, which occurred suddenly, Jan. 7, 1830. His portraits are striking likenesses, and display a bold and free pencil; but they are, particularly his later ones, chargeable with mannerism, and are not considered to be successful in expressing the nicer shades of character. In his drawing, there is a want of accuracy and finish. His income for the last twenty years of his life, was from £10,000 to £20,000; but he died poor, owing to his zeal to possess the first-rate productions of his art, which he purchased at any price. The personal appearance of Sir Thomas Lawrence was striking and agreeable. His countenance bore a marked resemblance to that of Canning, and he was always pleased when this resemblance was observed. He was studious in dress, and went beyond the limits of correct taste in this particular. A look of settled melancholy was always upon his features, and there was a restlessness in his manner that bespoke an unquiet spirit.

LAWRENCE, JAMES, a distinguished American naval commander, was born at Burlington, New Jersey, in 1781. He early manifested a strong predilection for the sea; but his father, who was a lawyer, was anxious that he should pursue his own profession; and, when only thirteen years of age, he commenced the study of the law; but after the death of his father, he entered the navy as a midshipman, in 1798. In 1801, the Tripoli war having commenced, he was promoted, and, in 1803, was sent out to the Mediterranean, as the first lieutenant of the schooner *Enterprise*. While there, he performed a conspicuous part in the destruction of the frigate *Philadelphia*, which had been captured by the Tripolitans. In the same year, he was invested with the temporary command of the *Enterprise*, during the bombardment of Tripoli by commodore Preble, all the ships of the squadron being employed to cover the boats during the attack; and so well did he execute his duty, that the commodore could not restrain the expression of his thanks. He remained in the Mediterranean three years, and then returned with Preble to the United States, having previously been transferred to the frigate *John Adams*, as first lieutenant. In June, 1812, war was declared between Great Britain and the United States, and Lawrence, at the time in command of the *Hornet*, a few days afterwards sailed with a squadron under the orders of commodore Rogers, for the purpose of intercepting the Jamaica fleet. They returned, however, at the end of the following month, to Boston, without having been able to accomplish their object. Lawrence then accompanied commo-

dore Bainbridge on a cruise to the East Indies; but they separated near St Salvador, on the coast of Brazil, the *Hornet* remaining there to blockade a British ship of war, laden with specie, till compelled to retire by the arrival of a seventy-four. Feb. 24, 1813, the *Hornet* fell in with the brig *Peacock*, captain Peake, which she took after a furious action of fifteen minutes. This vessel was deemed one of the finest of her class in the British navy. In the number of her men and guns, she was somewhat inferior to the *Hornet*. She sank before all the prisoners could be removed. The latter was considerably damaged in the rigging and sails, but her hull was scarcely hurt. Lawrence returned to the United States, where he was welcomed with the applause due to his conduct; but the most honourable eulogy bestowed upon him, was contained in a letter, published by the officers of the *Peacock*, expressing their gratitude for the consideration and kindness with which they had been treated. Shortly after his return, he was ordered to repair to Boston, and take command of the frigate *Chesapeake*. This he did with great regret, as the *Chesapeake* was one of the worst ships in the navy. He had been but a short time at Boston, when the British frigate *Shannon*, captain Brocke, appeared before the harbour, and defied the *Chesapeake* to combat. Lawrence did not refuse the challenge, although his ship was far from being in a condition for action; and, June 1, 1813, he sailed out of the harbour, and engaged his opponent. After the ships had exchanged several broadsides, and Lawrence had been wounded in the leg, he called his boarders, when he received a musket ball in his body. At the same time the British boarded, and after a desperate resistance, succeeded in taking possession of the ship. Almost all the officers of the *Chesapeake* were either killed or wounded. The last exclamation of Lawrence, as they were carrying him below, after the fatal wound, was, "Don't give up the ship." He lingered for four days in intense pain, and expired on the 5th of June. He was buried at Halifax, with every mark of honour.

LAWRENCE, St; a Roman deacon, and martyr, who, when his bishop, Sixtus, was led to death, cried out, "Whither dost thou go, father, without thy son?" The bishop ordered him to remain, and to take care of the treasures of the church; but he was arrested, and ordered to give up these treasures. He asked for three days' respite, during which he called together all the poor and sick, whom he showed to the satellites of the emperor, as those whose support secured treasure in heaven. The instrument of his martyrdom was a gridiron, on which he was burned to death, in 254. (See *Escorial*.) His day, in the Catholic church, is August 10.

LAWRENCE, St. This river, one of the largest in the world, is the outlet by which the waters of the great lakes Superior, Huron, Michigan, Erie, and Ontario, are poured into the ocean through the gulf of St Lawrence. In different parts of its course, it is known by different names. From the sea to lake Ontario, it is called *St Lawrence*; but the name *Catawaqui*, or *Iroquois*, is sometimes applied to the part between Montreal and lake Ontario. Between lakes Ontario and Erie, it is called *Niagara* river; between lakes Erie and St Clair, *Detroit* river; between lakes St Clair and Huron, *St Clair's* river; between lakes Huron and Superior, *St Mary's* river, or the *Narrows*, forming thus an uninterrupted connexion of upwards of 2000 miles. It is navigable for ships of the line to Quebec, about 400 miles, and to Montreal for ships of 600 tons, 580 miles. The distance from Montreal to lake Ontario is 190 or 200 miles. The tide flows up as far as Three Rivers.

Its breadth between Montreal and Quebec is from half a mile to four miles; the average breadth, about two miles. Below Quebec, it gradually widens, till it enters the gulf, where, from Cape Rosier to the Mingan settlement, on the Labrador coast, it is about 105 miles in breadth. The country through which it flows, from the lake to the gulf, is generally fertile, and much of it well cultivated, and rapidly improving; on both sides, the prospect is delightful: numerous villages, for the most part built round a handsome stone church, invite the traveller's attention, while single houses and farms appear at agreeable distances. The river in several places spreads out into large lakes, as lake St Francis, St Louis, and Deux Montagnes; and there are numerous islands, shoals, and rapids. From the beginning of December to the middle of April, the navigation is totally suspended by frost. The breaking up of the ice in the spring is described as a magnificent scene.

**LAWRENCE, ST, GULF OF**; a gulf which receives the waters of the St Lawrence, formed between the western part of Newfoundland, the eastern shores of Labrador, the eastern extremity of New Brunswick, part of Nova Scotia, and the island of Cape Breton. It communicates with the Atlantic by three passages,—on the north, by the straits of Belleisle, between Labrador and Newfoundland; on the south-east, by the passage between Cape Ray and Newfoundland; and by the gut of Canso, which divides Cape Breton from Nova Scotia. The distance from Cape Rosier to Cape Ray is seventy-nine leagues; from Nova Scotia to Labrador, 106.

**LAY** (from the Anglo-Saxon word *ley*); the name of an ancient elegiac kind of French lyric poetry, formerly much imitated by the English. The *lay* is said to have been formed on the model of the trochaic verses of the Greek and Latin tragedies. There were two sorts of *lays*; the greater, which consisted of twelve couplets of verses, in different measures; and the lesser, comprising sixteen or twenty verses. The word *lay* is now generally applied to any little melancholy song or air, and is, for the most part, used in that sense by Chaucer, Spenser, Milton, Waller, Dryden, and other classical English poets.

**LAYBACH** (in Italian, *Lubianna*; in Illyrian, *Lublana*); capital of the Austrian duchy of Carniola, the seat of the chief imperial *gubernium*, in the kingdom of Illyria, for Carniola and Carinthia, also of a prince-bishop, &c. In ancient times, it was called *Æmona*, and was a considerable city in the Vindelician Illyria. It contains, at present, 866 houses, with 11,500 inhabitants, who speak German, Italian, modern Greek, and French. The lower class speak the Illyrian-Vindelician dialect, which differs little from the Croatian and Istriian. It carries on considerable commerce with Vienna, Venice, Bavaria, Constantinople. From 1809 to 1813, it was the residence of the French governor-general of the Illyrian provinces. The city has become remarkable, of late, on account of the congress held here, from January 26, 1821, to May of the same year. In the article *Congress*, the recent congressional politics, and the consequences of the congress at Laybach, are discussed. This congress forms a conspicuous epoch in the history of politics, as it was here that the right of armed intervention (see *Intervention*) was regularly proclaimed and received into the national law of Europe. Russia, Austria, and Prussia, declared that they would never abandon these principles, but the year 1830 made some change in their policy. Britain declared (Castlereagh's letter, January 19, 1821) that it could not agree to such principles.—See Bignon's *Du Congrès de Troppau* (Paris, 1821), and the articles *Italy*, *Sicilies*, *The Two*, and *Sardinia*; see also the article *France*, *History of*.

**LAYMAN** (from the Greek *λαῖν*, people) signifies, since the third century, every person not a clergyman. —Among painters, it signifies a small statue, whose joints are so formed, that it may be put into any attitude, for the purpose of adjusting the drapery of figures.

**LAYNEZ, JAMES**, the second general of the Jesuits (q. v.), and the real founder of the policy and organisation of the society, was born at Almansara, near Sigüenza, in Castile, in 1512. He studied at Alcalá. The fame of Ignatius Loyola's religious era, and the desire of becoming acquainted with him, and at the same time, of pursuing his own studies, led Laynez to Paris, where Loyola was then residing, in order to escape the persecution of the inquisition. An intimacy was soon formed between these two zealots, and they determined to go to Turkey, and preach the gospel to the infidels. A war with the Porte defeated this plan; and, while at Venice, in 1536, they formed the project of establishing a society, the principal aim of which should be the education of the people in the doctrines of the Roman church, and the prevention of the spread of the new opinions. Laynez, more prudent, learned, refined, and detestable than Loyola, had the principal share in the formation of this plan, and his disinterestedness, his zeal, and activity, were the principal causes of the success of the new institution. After the order had been confirmed by Paul III. (1540), and Loyola, at the request of Laynez, had been appointed the first general, he made many journeys for the purpose of extending the society of the Jesuits, and exerted himself, with great activity, in the cause of the pope at the council of Trent. He refused the cardinal's hat, which was offered him by Paul IV. In 1558, he succeeded Loyola, as general of the order. In 1561, he went to France with the cardinal Ferrara, to assist him in extirpating heresy. Still we must do him the justice to say, that he was the only one at the notorious conference of Poissy, who listened at all to the voice of reason and mercy. The establishment of the Jesuits in France, although with some restrictions (see *France*), was the result of this journey. After Laynez had assisted in establishing, at the third council of Trent, the supremacy of the bishop of Rome over the other bishops, he returned to Rome, where he devoted himself to the direction and extension of his order. He died there January 19, 1565, at the age of fifty-three.

**LAZARETTO**; a public building, hospital or pest-house, for the reception of those afflicted with contagious distempers. It is more particularly applied to buildings in which quarantine is performed. See *Quarantine*, *Plague*, *Yellow Fever*.

**LAZARITES, or FATHERS OF ST LAZARUS**, in France; the priests of the mission were so called after their priory of St Lazarus, in Paris. This order, consisting of regular priests, bound by complete monastic vows, was established in 1634, for the purpose of supporting missions; but, in pagan countries, they have effected less than other orders established for the same purpose. In China, they have still a mission. In France, they survived the revolution, and, in 1816, were restored, by a royal ordinance, to their original destination, on account of their services in the care of the country people. Before July, 1830, they distinguished themselves as the most active missionaries, adherents, and reformers, in the service of the ultra-party; by means of which party, a portion of their former estates was restored to them. In Poland, where they are called *fathers of the mission*, they are most numerous, and have great influence, as teachers in the seminaries and as spiritual censors. They maintain their ancient monasteries, and the backward state of science, in that

country, is, in some measure, to be ascribed to their influence. In Spain, also, this order has flourished, though the influence of the Lazarites there has not been so great. Austria has admitted them more recently.

LAZARUS; the name of a leprous beggar mentioned in sacred history. (*Luke xvi, 20.*) The memory of a monk of this name, belonging to the ninth century, is celebrated by the Roman church (*Feb. 21*), because neither the threats nor the violence of Theophilus, emperor of Constantinople, could prevent him from painting images of the saints. The former afterwards became patron of the sick, particularly of lepers, and in Palestine was instituted the order of St Lazarus, whose members, called *knights hospitallers of St Lazarus of Jerusalem*, took care chiefly of persons afflicted with the leprosy. This disease was spread in Europe by the crusaders; and the hospitals, which, till the thirteenth century, were frequently established for lepers, received the name of *lazarettos*, which, at a later period, was extended to all hospitals. (q. v.)

LAZULITE is rarely found in perfect crystals, more often granular, or in pieces not exceeding the size of a hazel-nut. It is somewhat translucent, of a fine blue colour, of different shades; nearly as hard as quartz. Its primary form is a right rhombic prism; the direction of its cleavages has not been determined; specific gravity, 3.05. Before the blow-pipe, it intumesces a little, and assumes a glassy appearance, where the heat has been highest, but does not melt. It consists of phosphoric acid 41.81, alumine 35.73, magnesia 9.34, silice, 2.10, oxide of iron 2.64, and water 6.06. It is found in narrow veins, traversing clay-slate, with quartz, in Salzburg.

LAZZARONI; a class of persons in Naples (formerly about 40,000), without employment or home, and without any settled means of support, the greatest part of them living for the whole year, both day and night, in the streets and public places. The extreme fruitfulness of the soil, which renders subsistence very easy, the extraordinary temperance of the inhabitants, the warmth of the climate, and the indolence which it produces, have given rise to this class of men. The little which is absolutely necessary, they easily pick up, in the capacity of messengers, porters, and day-labourers, without hard work. Hence, in spite of their great number, they are extremely good-natured and peaceful, and mildly put up with insults and provocations from the other classes. In Naples is found every thing which can make such a life practicable; hence a *lazzarone* never leaves the city without the most pressing necessity. The desire of property and of more of the comforts of life, with more industrious habits, was first introduced among these people in modern times, under the reign of Joseph Bonaparte, when they were employed in making excavations, &c., and received part of their pay in domestic utensils and furniture, that they might become accustomed to a home. They were also collected in villages, where it was intended to educate their children. The police regulations of king Joachim (Murat) also contributed to improve their condition. The *lazzaroni* consisted at first principally of sick persons from the lowest class, who, after leaving the hospitals, retained their wretched clothes, and were hence called *lazzaroni*, as being under the protection of St Lazarus.

LEAD is a metal very anciently known; it is often mentioned by Moses. Its alchemical name was *Saturans*. It has a bluish-gray colour, and, when recently cut, a strong metallic lustre; but it soon tarnishes from exposure to the air; specific gravity, 11.358. It is soft, flexible, and inelastic. It is malleable and ductile. In tenacity, it is inferior to all

ductile metals. It soils paper and the fingers, imparts a slight taste, and emits, by friction, a peculiar smell. It is a good conductor of heat, melts at 612° Fahr., and, when cooled, slowly crystallizes in quadrangular pyramids. It is but slowly affected by the atmosphere at common temperatures; but, when maintained in a state of fusion, it absorbs oxygen rapidly, and is converted into a dull-gray dross or powder. When this dross is heated to a low ignition, it becomes of a dull-yellow colour, and is called *common massicot*; and, by a higher heat and longer exposure to the air, it assumes a deeper yellow, and is then called *massicot*. This is the *protoxide of lead*, and consists, in 112 parts, of 104 lead and eight oxygen. It is insoluble in water, melts at ignition, and is unchanged by heat in close vessels. When it contains about four per cent. of carbonic acid, it is called *litharge*. It unites with acids, and is the base of all the salts of the lead. If the protoxide, or metallic lead, be subjected, during forty-eight hours, to the heat of a reverberatory furnace, it passes to the condition of red oxide, or what is commonly called *minium*, or *red lead*. This is regarded by doctor Thomson as a mixture of the protoxide and deutoxide of lead. After the protoxide is separated by acetic acid, the *deutoxide*, of a dark red colour, remains. Its composition is, in 116 parts, 104 lead and 12 oxygen. The *peroxide of lead* is formed by passing chlorine gas through a solution of acetate of lead. Its colour is brown. Heated moderately, especially with the addition of sulphuric acid, it gives out oxygen, and becomes deutoxide, and at a cherry-red heat it passes to the state of the protoxide: 120 parts contain 104 of lead. Lead forms a compound with chlorine, as it is supposed at present, in the ratio of 104 of the former to thirty-six of the latter. The union is effected by exposing the metal in thin plates to the action of chlorine gas, or, more easily, by adding muriatic acid, or a solution of common salt, to the acetate or nitrate of lead dissolved in water. This *chloride* fuses at a temperature below redness, and forms, as it cools, a semi-transparent, horny mass, sometimes called *horn lead*, or *plumbum corneum*. It bears a full red heat in close vessels without subliming. The pigment called *mineral*, or *patent yellow* (also, *fused sub muriate of lead*), is a compound of the chloride and protoxide of lead. It is prepared for the purposes of the arts by the action of moistened sea-salt on litharge, by which means a portion of the protoxide is converted into chloride of lead. It is a paint little used, however, in consequence of the preference given to the chrome yellow. An *iodide of lead* is easily formed by mingling a solution of hydriodic acid, or hydriodate of potassa, with the acetate or nitrate of lead dissolved in water. It is of a rich yellow colour, and is deposited from boiling water on cooling, in crystalline grains of a brilliant lustre. Lead combines with sulphuric phosphorus. The *sulphuret* may be made by simply heating lead and sulphur together, or by the action of sulphureted hydrogen on a salt of lead. It is an abundant natural product, and is known under the name of *galena* in mineralogy. The *phosphuret of lead* is formed by dropping phosphorus into melted lead contained in a crucible, or by heating equal parts of lead filings and phosphoric glass with one-eighth of charcoal powder. It breaks into *laminae*, and is composed of 88 lead, and 12 phosphorus. As respects the *uses* of metallic lead and the oxides, it is well known that the former is much employed in the arts, particularly for buildings and cisterns. For the first of these uses it has many advantages. It is easily worked into any shape, on account of its great softness, and is sufficiently malleable to fold two edges over each

other, so as to make it water tight, without soldering. This is a very great advantage; since, when pieces are soldered together, the expansion and contraction, by a change of temperature, soon cause a rupture. Although it is in very general use for water cisterns, pumps, and pipes for conveying water, serious objections have, from time to time, been urged against its employment for this purpose. Doctor Christison has found that, in pure water, it is oxidised with considerable rapidity, carbonate of lead being formed by the action of the oxygen and carbonic acid of the air. But if the water, as is the case with the majority of springs, contains a small proportion of saline matter, especially if a sulphate be present, which never fails to precipitate lead from any of its solutions, the liability of the water to be prejudiced by the lead is very small. And in other cases, there can be no danger in delivering water through aqueducts of lead, provided they are constantly kept full of water, so as always to exclude the air. Great mischief has been produced by the use of lead in dairies. If the milk runs into the slightest acidity, some lead will be dissolved, and injurious consequences will follow if it is taken into the stomach. In the granulation of lead for shot, a small portion of arsenic is added. The proportion is about two per cent. of the white or yellow arsenic. The compound is heated red-hot for three hours in an iron pot, protected by a tight cover, when the contents are let fall into a reservoir of water, from a height of ten to 150 feet, as the shot are to be coarser or finer. One part of tin and two of lead form an alloy fusible at 350° Fahr., which is used by tinmen under the name of *soft solder*. Lead also forms an imperfect alloy with copper. The metal used for common brass-cocks is an alloy of these two metals. The union of these two metals, however, is exceedingly slight; for, upon exposing the alloy to a heat no greater than that in which lead melts, the lead almost entirely runs off of itself. This process is called *eliquation*. Of the *oxides*, the mixture of the protoxide and deutoxide, which forms the red-lead, is of considerable importance as a pigment. Its manufacture in Germany is conducted as follows: 180 pounds of lead are calcined for eight hours upon the hearth of a cupola furnace, and, being constantly stirred, it is then left in the furnace for sixteen hours, and only stirred at intervals. This calcined lead, or massicot, is ground in a mill with water, washed on tables, and, being dried, is put into stone pots, of such a size, that thirty-two pounds fill them somewhat more than one quarter full. Several of these pots are laid horizontally in the colour furnace, so that the flame may go quite round them, and a piece of brick is put before the opening of each pot. A fire is kept up in this furnace for about forty-eight hours, and the matter in the pots stirred every half hour. The process being over, the red-lead is passed through a sieve. In this operation, 100 pounds of lead generally increase ten pounds in weight. Red-lead is also made from litharge, by heating it in pots in a reverberatory furnace. The *salts of lead* have the protoxide, as has before been remarked, for their base, and are readily distinguished by the following general characters:—1. The salts which dissolve in water usually give colourless solutions, which have an astringent, sweetish taste; 2. placed on charcoal, they all yield, by the blow-pipe, a button of lead; 3. ferroproussiate of potash occasions in their solutions a white precipitate; 4. sulphureted hydrogen and hydrosulphurets produce a black precipitate; 5. a plate of zinc a white precipitate, or metallic leaf. Most of the acids attack lead. The sulphuric does not act upon it, unless it be concentrated and boiling. Sulphurous acid gas escapes during this

process, and the acid is decomposed. When the distillation is carried on to dryness, a saline white mass is produced, a small portion of which is soluble in water, and is the *sulphate of lead*; it affords crystals. The residue of the white mass is an insoluble sulphate of lead. It consists of 5 acid and 14 protoxide of lead. Nitric acid acts strongly on lead. The *nitrate* solution yields by evaporation tetrahedral crystals, which are white, opaque, and of a specific gravity of 4. They consist of 6.75 acid, and 14 protoxide. A *subnitrate* may be formed by boiling in water equal weights of the nitrate and protoxide; also by boiling a solution of 10 parts of the nitrate on 7.8 of metallic lead. Acetic acid dissolves lead and its oxides; though probably the access of air may be necessary to the solution of the metal itself by this acid. *White lead*, or *ceruse* (see *Ceruse*), is made by rolling leaden plates spirally up, so as to leave the space of about an inch between each coil, and placing them vertically in earthen pots, at the bottom of which is some good vinegar. The pots are covered, and exposed for a length of time to a gentle heat in a sand-bath, or by bedding them in dung. The vapour of the vinegar, assisted by the tendency of the lead to combine with the oxygen which is present, corrodes the lead, and converts the external portion into a white substance, which comes off in flakes when the lead is uncoiled. The plates are thus treated repeatedly, until they are corroded through. Ceruse is the only white used in oil paintings. Commonly, it is adulterated with a mixture of chalk in the shops. It may be dissolved without difficulty in the acetic acid, and affords a crystallisable salt, called *sugar of lead*, from its sweet taste. This, like all the preparations of lead, is a deadly poison. The common sugar of lead is an acetate; and *Goulard's extract*, made by boiling litharge in vinegar, a *subacetate*. The power of this salt, as a coagulator of mucus, is superior to that of the other. If a plate of zinc be suspended, by a thread, in a solution of acetate of lead, the lead will be revived, and form an *arbor Saturni*. The acetate, or sugar of lead, is usually crystallized in needles, which have a silky appearance. They are flat, four-sided prisms, with dihedral summits; specific gravity, 2.345. It is soluble in  $3\frac{1}{2}$  times its weight of cold water, and in somewhat less of boiling water. Its constituents are 26.96 acid, 58.71 base, and 14.33 water. Acetate and subacetate of lead in solution have been used as external applications to inflamed surfaces, scrofulous sores, and as eyewashes. In some extreme cases of hemorrhage from the lungs and bowels, the former salt has been prescribed, but rarely, and in minute doses, as a corrugant or astringent. The colic of the painters shows the very deleterious operation of this metal when introduced into the system in the minutest quantities at a time. A course of sulphureted hydrogen waters, laxatives, of which sulphur, castor-oil, Epsom salts, or calomel, should be preferred, a mercurial course, the hot sea-bath, and electricity, are the appropriate remedies. Douches in wines have occasionally sweetened their acid when with litharge, or its salts. This nefarious adulteration is at once detected by the use of sulphureted hydrogen water, which will throw down the lead in the state of a dark brown sulphuret. Burgundy wine, and all such as contain tartar, will not hold lead in solution, in consequence of the insolubility of the tartrate. The proper counter-poison for a dangerous dose of sugar of lead is solution of Epsom or Glauber salt, liberally swallowed; either of which medicines instantly converts the poisonous acetate of lead into the inert sulphate. Sugar has been found to neutralise the poisonous action of acetate of lead, and therefore is an excellent antidote to it.

We proceed now to speak of the *ores* of this metal, and the method of their reduction.

1. There exists but a single ore of lead which ever occurs in sufficient quantity by itself to justify its exploration;—that ore is the *Sulphuret*. (See *Galenæ*.) It not unfrequently happens, however, that the veins and beds of this species embrace a variety of other ores of lead dispersed through them, which, being mingled with the sulphuret, materially augment the yield of that ore, and which, therefore, require to be noticed, not merely as objects of natural history, but as of value to the miner, who, from their often unpromising aspect, is liable to overlook them among the refuse matters of the mine. In addition to what has already been said of the sulphuret under the article *Galenæ*, we give here a simple mode of assaying a small portion of this ore. Separate fifty *grammes* of it as perfectly as possible from the engaging rock, or *gangue*; pulverise it, and, mingling it with 12·5 *grammes* of iron in small pieces (small tacks, for example), introduce the mixture into a Hessian crucible, which, being placed within a second one, is to be exposed to the heat of a wind-furnace, or of an ordinary forge, during fifteen minutes; it is then removed, suffered to cool, and broken: a button of lead occupies the bottom of the crucible, which on being weighed, makes known the richness of the ore.

2. *Carbonate of Lead*, or *White Lead Ore*, so called from its prevailing colour, like all the salts of lead, is perfectly unmetallic in its appearance, and is not unfrequently rejected from among common lead ore, as an earthy mineral. It is both crystallized and massive. The crystals are very oblique four-sided prisms, six-sided prisms variously terminated, acute, double six-sided pyramids, tabular crystals, and twin and macle crystals. They cleave parallel to the sides of a right rhombic prism of  $117^{\circ}$  and  $63^{\circ}$ , which is the primitive form of the species. Lustre adamantine; hardness equal to that of calcareous spar; brittle; specific gravity, 6·26. It dissolves with effervescence in muriatic and nitric acids, yields a metallic globule on charcoal before the blow-pipe, and is composed of oxide of lead 82, carbonic acid 16, and water 2. This species often occurs massive, and intermingled with earth and metallic oxides, and is sometimes tarnished and blackened, so as to be with difficulty recognised. It occurs in veins in primitive and secondary countries, accompanying *galenæ* and other ores of lead. It is pretty abundant in European countries but has been found very sparingly in the United States.

3. *Sulphate of Lead*. Its principal crystallizations are an oblique four-sided prism, variously bevelled or truncated, and a broad, rectangular, four-sided pyramid. It admits of cleavage parallel to the planes of a right rhombic prism of  $103^{\circ} 42'$  and  $76^{\circ} 18'$ , its primitive form; lustre shining, adamantine; fracture conchoidal; translucent; hardness that of calcareous spar; streak white; brittle; specific gravity, 6·3. It decrepitates before the blow-pipe, then melts, and is soon reduced to the metallic state. Its constituents are, oxide of lead 70·5, sulphuric acid 25·75, water 2·25. It occurs not very plentifully, in the Harz, Spain, England, and Scotland.

4. Mr Brooke has described within the few last years, three other varieties of lead ore; one of which consists of 46·9 of carbonate and 53·1 of sulphate of lead; another of 55·8 of sulphate, 32·8 of carbonate of lead, and 11·4 of carbonate of copper; the remaining one of 74·4 sulphate of lead, 18 oxide of copper, and 4·7 of water. These will, doubtless, constitute distinct species.

5. *Chromate of Lead* is of a deep orange-red colour; when pulverized, orange-yellow. It occurs crystal-

lized and massive; cleaves parallel to all the planes of an oblique rhombic prism of about  $93^{\circ} 30'$  and  $86^{\circ} 30'$ . The cross fracture is uneven, passing into conchoidal, with a splendid lustre. It is sometimes translucent; brittle; specific gravity, 6. When exposed to the blow-pipe, it crackles and melts into a grayish slag. It consists of oxide of lead 63·93, chromic acid 36·40. It has hitherto been found only in Siberia, where it occurs in a vein traversing gneiss and mica slate in the gold mine of Beresof, and in a sand-stone near the same place.

6. *Molybdate of Lead* occurs crystallized in obtuse octahedrons, variously modified, and in tabular crystals. It cleaves parallel to the sides of a right square prism, its primary form; colour wax or honey-yellow; lustre resinous; translucent; hardness below that of calcareous spar; brittle; fracture uneven, passing into conchoidal; specific gravity, 5·09. Before the blow-pipe, it decrepitates; on charcoal, it fuses into a dark-gray mass, in which globules of reduced lead are visible. It consists of 58·4 oxide of lead 38 molybdic acid, and 2·08 oxide of iron. It occurs principally at Bleiberg in Carinthia, with other ores of lead.

7. *Phosphate of Lead* occurs crystallized in the form of a six-sided prism, generally modified on the edges; and, as it cleaves parallel to the sides of the hexagonal prism, that figure is regarded as its primary form; colour, shades of green and yellow; translucent; lustre resinous; fracture imperfect, conchoidal, uneven; brittle; hardness equal to that of calcareous spar. Besides occurring in distinct crystals, it assumes globular, reniform, botryoidal and fruticose shapes. Before the blow-pipe, it melts by itself upon charcoal, and the bead exhibits, in cooling, crystalline facets. It consists of oxide of lead 78·58, phosphoric acid 19·73. In some varieties of this species, arsenic acid is substituted for phosphoric acid. Phosphate of lead is found accompanying the common ores of lead, though rarely in any considerable quantity. Finely crystallized varieties are found at Příbram in Bohemia, at Huelgoet in Brittany, at Lead-hills in Scotland, and at Cornwall in England. In America it occurs at the lead mine near Freyberg in Maine.

Such are the ores of lead, all of which, with the exception of the chromate, are more or less employed in furnishing the lead of commerce; but the salts, as has been remarked above, in very limited quantity, compared with the sulphuret. As the principal thing in the metallurgic treatment of these ores, is to expel the sulphur, after picking and pulverisation, they are roasted either in the open air, or in reverberatory furnaces. During this operation, the sulphur volatilizes, and the lead, reduced to the metallic state, or to that of an oxide, runs into the basin, or crucible of the furnace, where it is deoxidized by being maintained in contact with ignited charcoal. Thus, by this method, which is that generally adopted, the sulphuret passes at first to the state of an oxide in the reverberatory furnace, afterwards is converted principally into the metallic state, and the remainder is passed into other furnaces, where a renewed heating with charcoal compels it to give up its oxygen, and to assume the condition of perfectly metallic lead. There is another mode of treatment practised in Germany and France to a considerable extent. It consists in presenting to the sulphur of the ore a substance with which it has a more powerful affinity than with the lead; this substance is iron. The workmen commence by melting the ore in a reverberatory furnace of small size, and when the bath is full, they throw in twenty-eight per cent. of old iron. In a little time, the sulphur passes from the lead to the iron, leaving the former metal free, which occupies the bottom of the basin. By this means, the

same quantity of ore is reduced as in the first described process, with the advantage, too, of a considerable saving of time, and with one-half of the labour; but it is attended with the complete loss of the iron, which, in some districts, however, is so cheap as to be of no consideration. Britain produces about half the lead of Europe; the Harts, Austria, Prussia and their dependencies nearly all the remainder. The lead mine of Galena, in Illinois, yielded, in 1829, about 6000 tons of lead.

It is pretty certain that both lead and tin were employed, in extremely remote ages, in the fabrication of arms, and, above all, in the ornamental parts of them. Homer also alludes to the practice of putting leaden balls at the end of fishing-lines. The custom of writing on lead mounts also into very great antiquity. Frontinus and Dio Cassius assure us, that the consul Hirtius, besieged in Modena, wrote upon a leaf of lead, respecting his situation, to Decius Brutus, who replied by the same means. Pausanias speaks of certain books of Hesiod written upon sheets of lead; and, if we may believe Pliny, even public acts were consigned to volumes or leaves of the same material. The poets make frequent allusion to leaden coins. Ficorini, in his *Piombi Antichi*, has collected and represented a vast number of monuments of this kind. Caylus conceived them to be all Roman; and thus, according to that writer, those even which represent Egyptian divinities, or are inscribed with Greek characters, are yet to be referred to the times of the Roman emperors. Statues of lead are very rare.

*Lead*; an instrument for discovering the depth of water. It is composed of a large piece of lead, from seven to eleven pounds in weight, and is attached by means of a strap, to a long line, called the *lead-line*, which is marked at certain distances, to ascertain the fathoms.

*To heave the lead*, is to throw it into the sea in a manner calculated to produce the desired effect.

*Deep-sea lead*; a lead of a larger size, being from twenty-five to thirty pounds weight, and attached to a much longer line than the former, which is called a *hand-lead*.

**LEENA**; an Athenian *hetæra* (q. v.), mistress of Aristogiton. Being privy to the conspiracy of Harmodius and Aristogiton against the Pisistratide, when examined on the subject, she bit off her tongue, that she might not be able to speak. A statue was erected by the side of those of the tyrannicides, in honour of her, representing a lioness without a tongue, by the side of which was an image of Venus, whose priestess she was.

**LEAF**. As it is impossible to give an entirely satisfactory definition of what is meant by the word *plant*, or *animal*, so it has equally defied the exertions of naturalists to give a distinct definition of *leaf*. Leaves are the part of the vegetable world in which vegetable life manifests itself most strongly. Light and air, which so essentially influence the vegetable kingdom, act chiefly on the leaves; and, in relation to the air, leaves have been compared to the animal organs of respiration—to lungs placed externally. They are also organs of nutrition, particularly on the lower surface. The same formation which prevails in the trunk, branches, and roots, has been recognised in leaves, only that what in the former is annular and concentric, in the latter is spread out over an extended plane surface. The spiral vessels and sap vessels, which are observable in the leaf-stalk, are also partly to be traced in the leaf, and form the nerves and veins, which may be considered as the skeleton of the leaf. The spaces between them are filled with a cellular substance, covered by a soft, yet firm cuticle. The cellular substance and the cuticle are different

on the upper and the lower surfaces; and, however various the form of the leaves, much conformity always exists in this respect, and is intimately connected with the life of the plant. The cellular substance is particularly filled with sap, generally of a green colour. The cells of the upper surface are commonly disposed lengthwise; those of the lower surface, breadthwise; both commonly destitute of sap. The pores, which are generally only on the lower surface (except in plants whose leaves lie on the water, or close on the ground), serve to transmit the air to the internal parts of the plant; but in some plants they are not discernible, even in some of the more perfect kinds, particularly if the sap is not green. The leaf changes whatever passes through it into the plant from without, or from the plant; and so essential is the influence of light upon vegetable life, that the gaseous substances given out by plants, in the sun, or in the shade, or by night, are chemically different. Sound and green leaves, in the sun, exhale oxygen and absorb carbonic acid gas; but by night, or in the dark, they give out carbonic acid gas, and absorb oxygen from the air: sickly plants, and those whose leaves are not green, do this in the sun. The green colour, the almost universal hue of plants, is so intimately connected with light, that young plants do not begin to assume this colour until they come into the light. The importance of leaves to plants is shown by the fact that no plant can grow nor form blossoms, nor fruits, if deprived of leaves. When fruit has arrived at a certain degree of maturity, it may, indeed, be ripened more rapidly by depriving the plant of its foliage; but this only proves a diseased state. The fine hairs with which leaves are covered, and which sometimes become bristles, contribute considerably to the exhalation and absorption of air and moisture; so that a plant often owes its nourishment to the atmosphere more than to the ground; and many plants exhale much more aqueous matter than, on the highest estimation, they can receive from the ground. The leaves, moreover, have often an important part in the secretion of oil or other substances. There are whole orders of plants, consisting almost entirely of leaves, as certain mosses, heaths, and others, in which the leaf grows place almost entirely to the stem, so that an intermediate formation between the two is presented, as in the *cactus*, *euphorbia*, *staphis*, &c. In many cases, the leaf proceeds only from the joints of the stem, as in the grasses; and, in this case, it retains much of the nature of the stem. No part of the plant is capable of such an immense variety of forms as the leaf, the description of which would exceed our limits. The leaves form an important characteristic in the subdivision of plants. They are divided into simple and compound, the latter class consisting of those in which several leaves are supported on one footstalk, and their various subdivisions are formed on the foot 1. of the apex; 2. of the base; 3. of the circumference; 4. of the margin; 5. of the surface; 6. on their position; 7. their substance; 8. their situation and position; 9. their insertion; 10. their direction. The *lobe* of a leaf is the segment around the apex.

We will add here some interesting terms of a memoir on the structure of leaves, read quite lately by M. Adolphus Brongniart, before the academy of sciences at Paris. The author states that the leaves of plants that live in the air have a totally different structure from those that are completely submerged, and that this difference in the structure of organs is in direct relation to the two principal functions of leaves—respiration and transpiration. In leaves exposed to the air, the surface of the leaf is covered by an epidermis of uncertain thickness, formed of one or more layers of colourless cells, com-

packed together. This membrane is pierced with the pores usually known by the name of *stomata*. The doubts that have been entertained of the existence of perforations in these stomata, M. Brongniart thinks he has removed, and that it is certain that, in the centre of each stoma, is an opening by which the outer air communicates with the parenchyma. The parenchyma is evidently the seat of respiration; for it is the part that changes colour in exercising this function, which becomes green by the absorption of the carbon of the carbonic acid of the atmosphere, and which is discoloured again, in darkness, by the combination of the carbon of its juices with the oxygen of the air. This parenchyma differs entirely from that of other organs, by the numerous irregular cavities that it contains, which communicate with each other and the outer air by means of the openings of the stomata. It is into these cavities, in the cavernous parenchyma of aerial leaves, that the atmospheric air penetrates, when it is absorbed by the surface of the utricles of the parenchyma, that are distended with the fluids which seem to nourish the plant. According to M. Brongniart, aquatic leaves, if submerged, differ in being completely destitute of epidermis. It is not alone stomata that they want, as has long been known, but the epidermis also. There are none of the cavities that abound in the parenchyma of aerial leaves, but, on the contrary, the cellules of the tissue are compactly fastened together, without any interstice, and the air, dissolved in the water, can only act on their outer surface. For this reason, the proportion borne by this surface to the whole mass of the leaf, is unusually great. The leaves, from want of epidermis, dry up quickly when exposed to the air, and can only exist in water, or a very humid atmosphere. Hence the author concludes that the epidermis is destined to protect aerial leaves against too rapid evaporation, and the stomata, or pores, of this epidermis become necessary to maintain a communication between the atmosphere and the parenchyma.

LEAGUE; a measure of length, containing more or fewer geometrical paces, according to the different usages and customs of countries. A sea league contains 3000 geometrical paces, or three English miles. The French league sometimes contains the same measure, and in some parts of France, it consists of 3500 paces. The mean or common league consists of 2400 paces, and the little league of 2000. Twenty common Spanish leagues make a degree, or 69; English statute miles. The German league (*meile*) contains four English geographical miles. The Persian league is also equal to four such miles, pretty near to what Herodotus calls the length of the Persian *parasang*, which contains thirty *stadia*, eight of which make a mile. See *Mile*.

LEAGUE. Those political connexions which have been called *alliances*, since the French language has become the fashionable language of Europe, were denoted, during the prevalence of Spanish and Italian influence, from 1500 to 1650, by the term *league* (from the Spanish word *liga*). To some alliances this term is more distinctly applied. Among these are the league of Cambrai, formed, in 1508, between Louis XII., king of France, the German emperor Maximilian, and Ferdinand of Spain, for the purpose of humbling the republic of Venice, and which was joined, in 1509, by pope Julius II. This league was dissolved in 1510, as many similar ones have been, in consequence of mutual distrust, and was succeeded by the *liga santa*, or holy league, between the pope, Maximilian, Ferdinand, and Venice. The object of this was to compel Louis XII., whose allies had now become his enemies, to renounce his conquests in Italy; which object was

gained. This was the first example of a holy league, which name was derived from the participation of the pope. Thirty years afterwards, a holy league was formed in Germany. For when the principal Protestant princes in Germany united, in 1536, to form the union of Smalkalden, in order to protect their common faith, and withstand the emperor Charles V., the Catholic princes assembled at Nuremberg, in 1538, to take measures for the support of their own faith, and to oppose the designs of the Protestant princes; and, as their league had the protection of the Catholic church for its object, they termed it the *holy league*. A fourth league, also, called the *Catholic*, was formed by Henry, duke of Guise, in 1576, against Henry III. of France. Its ostensible object was the support of the Catholic religion; but the duke of Guise had further views of his own. As Henry III. was without male heirs, the throne, at his death, would pass to the Protestant prince Henry of Navarre; to exclude whom, and to obtain the throne for himself, were the real objects of the duke of Guise. His great popularity seemed to render the accomplishment of his design easy. The example given by Paris in his favour was followed by all the provinces. The league was sanctioned by the pope and the king of Spain. In 1588, the duke of Guise was murdered at Blois, with his brother Louis, the cardinal, at the king's instigation. The league then declared the throne vacant, and named the third brother, Charles, duke of Mayenne, governor-general of the kingdom. Henry III. now sought relief in the camp of his former enemy, Henry of Navarre. He was there assassinated in 1589. The war was then pursued by the league against Henry of Navarre, till it was ended, in 1594, by his uniting himself to the Catholic church; and the next year the league was dissolved.

We find a fifth league, in Germany, in the seventeenth century, also termed *Catholic*. The peace of 1555 had not sufficiently restrained the Protestants, and had taken too much from the Catholics. Both parties regarded each other with distrust. The one was accused of encroachments; the other, of unreasonable pretensions. As Henry IV. of France was ready to support the Protestant princes in any manner, for the purpose of humbling the house of Austria, these princes, excited by the injuries inflicted upon the Protestant town of Donauwerth, assembled in 1608, to form a union for their protection. The Catholic princes now took the same steps as after the union of Smalkalden: their association (1610) was also hastened by the disputes respecting the succession of Juliers-Cleves. The principal German princes laid claim to the possessions of John William, duke of Juliers-Cleves-Berg, &c., who had died in 1609, without heirs. Henry IV. supported the Protestant princes: a league was therefore formed, by the Catholic princes, at Wurtzburg, in 1610, at the head of which was Maximilian, duke of Bavaria. The unexpected death of Henry IV. prevented their coming at once to action; but the union and the league kept up a vigilant opposition to each other till the breaking out of the thirty years' war. The head of the union, Frederic, elector-palatine, became king of Bohemia; and then the two parties took the field. An accommodation was at last effected at Ulm, on the 3d July, 1620, by means of the united French, Spanish, Austrian, and the Bavarian influence, in which the union gave up the Bohemian cause, and, after the imperial arms had become victorious in Bohemia, the union was wholly dissolved in 1621. The designs of the Catholics were so well supported by the duke of Bavaria, and his general Tilly, at the head of the troops of the

league, that nothing but the interference of Gustavus Adolphus saved the Protestant princes.

LEAGUE OF THE PRINCES. See *Confederation of the Princes*.

LEANDER. See *Hero*.

LEASE. A lease is a demise of lands or tenements, or permission to occupy them for life, or a certain number of years, or during the pleasure of the parties making the contract. The party letting the lands or tenements is called the *lessor*; the party to whom they are let, the *lessee*; and the compensation or consideration for the lease, the *rent*. There is a great difference in the habits and usages of different communities, as to the modes of occupying lands, and the usual interest and title of the occupants. A great part of the cultivated territory of Europe is occupied by lessees, and rents constitute an immense proportion of the income of persons living upon profits, as distinguished from those who depend partly or wholly upon the fruits of their own labour; so that, in all economical speculations in Europe, in regard to agriculture and the profits of lands and tenements, as distinguished from other species of property and income, the lands are always spoken of as being occupied by lease-holders; whereas, in America, though the tenements in the large towns are usually occupied by lease, and, in the country, many farms are cultivated by those who have only a temporary interest in the soil, yet a great part of the territory is in the possession and occupancy of the proprietors. The general habit and prejudice is in favour of the occupant possessing the fee, and if his capital is not adequate to an independent and unincumbered ownership, he generally prefers to purchase, though he mortgages the land as security for the purchase-money, rather than to hire. This mode of occupying would seem to excite a much more general disposition towards permanent improvements, since the person making them has not only in view the immediate advantage of the increase of products, but also the remote advantage of the increase of the value of the estate. Where leases prevail, however, it is the policy of the proprietors, as well as tenants, to extend the terms to long periods, and thus to give the parties a joint interest in improvements. The state of agriculture, in many parts of Europe, where the system of leases prevails, shows that this system is not so unfriendly to improvements in cultivation as to prevent agriculture from being brought to great perfection under it. But still, all things else being equal, it is quite evident that the proprietor himself will have the strongest motives to a mode of cultivation which adds to the permanent value and productiveness of the soil. It does not, however, follow, that occupancy and cultivation by proprietors are, on the whole, to be preferred, in all possible states of the arts, population, and wealth of a community. The prevailing occupancy by proprietors has the necessary effect of dividing the territory into small farms; the preference of one system or the other will, therefore, depend partly upon the kind of production carried on; for there is no doubt that some species of cultivation can be conducted more effectually, and so as to yield the greatest aggregate of products, if they are conducted on a large scale. In all kinds of industry, whether agricultural, commercial, or manufacturing, a great saving may be made, and greater results produced by the same labour, by combining the operatives in a large system. This is undoubtedly promoted by the system of leaseholds, since the wealthy are thereby induced to invest their capital in lands, as the safest property, and yielding the most secure income. The result will be, that the territory will be owned and leased in large tracts. This is the reason why the

leasehold system, instead of checking the progress of agriculture, probably, on the whole, contributes to it, notwithstanding the fact that a lessee, though for a long term, has less interest in increasing the permanent productiveness and value of the soil, than the proprietor himself. There is, however, one advantage in the leasehold system, and a corresponding advantage in small proprietaries, as the former creates a population of mere labourers, called *cottagers* in England, and *peasants* in the rest of Europe, who, in general, depend wholly upon their wages for subsistence, and who naturally become very numerous in proportion to the demand for their labour, as by their competition for employment, their wages become reduced to the means of a bare subsistence. The labour in which they are employed is the rude and requires the least skill and previous instruction of all the different species, excepting, perhaps, fishing. The consequence is, the raising a great population, of a rude, uncultivated character, with property, and with very little self-respect or consideration with the rest of the community, and finally become detached from the rest of the state and have no avenue of escape from their low condition, so that all generous emulation and enterprise die away from among them. It is true, this class is not usually a restless, turbulent, or dangerous part of the community; and it is common, perhaps, to those who do not happen to fall within it. But those who desire to see human nature only in a condition of existence admitting of moral and intellectual culture, and whose philanthropy makes them wish that the whole population may partake of the general mass of intelligence, knowledge, and accomplishments, as equally as is practicable, prefer that no such class should exist as a body, for precisely the same reason that they do not wish to see any part of the population reduced to servitude. A division of the territory into proprietaries, and a consequent infusion, through mass, of a desire of saving, and of possessing something, and the stimulus afforded to enterprise opening to every individual, even the lowest, to the next higher class, excites an independent spirit, an energy and activity, whereby the character of the people is elevated. But whatever may be abstractly, most desirable, the condition of the lower members of the community is governed, to a great degree, by the operation of economical influences of which cannot be controlled. The power to lease will necessarily depend upon the extent of the lessor's estate in the land or tenement to be leased. A proprietor who has only a life can, of course, lease his property only during his life. This is the case with a great part of the estates of Europe, the very object of entailment and other limitations, being to secure the property, alienation, and against incumbrances to the person of the heir or successor to the inheritance; and if the incumbent could not make a lease for any time, it would be a great abridgment of the power of the estate to himself, as well as to his heirs. The laws, therefore, provide, that certain parts of estates for life may lease, on certain terms, time not exceeding a certain period, as twenty or forty years. The English common law makes a distinction as to the dignity of leasehold estates, in many cases, does not correspond to their relative value and importance, the manner that a life-estate, being a freehold, is granted of more dignity, than a lease for ever or for years, as a hundred or a thousand. A freehold real estate; whereas a lease is but a chattel interest, though the term may be longer than the longest lease. The laws prescribe certain forms for the conveyance

of real estate, requiring it to be by deed. These regulations extend also to leaseholds, usually requiring that a lease for more than a certain number of years, as three or seven, shall be in writing. A mere oral lease is binding for a shorter period; and when there is no specified period of occupancy, the term is understood to be determined either by the agreement for the payment of rent, as a tenement, held on condition of paying a monthly rent, is understood to be let for the term of a month at a time, or it is determined by the nature of the estate leased, as a farm is in a mere verbal lease, understood to be let for one year, this being the shortest time for which it is supposed the parties would intend to contract. So it is held in England, and probably the same rule is law in the United States, though the decisions in some of the states seem to imply, that the letting is also, in this case, determined by the period of payment of rent. But it can hardly be presumed that the parties could intend that the tenant should plough, and plant, and pay rent, and then quit. Leases usually stipulate that, in case of failure to pay rent, the lessor may enter and expel the tenant. As to notice to quit, if the lease be for a certain time, no notice to quit at its expiration is necessary; but if the tenancy be at will, or by sufferance, it can be determined by either party only at the end of the term for which the contract is construed to run; and the party intending to terminate it at the end of any term, is bound to give previous notice of such intention. The general rule, in this respect, is that of reasonable notice; but what is reasonable is subject to diverse interpretation. Though a lease is terminated, yet the tenant may enter afterwards, to harvest the crops of the fields planted by him before the expiration of his lease. The landlord has one privilege over other creditors of the tenant, in respect to his rent, having a right to distrain chattels on the premises, to enforce and secure payment of it. This remedy exists in Britain. A question has been much discussed, and the subject of frequent adjudications, as to the right of the tenant, at the expiration of his lease, to remove fixtures erected by him on the leased premises. The old doctrine was, that whatever he attached to the land, or freehold became thereby a part of the real estate, and that he had not, accordingly, any right to remove it at the expiration of the term. This doctrine was first relaxed, in England, in favour of trade, as it was expressed, meaning, however, industry in general; and, on this principle, a very liberal construction was put upon the tenant's right to remove, at the end of his term, any erections put up by him, for the purpose of carrying on his business, whatever it might be. For this purpose, however, these fixtures must be such that they may be removed without injury to the estate. Things incorporated with the freehold, as repairs put upon a building, remain a part of the real estate, and the tenant has no right to remove them, as they thus become the property of the landlord, although the tenant may have been under no agreement or obligation to make the improvement.

**LEATHER.** See *Tanning*.

**LEBANON, or LIBANUS, and ANTILIBANUS;** two parallel ridges of mountains in Syria, bounding Palestine on the north. The highest summit of Lebanon is 9600 feet. The cities Saïda (the ancient Sidon) and Tarabolus (Tripoli in Syria) are situated at its base. In the parts of the mountain near the latter city, there are a few specimens remaining of the cedars of Lebanon, which the Phœnicians used in their naval architecture. (See *Larch*.) Antilibanus, or the northern part of the range, is inhabited by the Mutavellis; the southern by the Druses. See *Druses*.

**LEBANON,** Nkw; a post-town of Columbia

county, New York; seven miles W. Pittsfield; twenty-seven S. E. Albany. It is situated on the turnpike, between Pittsfield and Albany. The village has a pleasant, picturesque situation, and is well built. Here is a spring of considerable celebrity, issuing from a high limestone hill, so copiously that the quantity amounts to eighteen barrels in a minute. The water contains some lime in solution, but differs very little from very pure mountain water, except by its remarkable temperature, which is that of 73° Fahr., not varying perceptibly at any season. The spring is kept in constant ebullition by a copious emission of asotic gas. It is useful in salt rheums and various other cutaneous affections. The waters are used without injury for all domestic purposes. On the western side of the mountain, opposite to the spring, two miles and a half distant, is a neat village of Shakers, containing about 500 inhabitants. The houses are on a street about a mile in length, and are painted of an ochre yellow. See *Shakers*.

**LEBRUN, CHARLES,** born at Paris in 1618, first painter to the king, was the son of a statuary of ordinary talent. As early as his third year, he sketched with coal, and, at twelve years old, painted a portrait of his grandfather, which is not considered the worst of his paintings. He studied with Vouet, and soon surpassed not only all his fellow pupils, but also his master. After his return from Rome, where, under Poussin, he had studied principally the works of Raphael, and the remains of ancient art, he received the order of St Michael, and in 1648, was made president of the new royal academy of painting and sculpture. He was also named prince of the academy of St Luke, in Rome. From 1661, he was principally employed in embellishing the residences of Louis XIV. and his nobles with works of art, and in superintending the brilliant spectacles of the court. He embellished Versailles, in particular, and was also director of the royal Gobelins (q. v.) manufactory. With the death of Colbert, his influence declined. He died in 1690. Lebrun possessed a comprehensive genius, which was cultivated by the incessant study of history and national customs. Few painters have so well understood the human character, and the expression of the passions. This appears from his treatises *Sur la Physionomie*, and *Sur les Caractères des Passions*. In invention, he equalled the greatest artists who had preceded him. He combined a correct judgment with a lively imagination and facility in execution. He aimed at the highest accuracy of detail, consulting the remains of antiquity, books, and learned men, on the minutest subjects. His weak point in painting was his colouring, particularly of flesh.

**LEBRUN, PONCE DENIS ECOUCHARD,** a celebrated poet, who, during his life, received the appellation of the *French Pindar*, was born in 1729, and became secretary to the prince of Conti. At the age of twenty-six, he had taken his place in the first rank of lyric poets. At the revolution, he celebrated the birth of freedom in odes and epigrams; but, as the prospect darkened, he changed his tone, and, in 1793, deplored, in harmonious verses, the fate of his country, oppressed by tyrants and anarchists. When the academical establishments were reorganized, Lebrun became a member of the institute. He received from Bonaparte, when consul, a pension of 6000 francs. He died September 2, 1807.

**LEBRUN, CHARLES FRANÇOIS,** duke of Placentia, descended from an humble family in the vicinity of Coutances, came, at an early age, to Paris, where he obtained the protection of M. de Maupeou, whose secretary he became, after having been tutor to his children. He is said to have composed, in 1770, the speech which that gentleman delivered during his

dispute with the parliaments. Being nominated deputy to the states-general (1789), he occupied himself, during the session with affairs of police, finance, and domestic administration. When the question of the church property was discussed, he maintained that it would be an act of injustice to divest the ecclesiastical bodies of their possessions, though he admitted that some reform was necessary and expedient. In Aug. 1790, he voted for the preservation of the French academy, and, in Sept., he appeared at the tribune, to deliver an opinion against the emission of assignats, but he could not procure a hearing. In 1795, he was elected to the council of elders, and became secretary to that body in Jan., 1796, and president in the Feb. following. In Nov., 1799, he approved of the new system of government, and was appointed third consul in Dec. In 1803, the third class of the institute, of which he had continued to be a member from its first formation, chose him their president. He was nominated arch-treasurer of the empire in 1804, and, in 1805, governor-general of Liguria, and created duke of Placentia. On the retreat of Louis Bonaparte from the throne of Holland, Napoleon confided to M. Lebrun, under the title of *governor-general*, the administration of that country, from which the events of 1813 obliged him to retire. On his return to France, he signed the constitution that recalled the house of Bourbon to the throne, and was sent to Caen in the quality of commissioner extraordinary. On the 4th of June following, he was created a peer of France by the king, and, in the beginning of July, was appointed president of the first bureau of the chamber of peers. After the return of Napoleon, he accepted the peerage from him, and likewise the place of grand-master of the university. By this proceeding M. Lebrun rendered himself incapable of sitting in the new chamber of peers, formed in Aug. 1815. In the early part of his life, he published, in prose, a translation of Tasso's *Jerusalem*, more remarkable for its elegance than its fidelity. A new edition of this work appeared in 1805, with an account of the life of Tasso, by Suard (two vols. 8vo). He also made a prose translation of Homer's *Iliad* (three vols., 8vo), which has frequently been reprinted. He died in 1824.

**LECH**; a river rising in the Vorarlberg, and emptying into the Danube. It gives its name to the Lechfeld, a plain in Bavaria rendered famous by the defeat of the Huns (q. v.), by Otho I. in 955.

**LECTOR** (*reader*), in the early church; a servant of the church, whose business it was to read parts of the Bible, and other writings of a religious character, to the people. They were consecrated by prayers and ceremonies for this office, and, when their office became extinct, the consecration still remained; so that the lectorship now forms one of the inferior orders. Lectors are mentioned by Justin Martyr, in the second century, and appear to have been proper officers of the church in the third century. In Germany, a teacher of modern languages in a university is called *lector*, if he is not a professor.

**LEDA**, according to some authors, the daughter of Thestius, a king of Ætolia, according to others, of Glaucus and Laophonte, or Leucippe, was the wife of the Spartan king Tyndarus. In order to enjoy her, Jupiter changed himself into a swan, or, as some say, into a goose, in which form he is represented with her in a picture from Herculaneum. By him she had Pollux and Helen, and by Tyndarus Castor. According to other authors, Jupiter first changed her into a goose, and afterwards himself into a swan, which was the reason why Leda brought forth an egg, from which Pollux and Helen sprang. Other traditions say that Jupiter changed himself into a swan, and caused Venus to pursue him in the form of an

eagle, when he took refuge in Leda's bosom. During a deep sleep, which fell upon her at this moment, he gratified his desire. Others relate that Nemus changed herself into a goose to escape the pursuit of Jupiter. She then brought forth an egg, which he caused to be carried by Mercury to Leda, who carefully preserved it until Helen was produced therefrom. Again it is said that Leda brought forth two eggs, one by Jupiter, and another by Tyndarus. From the former sprang Pollux and Helen; from the latter, Castor and Clytemnestra. Of these different accounts, that has obtained the preference, which makes Leda, after having had communication with Jupiter in the form of a swan, to have given birth to Castor and Pollux (Dioscuri).

**LEDGER LINES**; those lines, in music, which are added above or beneath the five composing the staff, for the reception of such notes as are too high or too low to be placed upon or within it.

**LEDYARD, JOHN**, a celebrated traveller, was born at Groton, in Connecticut, in 1751. He lost his father at an early age, and his mother was left with but scanty means for the education of four children. To her he was indebted for counsels that made an indelible and most salutary impression on his heart. At the age of nineteen, he went to Dartmouth college, in order to qualify himself to become a missionary among the Indians. At the college, he acquired knowledge with ease, manifested more industry than diligence, and had not been there quite four months when he suddenly disappeared without the knowledge of any one. He is understood to have wandered to the borders of Canada, and among the Six Nations, with whose language and manners he formed an acquaintance, which was afterwards of much service to him in his intercourse with savages in various parts of the globe. Nearly four months elapsed before he returned to his college, and, soon after, in consequence of some reproof for breach of discipline, he resolved to escape altogether. On the margin of the Connecticut river, he felled a large tree, and fashioned its trunk into a canoe, in which he proceeded down the river to Hartford, a distance of 140 miles, much of his course lying through a wilderness, and, in several places, being obstructed by dangerous falls. Ledyard then applied himself to the study of divinity, but, failing in obtaining a license to preach, he turned sailor. His first voyage was to Gibraltar, where, being struck with a military parade, he enlisted, "thinking the profession of a soldier well suited to a man of honour and enterprise." The British commanding officer released his new recruit, who, at the expiration of a year, went back to New London, but soon afterwards embarked for England, in the hope of obtaining assistance from some wealthy relations there. After working his passage as a sailor, to Plymouth, he remained destitute of money, and reached London by begging on the road. He presented himself at the house of a Ledyard, as an American cousin, but was so coolly received, that his dreams vanished, and his pride prevented him from ever renewing the attempt. Captain Cook was then preparing for his third and last voyage round the world. The idea of accompanying him struck Ledyard with so much force, that he at once enlisted in the British marine service, and soon contrived to gain an introduction to captain Cook. "His manner," in the words of Mr Sparks, "mild, but animated and expressive eye, perfect self-possession, a bashfulness not obtrusive, but showing a consciousness of his proper dignity, an independent spirit, and a glow of enthusiasm giving life to his conversation and his whole deportment—these were traits which could not escape so discriminating an eye as that of Cook. They formed a rare combination, peculiar to him."

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# LINEN MANUFACTURE.

TOW CARDING ENGINE & HOVING FRAME, MADE BY F. BOHRIS ESQ DUNDEE

PLATE I

Fig. 1.

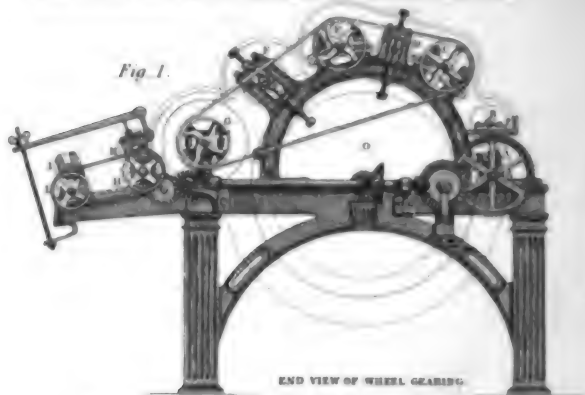


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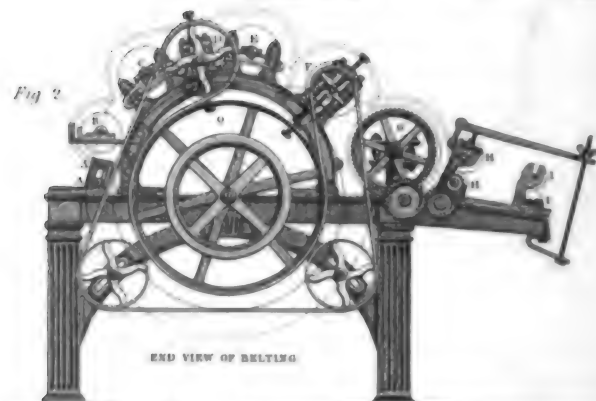


Fig. 3.

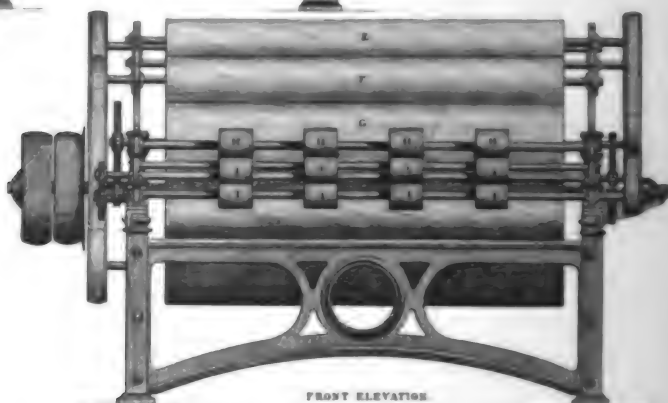
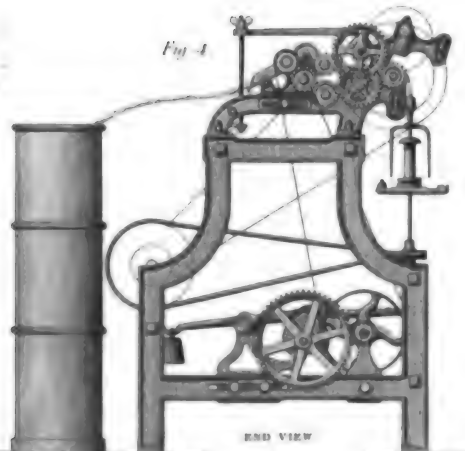


Fig. 4.



Scale for Figs. 1, 2, 3, 4, 5. 1 inch = 1 foot.

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# LOCOMOTIVE ENGINE.

Fig 1

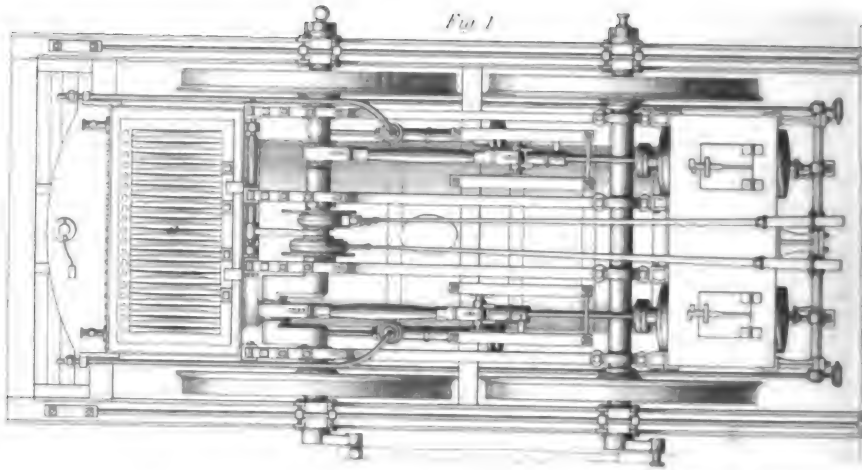


Fig 2

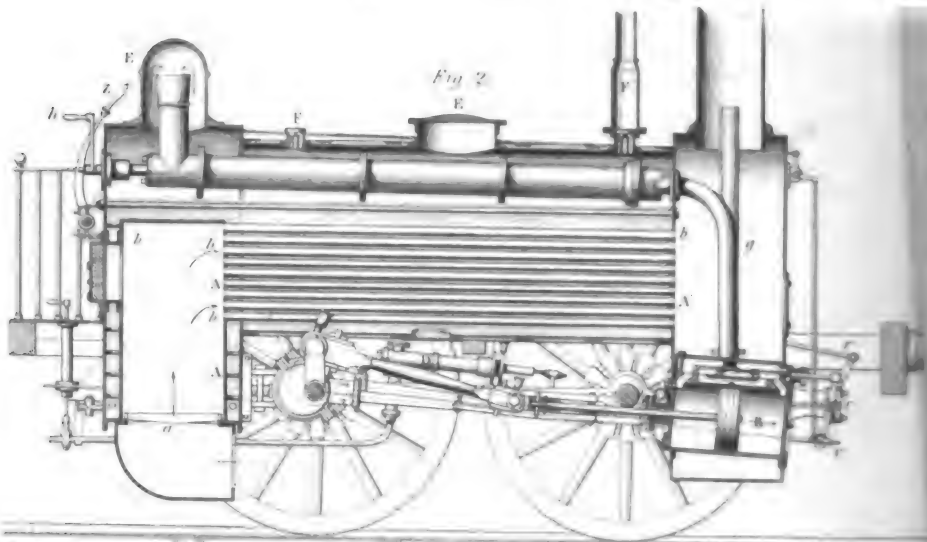


Fig 3

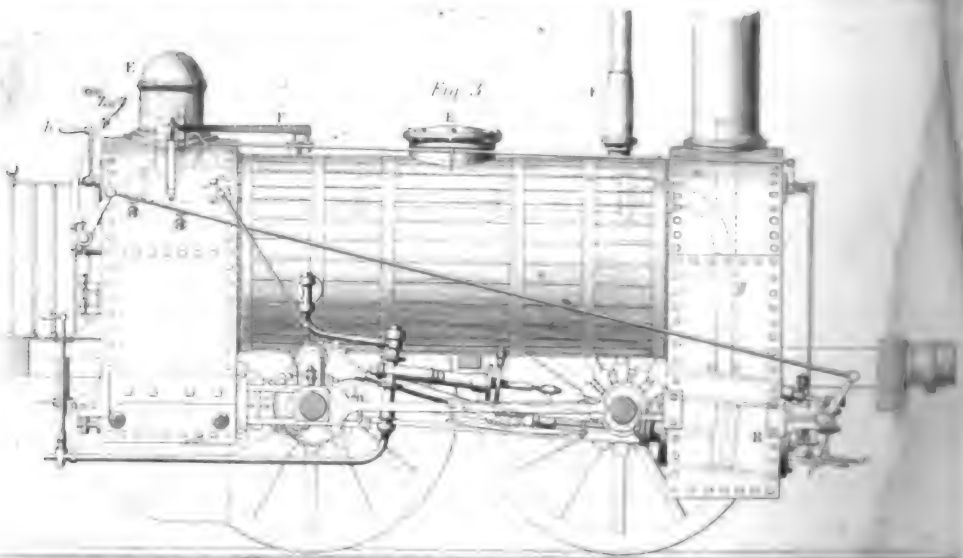






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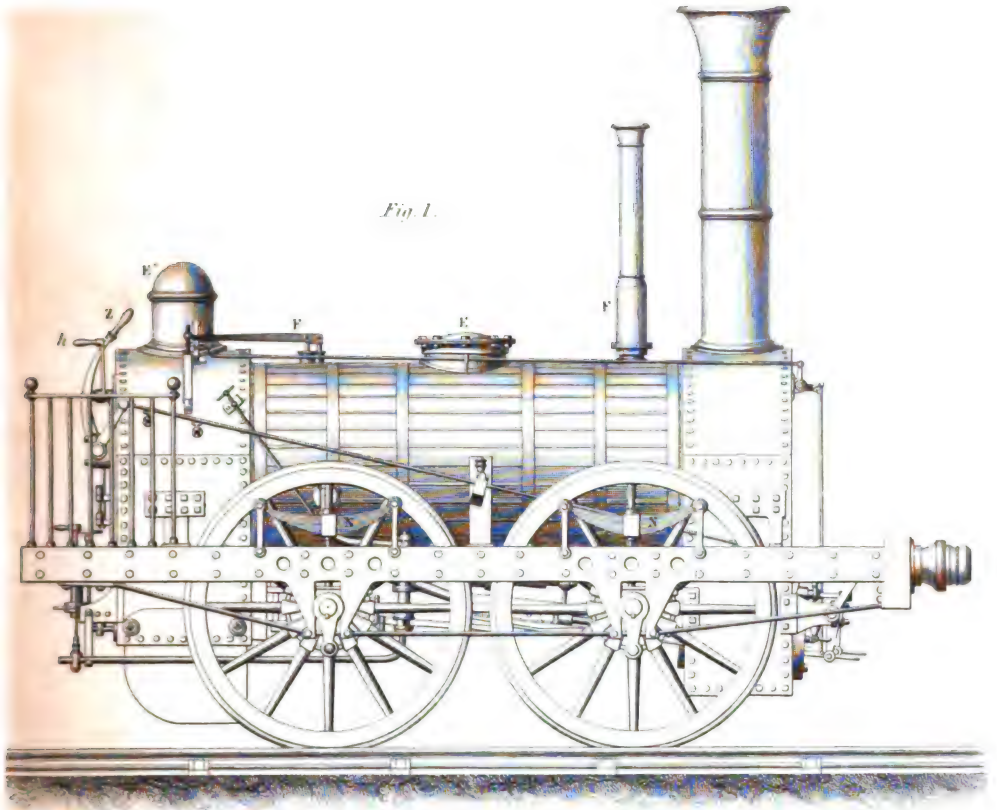


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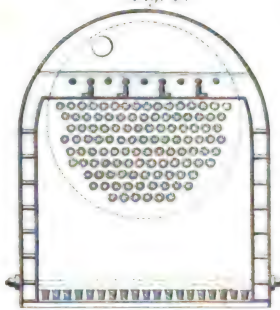


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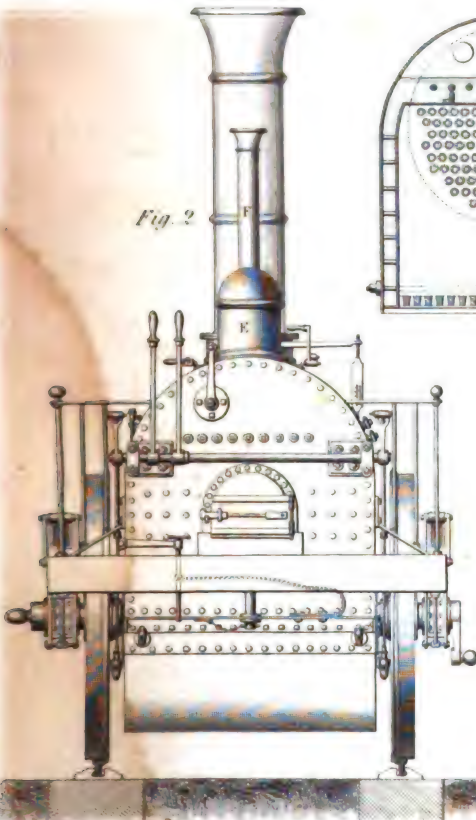
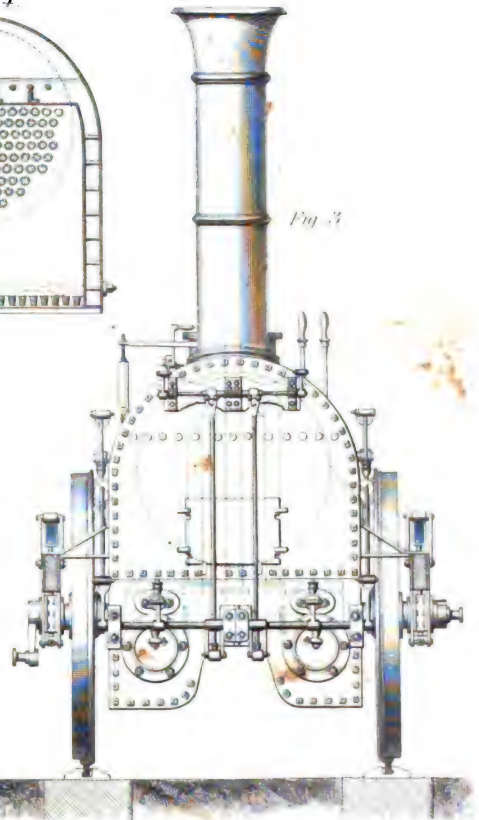


Fig. 3.









ROMAN COIN







LOCOMOTIVE ENGINE.

Fig. 1

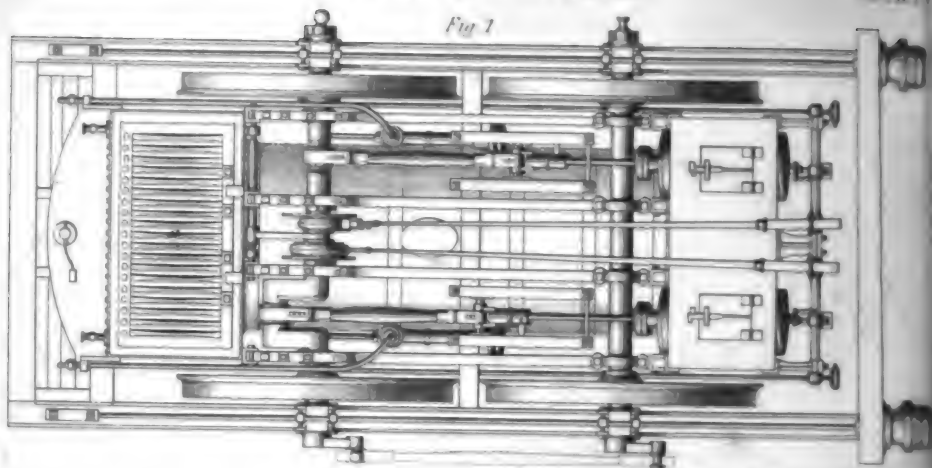


Fig 2

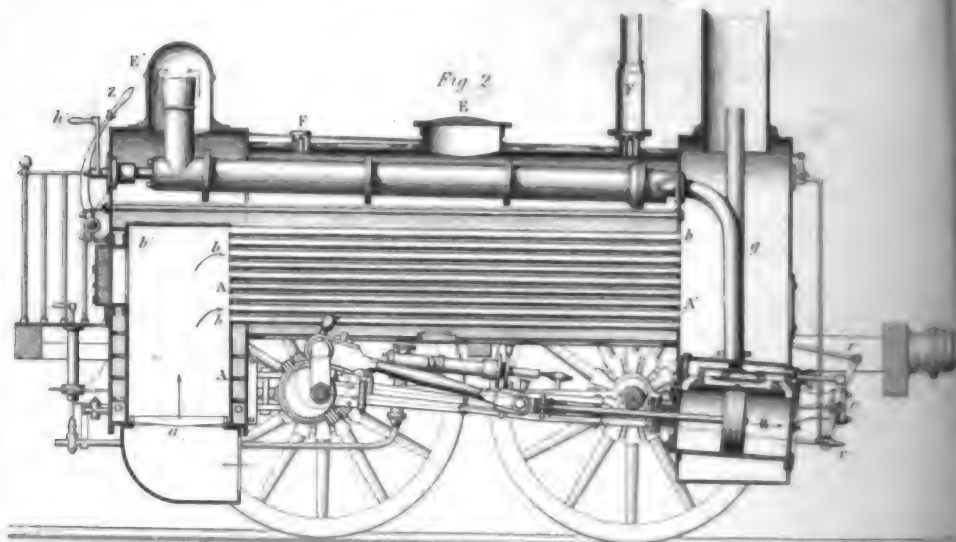


Fig. 3

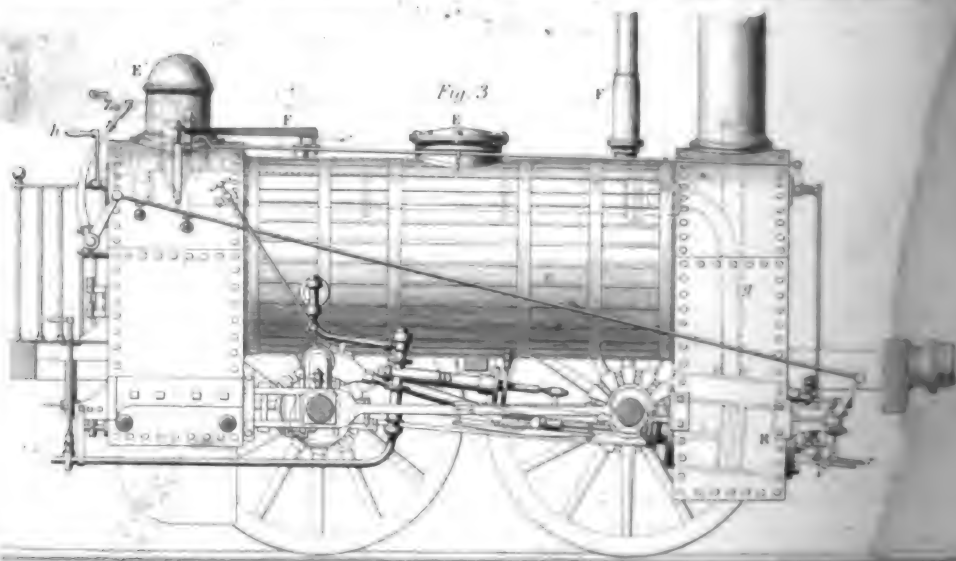






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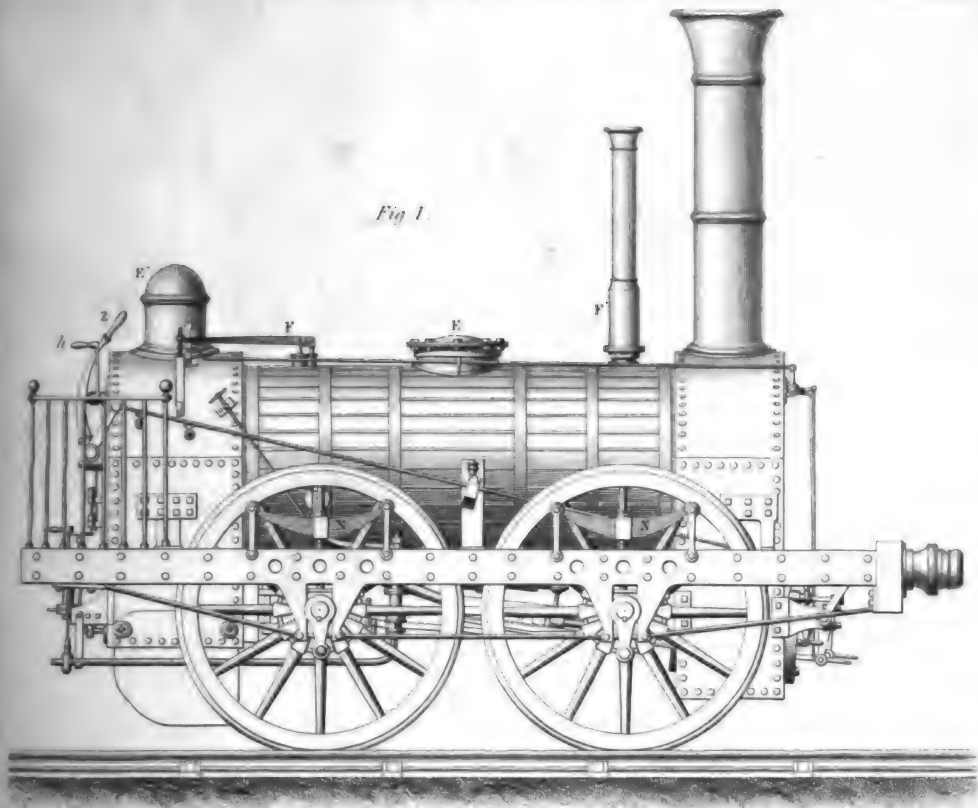


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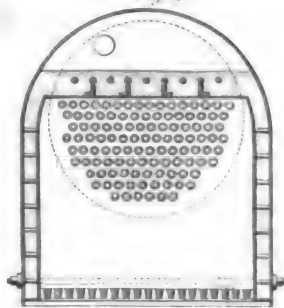


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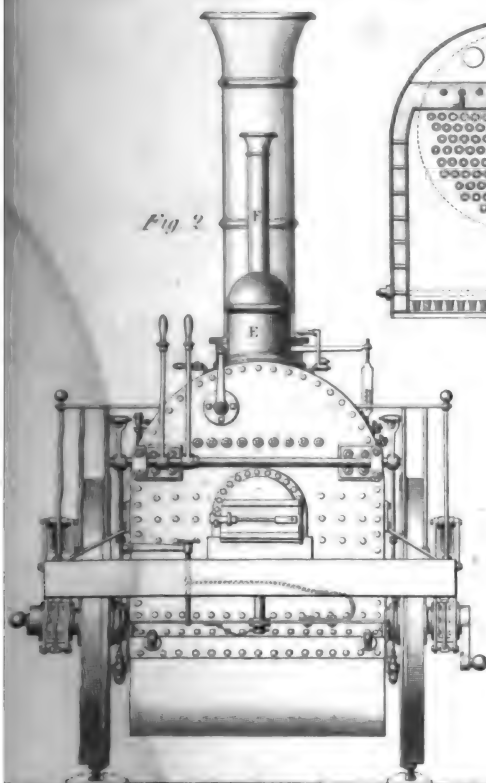
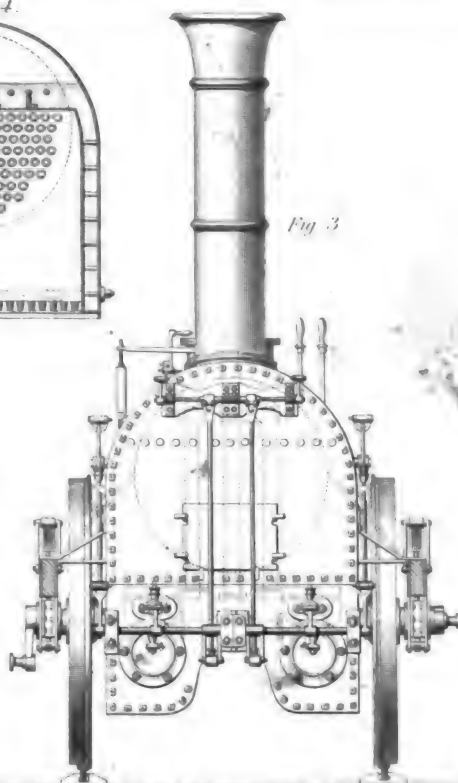


Fig 3.







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ROMAN COINS





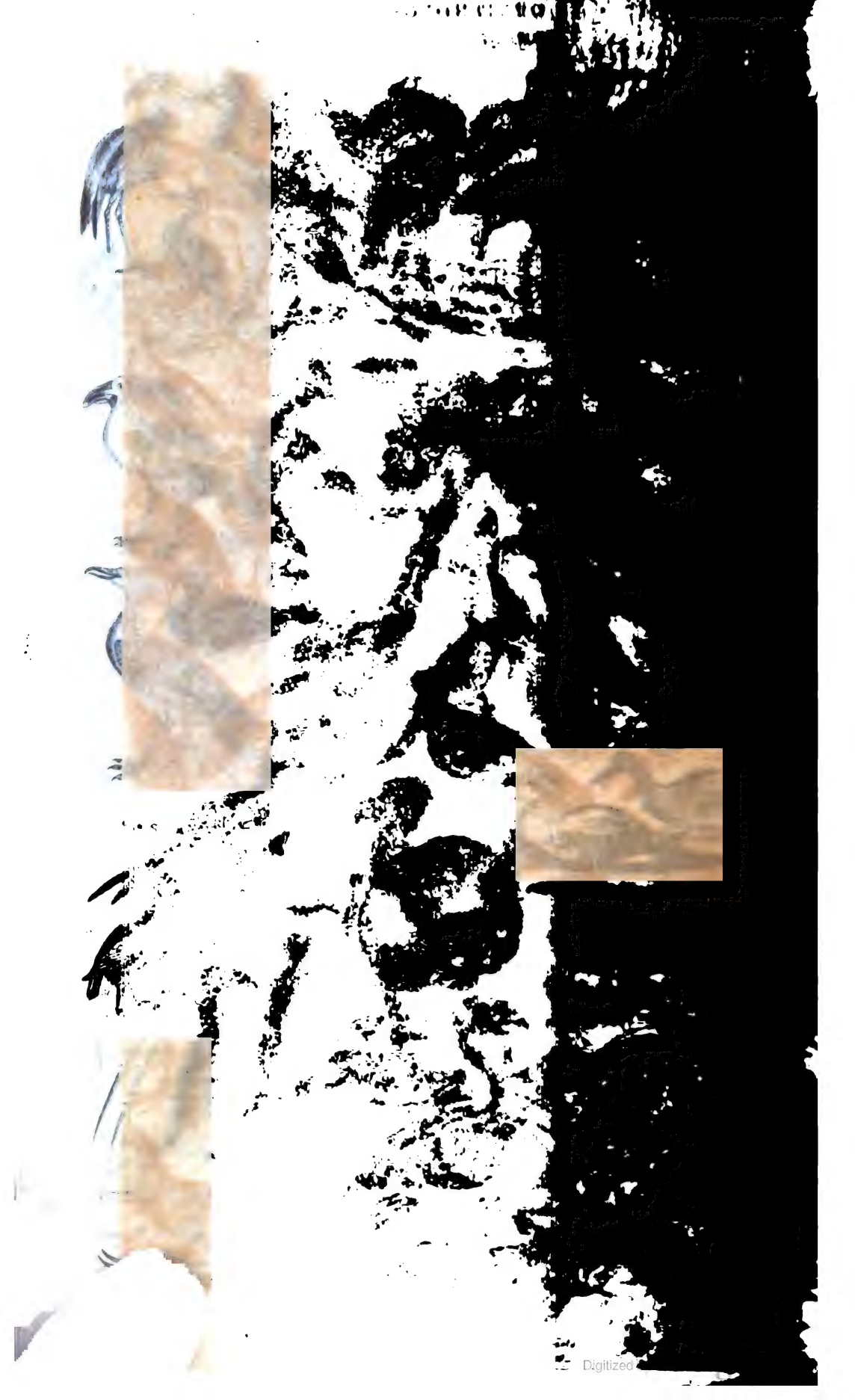








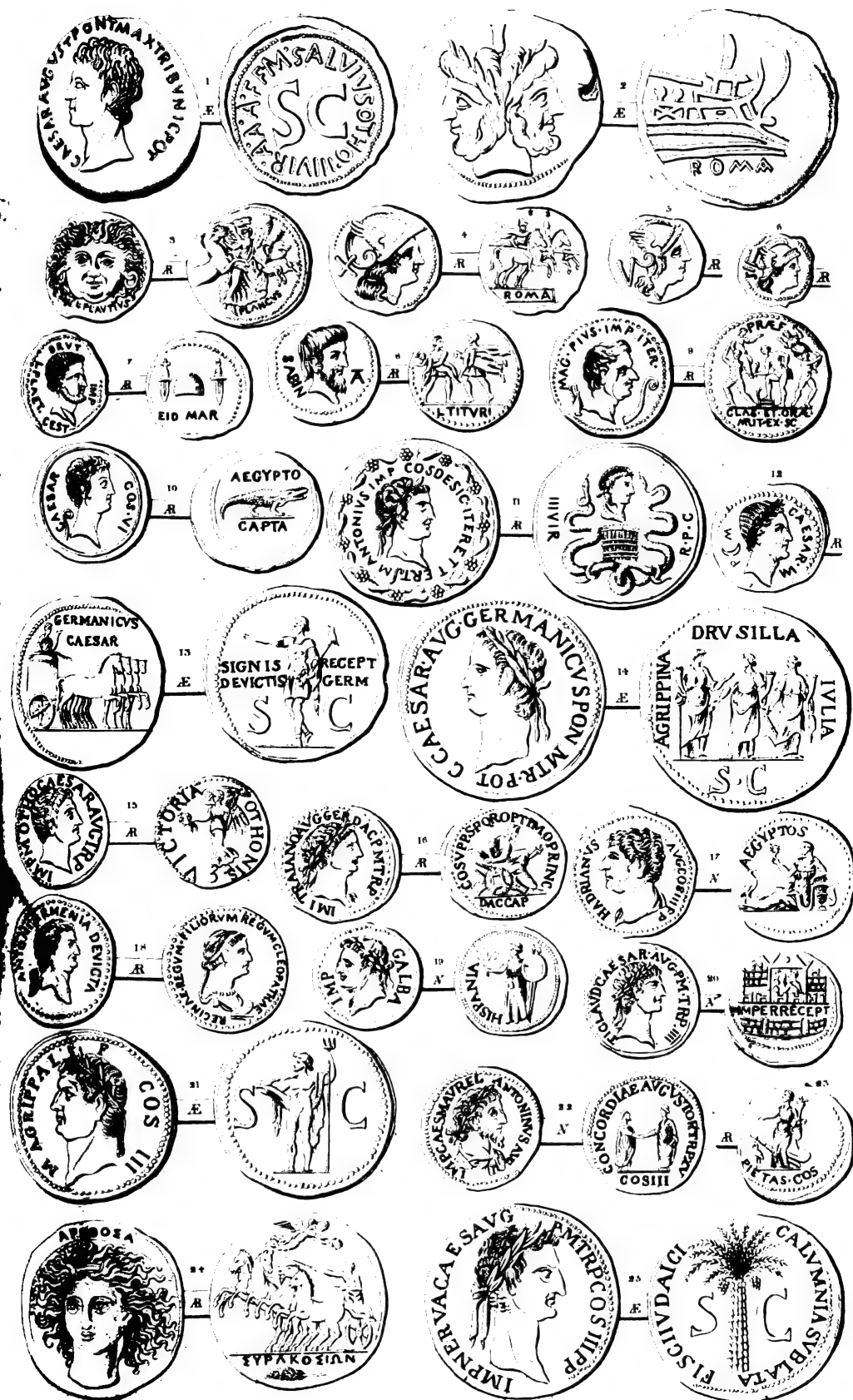








ROMAN COINS









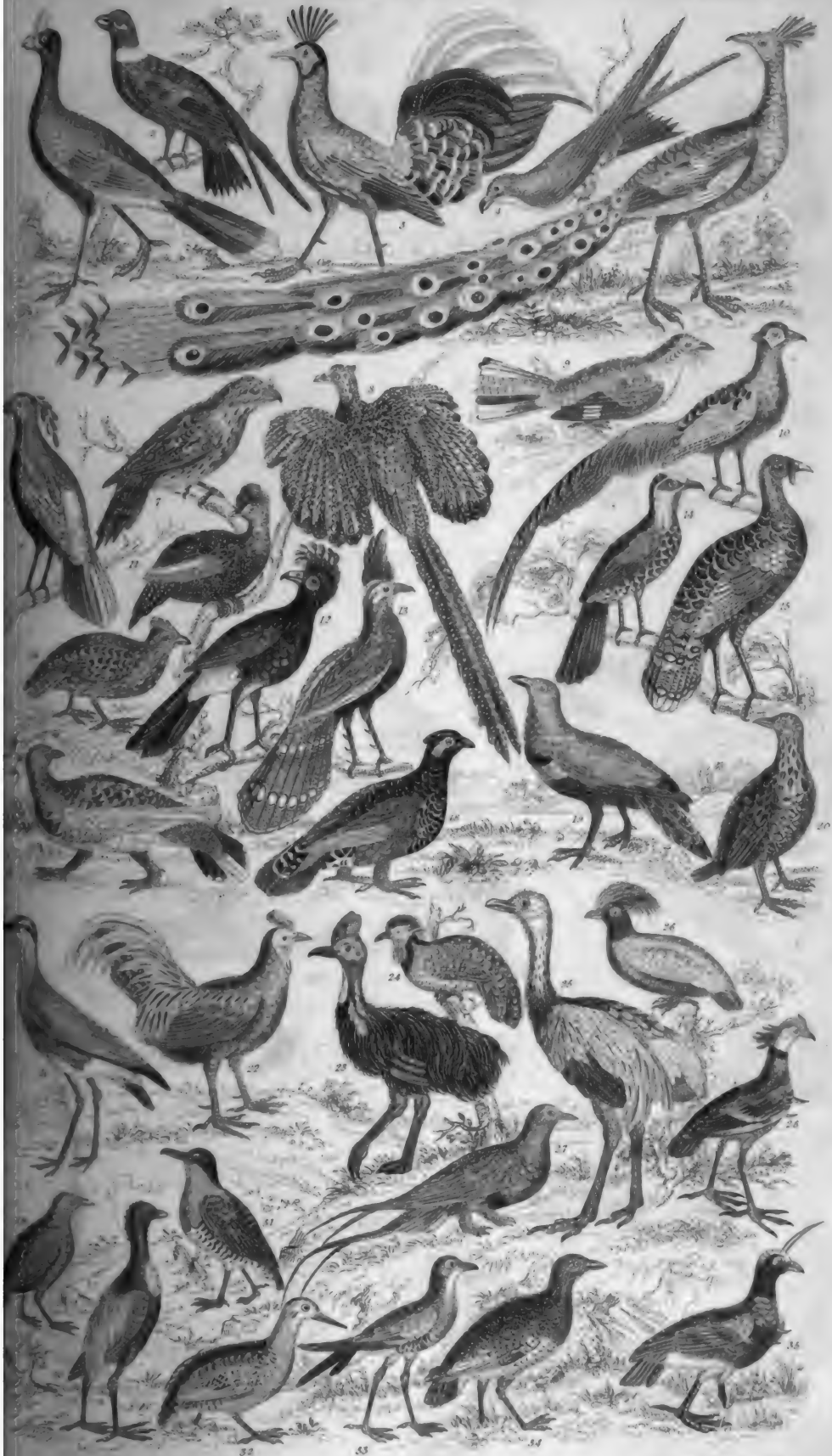






THE LIFE OF  
THE GREAT







to the hardships and perils of his daring enterprise. They gained the confidence of the great navigator, who immediately took him into his service, and promoted him to be a corporal of marines." He embarked accordingly, and performed the whole voyage, of which he published an interesting account some time afterwards at Hartford, in Connecticut. In this volume, he ascribes the murder of captain Cook, in a great degree, to his rashness and injustice towards the natives of Owhyhee. For two years after the return of the expedition to England, Ledyard remained in the British navy; but nothing further is known of him, in that situation, than that he refused to serve against his country. In 1782, he made his way home, and took lodgings at Southold, with his mother, who kept a boarding house, and by whom he was not recognised, after an absence of eight years. We find him soon afterwards at L'Orient, whither he had gone in order to carry into effect his plan of a voyage to the Pacific ocean. At L'Orient, the principal merchants of the place actually furnished him a vessel of 500 tons; but when he was on the point of setting out, the voyage was entirely abandoned by its patrons, in consequence of some misunderstanding with the government. He then went to Paris, where he concerted a scheme with the famous Paul Jones for accomplishing his object, which was also frustrated, and, after making other anxious and fruitless efforts, he gave up altogether the idea of reaching the North-west Coast by sea, and applied to the empress Catharine of Russia, through the medium of Mr Jefferson, then American minister in Paris, for permission to pass through her dominions, having come to the resolution of travelling by land through the northern regions of Europe and Asia, crossing over Behring's straits to the American continent, and pursuing his route down the coast, and to the interior. After waiting, however, for an answer from the zarina for more than five months, he accepted an invitation from London to embark in a British ship, which was in readiness to sail for the Pacific ocean, and of which the owners undertook to have him set ashore on the North-west coast. After forming his plan, which was warmly entered into by Sir Joseph Banks and other distinguished men of science, and which was to land at Nootka sound, thence strike directly into the interior, and pursue his course to Virginia, he embarked with no other equipment than a dog, an Indian pipe, and a hatchet. He now thought himself secure of his object; but the vessel was not out of sight of land before it was brought back by an order from the government, and the voyage was finally relinquished. Bearing up with wonderful fortitude against these reverses, he next determined to make the tour of the globe, from London east, on foot, and proceeded to St Petersburg for the prosecution of this design, through the most frequented parts of Finland. In that city his letters procured him eminent acquaintances, among whom Professor Pallas and count de Ségur proved his chief patrons. After waiting there nearly three months, he obtained his passport for the prosecution of his journey to Siberia. On his arrival at Yakutsk, he was prevented, by the Russian commandant at that place, from proceeding any further; and at Yakutsk, whither he had returned, he was arrested as a French spy, by an order from the empress, hurried to a *kabika* with two guards, conducted with all speed to Moscow, and thence to the frontiers of Poland, where he was released, with an intimation, that if he returned again to the dominions of the empress, he should be hanged. After an absence of seven months, he once more appeared in the British metropolis, to use his own words, "disappointed, aged, penniless, but with a whole heart." He was

now thirty-seven years of age. Scarcely had he taken lodgings in London, when Sir Joseph Banks proposed to him, on behalf of the African association, an expedition into the interior of Africa. He accordingly sought an immediate interview with the secretary of the association, to whom Sir Joseph gave him a letter; and, on being asked by him when he would set out, he answered, *To-morrow morning*. The route traced for him, by the association, was, from Alexandria to Grand Cairo, from Cairo to Sennaar, and thence westward, in the latitude and supposed direction of the Niger. He reached Cairo, whence he was on the point of proceeding on his journey after three months of vexatious delay, when exposure to the heat of the sun, and to other deleterious influences of the climate, at the most unfavourable season of the year, brought on a bilious attack, which proved fatal towards the end of November, 1788. Zeal, activity, courage, honour and intelligence distinguished his short but remarkable career. See Sparks's *Life of Ledyard*, Cambridge, New England, 1828.

LEE; an epithet to distinguish that half of the horizon to which the wind is directed from the other part whence it arises, which latter is called *windward*.

LEE, ANN. See *Shakers*.

LEE, ARTHUR, a distinguished American revolutionary patriot, was born in Westmoreland county, Virginia, December 20, 1740. He was the youngest of five brothers, all of whom became eminent. He was sent to the school at Eton, in England, and upon the completion of his course there, entered the university of Edinburgh, where he commenced the study of medicine, and took his degree of M. D. with great distinction, winning a medal for the best botanical treatise, which was published by order of the university. Having travelled through Holland, Germany, Italy, and France, doctor Lee returned to Virginia, and commenced the practice of his profession at Williamsburgh, then the metropolis. His success was great; but the bent of his mind to politics determined him, before long, to return to England, and study law, in order that he might acquire familiarity with the science of politics and government, and fit himself for taking a part in public affairs, which were then beginning to wear a highly interesting and serious aspect. Before his return, he had heard the parliamentary debate on the stamp act, and when the duty bill was passed, he wrote a series of anonymous papers in relation to it. In 1776, he went again to London, which city he found the stronghold of popular opposition, and the society of the supporters of the bill of rights the most active in conducting it. Of this society he became a member, with the design of connecting the grievances of the two nations, and purchased the freedom of the city, which qualified him to vote in municipal affairs. The complaints of America were introduced into the famous Middlesex petition by Mr Lee, associated with Wilkes; and he also successfully proposed a resolution, that the members of the club would support no candidate for parliament who would not pledge himself to promote the granting of the power of self-taxation to America. The celebrated Junius was an adviser of this body, and with him Mr Lee had an amicable discussion on some points of American policy, about which they happened to differ. His political publications at this period—in which he adopted the signature of *Junius Americanus*—were numerous, and procured for him the acquaintance of Burke, doctor Price, and others of the popular leaders. In 1770, he was admitted to the bar, and began the practice of his new profession, under the most favourable auspices; and such success attended his exertions as to enable him to lay the foundations of an ample fortune. In the same year

the assembly of Massachusetts appointed him their agent, in case of the absence or death of doctor Franklin; and before either of the contingencies occurred, he assisted the venerable sage with his hearty co-operation. As a testimony of the sense of his services, that state subsequently, in 1784, presented him with a tract of land containing 4000 acres. In the spring of 1774, he set out on a tour to France and Italy, and, when at Paris, published an Appeal to the people of Great Britain. Hearing, however, of the dissolution of parliament, before he had completed his journey, he hastily returned from Turin to London. On the return of doctor Franklin to America, in the same year, he became the sole agent of Massachusetts. The secret committee of congress appointed Mr Lee their London correspondent. The principal object of this regulation was, to learn what was to be hoped from the European powers. Mr Lee directed his inquiries particularly to the French ambassador at the British court, through whom he obtained assurances from the count de Vergennes, that his government would secretly furnish to the colonies £200,000 worth of arms and ammunition, to be transported from Holland to the West Indies. He was afterwards appointed by congress one of the commission to the court of France, in conjunction with Silas Deane, to whom doctor Franklin was afterwards added, and continued to labour unceasingly for the cause of his country, by his writings, negotiations, and never-failing vigilance in detecting whatever might prove injurious to its interests. At the same time, he also acted as agent for Virginia, and had the address to procure, under circumstances of special favour, from the royal arsenal, warlike stores to the amount of nearly £260,000. In December, 1777, congress appointed him sole commissioner to Spain, still retaining him on the commission to France. The British ambassador remonstrated against his reception, in consequence of which he was detained at Burgos, on his way to Madrid; but, upon sending a spirited reply to the remonstrance, no further interruption was attempted, and he proceeded to the capital. He there pursued the same policy which he had practised in London and Paris, ingratiating himself and his cause with the men of influence, and appealing boldly and directly to the government, from which he finally procured a large pecuniary loan. Having accomplished all that seemed practicable, he returned to Paris; when, the commissioners having determined on the expediency of conciliating Frederic of Prussia, and prevailing with him to withhold his assistance from Britain, Mr Lee was selected for that duty, and repaired to Berlin, where he was allowed to reside in a private character, and to correspond secretly with the court. He succeeded in obtaining from Frederic an assurance that he would afford no facilities to Great Britain, in procuring additional German auxiliaries, and that he would prohibit the passage, through any part of his dominions, of any troops which that court should thenceforward engage in Germany. He obtained, also, permission for the citizens of the United States to carry on a direct commerce with the subjects of Prussia, and for himself to purchase, for the use of the United States, arms from the armouries from which the king supplied his forces. While in Berlin, his papers were stolen from his chamber; but, upon an order from the king to investigate the affair, they were secretly returned. The blame of this act he cast on the British envoy, who, on the representation of the Prussian monarch, was recalled. When Mr Lee left Berlin, it was with an understanding that a correspondence should be carried on between baron Schulenburg and himself, on the affairs of the United States, and that he should keep the king constantly

informed of the events of the war with Great Britain which he did during his residence in Paris. He was also assured that Prussia "would not be the less powerful to acknowledge the independence of his country." In forming the commercial treaty with France, Mr Lee objected to two articles, in which it was stipulated that no duties should be charged by the respective governments on any merchandise exported to the French West Indies, which yielded molasses, or on the molasses exported thence to the United States; and, on the suggestion of France, the decision was left to congress, who directed that they should be expunged. Upon the recall of Mr Deane, between whom and Mr Lee there had been some misunderstanding, John Adams was appointed in his place. Their services, however, were soon afterwards superseded by the appointment of doctor Franklin a minister plenipotentiary. During the period of his commission, the speculations of the subordinate agents, who were employed to conduct the commercial details of the public business, had excited the vigilant inspection and unsparing reprehension of Mr Lee. This interference created complaints and insinuations which were artfully disseminated in the United States. These rumours were, in a measure, successful in exciting the suspicions of some members of congress; and when, in 1779, it was determined to send a minister to Spain,—and Mr Lee was certainly a prominent character as to be at once suggested as the fittest candidate,—he was not appointed, although nominated. Upon learning his virtual removal, he resigned his appointments, and returned to America in 1780. He prepared an elaborate report of his official proceedings, and answers to all the charges which had been circulated to his prejudice; but, upon requesting leave to vindicate himself with them in congress, that body expressed their full confidence in his patriotism, asserting that they had no accusations to make, and requested him to communicate his views and information acquired during his residence abroad. In 1781, he was elected to the assembly of Virginia, and by it returned to congress, where he continued to represent the state until 1785. In 1784, he was sent on a delegation to make treaties with the Indians on the northern frontier. He was next called to the board of treasury, with Samuel Osgood and Walter Livingston, in which he continued from 1784 to 1788. Within that period, he also served in a legislative committee to revise the laws of Virginia. On the dissolution of the treasury board, he once then sought the shades of retirement, and established himself on a farm on the Rappahannock, where he died Dec. 12, 1792.—See R. H. Lee's *Life of Arthur Lee* (Boston, 1829), and the review of the same in the *North American Review*; also his letters in Sparks's *Diplomatic Correspondence of the Revolution* (Boston, 1831).

LEE, CHARLES, a major-general in the American revolutionary war, was a native of North Wales, and became an officer at the age of eleven years. He served early in America, where he commanded a company of grenadiers, at the unsuccessful assault of Ticonderoga, by general Abercrombie, and was wounded. He distinguished himself in 1762, under general Burgoyne, in Portugal. He afterwards went on the side of the American colonies, in a contest between them and the ministry, and then entered the Polish service. During his absence, the stamp act passed, and the hostility to it manifested by general Lee rendered him obnoxious to the regimen of the court of Vienna. In the course of two or three years, he wandered all over Europe, until a duel with an Italian officer, in which his antagonist was killed, obliged him to flee; and, in 1774, he sailed from London for New York. The queen

between Great Britain and her colonies had now assumed a serious aspect, and Lee formed the resolution to espouse the cause of the latter. Travelling through the colonies, he became acquainted with the most conspicuous friends of colonial emancipation, and, though yet a British officer on half-pay, was active in encouraging the Americans to resistance, and in censuring the measures of the ministry. In 1775, Lee received a commission from congress, and immediately resigned the one he held in the British service; at the same time declaring to the secretary of war his readiness to engage in any honourable service for the king, but reprobating the present measures as inconsistent with the liberty of the subject. In the quality of major-general in the continental service, Lee accompanied general Washington to the camp before Boston. In 1776, he was directed by the commander-in-chief to occupy New York, and to defend that city and the North river against the enemy. On his arrival there, Lee set about strengthening the defences of the city, disarming and securing those who were inimical to the American cause, and checked the intercourse subsisting between the British and the townsmen. He was afterwards invested with the chief command in the southern department. His presence in the south inspired a happy ardour and confidence in soldiers and people, while his conduct on the memorable attack of the British upon Sullivan island raised his military reputation. After the discomfiture of the British at this fortress, Lee passed into Georgia, where he remained some weeks, employing himself in fortifying the colony, and chastising the frontier Indians. Congress anticipating a concentration of the British forces, for the purpose of making a powerful effort at New York, Lee was ordered to Philadelphia, and was despatched to the camp at Harlem, with permission to visit the posts in New Jersey. He reached the army just in time to recommend its extrication from a situation, where, had the British used proper diligence in their operations, it would have been completely destroyed. The opinion of Lee induced the council of war to make a precipitate movement during the night, by which they escaped the toils into which they would otherwise have fallen. While marching through the Jerseys to join general Washington, Lee was made prisoner by the British (December 13, 1776), as he was carelessly guarded, at a considerable distance from the main body, and carried to New York. Washington proposed to exchange for him six field officers; but general Howe affected to consider Lee a deserter from the British army, and refused to release him on those terms. Several British officers were confined, and held answerable for the treatment of general Lee. The latter was, however, treated in a manner unworthy of a generous enemy, until the surrender of Burgoyne, October 17, 1787. After the event, he was exchanged. The battle of Monmouth concluded the military course of general Lee, being directed by general Washington to advance and attack the enemy's rear, he approached very near, but, instead of obeying his instructions, suffered his troops to make a disorderly retreat. The commander-in-chief met him in the flight, and reprimanded him for his conduct. Lee replied in improper language, but executed the subsequent orders of general Washington with courage and ability. Stung to the indignity which he conceived to have been offered him, he wrote two letters to the commander-in-chief, after the action, of a disrespectful and challenging him to substantiate the charges piled in his expressions on the field. General Lee was arrested, and arraigned before a court-martial, on disobedience of orders, misbehaviour before the

enemy, and disrespect to the commander-in-chief. August 12, 1778, he was found guilty of the charges, and sentenced to be suspended from any commission in the armies of the United States for the period of one year. The concurrence of congress in this sentence was thought necessary; and, while yet in suspense as to their determination, he published a defence of his conduct. His abuse of general Washington's character, in this pamphlet, led to a duel with colonel Laurens, one of the aids of the commander-in-chief, in which Lee was wounded. Congress confirmed the sentence of the court-martial in his case, though not without previous discussion. Lee retired to an estate he had purchased in Virginia, where he lived, secluded in a small hovel, destitute of glass windows or plastering, amusing himself with his books and dogs. While in this situation, he composed a set of political and military queries, in which his bitter feelings were freely vented, and which were afterwards published in Baltimore, where they created considerable disturbance. In 1782, he went to Philadelphia, where he engaged lodgings in a tavern, and, a few days after his arrival, was seized with a fever, of which he died in obscurity, October 2, 1782. His thoughts would appear to have been employed to the end in the profession which had engaged the best portion of his life, for the last words he was heard to utter were, "Stand by me, my brave grenadiers." From respect to his former services, a large concourse of the people, including many public characters, both French and American, joined in the funeral solemnities.

General Lee was brave in action, of a sound judgment in military affairs, and possessed of the affection of his officers and men. Sensible of his military talents, and insatiably ambitious, he aspired to the chief command, and was little scrupulous about the means to be employed to attain that dignity. Whatever might have been his motives for engaging in the American cause, he sacrificed much for it, and was useful in its advancement. He was a classical scholar, and possessed an excellent memory and a brilliant fancy. His temper was morose and avaricious. His satirical spirit made him many enemies. Though a gentleman in his manners, when he chose to appear such, he was often coarse, and, towards the latter part of his life particularly, became very negligent about his personal appearance. He was very fond of dogs, which he even carried into the company of ladies. With all his faults, however, he was distinguished for sincerity, veracity, and adherence to his friends. He was rather above the middle size. His countenance was not agreeable. Many persons considered him an atheist, though some exalted ideas of a Supreme Being appear in his correspondence. He published some essays on military, political, and literary subjects, which, together with his extensive correspondence, were collected in a volume in 1792. A pamphlet which he wrote on American affairs, in the earlier part of his life, was much approved of by the Americans, and particularly commended by doctor Franklin. It was his earnest desire, expressed in his will, that he should not be buried in any church or churchyard, or within a mile of any Presbyterian or Anabaptist meeting-house; and he assigned as his reason, that since his residence in America, he had kept so much bad company while living, that he wished to avoid it when dead.—See *Memoirs of Charles Lee* (Dublin, 1792); *Anecdotes of Charles Lee* (London, 1797); Girdlestone's *Facts proving Charles Lee to have been Junius* (London, 1813.)

LEE, HENRY, general, a distinguished officer of the American revolution, was born in the colony of Virginia, January 29, 1756, of a highly distinguished

family. He received the rudiments of his education from a private tutor, and was then sent to Princeton college, where he was graduated in the eighteenth year of his age. In 1774, soon after his return home, he was intrusted with the management of all the private concerns of his father, whilst the latter was engaged in negotiating a treaty with some Indian tribes on behalf of the colony, and, in the execution of this charge, he displayed a degree of prudence, industry, and ability beyond his years. In 1776, he was appointed a captain of one of the six companies of cavalry, raised by Virginia, after she had thrown off the authority of the mother country. About this time, the large armies sent by Great Britain into America rendered it indispensable that every possible reinforcement should be sent to general Washington, and, in consequence, those companies were incorporated into one regiment, under the command of lieutenant-colonel Bland, and offered by Virginia to congress. Their services were accepted, and, in September, 1777, they joined the main army of the provincials. Young Lee was thus afforded an opportunity of winning distinction, which he quickly did. He maintained a strict system of discipline, and was extremely careful of his men and horses, by which he was enabled to move with celerity, and strike the enemy by surprise, with certainty and success. He particularly attracted the notice of Washington, who, at the battle of Germantown, selected him, with his company, to attend as his body-guard. In January, 1778, the British formed a plan to capture him. Two hundred of their cavalry succeeded in approaching his quarters, a stone house, unperceived, at a time when his troops were dispersed in search of forage. There were only ten men with him, most of them officers; but, with these, he defended the house obstinately, and the assailants were constrained to retreat. In consequence of this and other exploits, he was, shortly afterwards, promoted by congress to the rank of major, with the command of a separate corps of cavalry, consisting of three companies, to which both cavalry and infantry were subsequently added. In 1780 he was sent, with his legion, to the army of the south, under general Greene, having been previously raised to a lieutenant-colonelcy, and continued with it until the end of the war. In the famous retreat of Greene, before Cornwallis, into Virginia, Lee's legion formed the rear-guard of the American army, and repelled every attempt of the enemy to impede its march. After Greene had effected his retreat to a place of safety, he sent Lee and colonel Pickett into North Carolina, to watch and interrupt the movements of Cornwallis, intending to return himself into that state, and bring the British general to battle. While the two colonels were marching to surprise Tarleton, Lee fell in with a couple of messengers sent to this British officer from colonel Pyle, the commander of a body of 400 American royalists. The messengers mistook Lee for Tarleton, as the accoutrements of his troopers were similar to those of the British officer, and communicated to him full information concerning Pyle's movements. Availing himself of the mistake, Lee personated Tarleton, and sent one of the messengers to Pyle, with directions for him to take post at a certain station, where he and Pickett soon after came up with him and dispersed his force. At the battle of Guilford court-house, which happened soon afterwards, Lee eminently distinguished himself. He was placed with his legion, on the left of the front line of Greene's army, and, although the North Carolina militia, the principal force attached to their position, abandoned them at the very commencement of the action, they yet contrived to keep the enemy at bay, until the order to retreat was given by the

American general. Previous to the battle in the morning, Lee encountered the cavalry of Tarleton, and drove them back with considerable loss. During the interval between this battle and that of Camden, in which Greene was worsted by Lord Rawdon, Lee took several forts. After the latter engagement, he was sent to aid Pickett in the capture of Augusta, in Georgia, and, in his way thither, surprised and took fort Godolphin, in which there was a valuable deposit of the enemy's military stores. On his junction with Pickett, they immediately invested fort Cornwallis, on which the fate of Augusta depended, and soon forced it to surrender. Its commander was colonel Brown, who was particularly obnoxious to the Americans; and his life would have been a sacrifice to their hatred, had it not been for the precautions of colonel Lee. He then returned, with his prisoners, to the army of Greene, who was, at that time, besieging the fortress of Ninety-six. In that siege Lee had a conspicuous share, and, in the attempt made to take the place by storm, he was charged with the attack in one quarter. He was completely successful; but, the other assault having been less fortunate, the siege was raised. In the action which, a short time subsequently, occurred at Eutaw springs, Lee was also conspicuous, acting at the head of his infantry. By opportunely dismounting his cavalry, he greatly contributed to the enemy's defeat. In the ensuing month of October, he was sent by Greene on a special mission to the commander-in-chief, then employed in the siege of Yorktown, for the purpose of requesting him to prevent on the coast de Grasse to afford naval assistance, to enable Greene to lay siege to and take Charleston, with the British army, in the south. He arrived at Yorktown about the time of the surrender of Cornwallis, and, after executing his commission, returned to Greene. Near the end of the war, he married. In the fall of 1786, he was appointed a delegate to congress from the state of Virginia, in which station he remained until the present constitution of the United States was carried into operation. In the interim, he was elected a member of the convention of Virginia, which met in June, 1788, and ratified that constitution, of which instrument he was a strenuous and eloquent advocate. He was afterwards chosen a member of the house of delegates of his native state. In 1792, he retired from his seat in the assembly, on being raised to the chair of governor, which he filled for three successive years. In the last of them he was named by president Washington to command the forces which he was constrained to send into the western counties of Pennsylvania, in order to quell the disturbances by which they were agitated. He performed this duty in the most satisfactory manner. In 1799, he was again chosen a member of congress, and, while there, in the same year, he was selected to pronounce a funeral eulogium upon Washington. He resumed his seat until the accession of Mr. Jefferson to the chief magistracy of the Union, when he resumed his private life, after which he never held any conspicuous office. The latter years of his life were distressed by pecuniary embarrassments, occasioned, to a measure, by his generous hospitality. It was while he was confined, in 1800, within the bounds of Spotsylvania county, on account of pecuniary obligations, that he prepared for publication his excellent memoirs of the southern campaigns, in which he bore so conspicuous a part—a work which, if not remarkable for great polish of style, is entitled, from its bold, manly, and sincere tone, as well as the power of the descriptions, and the interest of the information, to rank with the best works relating to the revolutionary war.—General Lee happened to be a

Baltimore, in 1814, when the printing-office of an obnoxious paper was threatened by the populace. He was induced, by personal friendship, to take part in the defence of the house. In the dreadful attack which was made on the Baltimore jail, to which the party of defenders were carried for safety, he was severely wounded. His health decayed in consequence, and he repaired to the West Indies, hoping to stop the ravages of disease. In 1818, he returned, to the United States, and died March twenty-fifth of that year, on Cumberland island, near St Mary's, Georgia.

LEE, NATHANIEL, a dramatic poet, was educated at Cambridge, whither he went in 1668, and afterwards went to London, misled, it is said, by the promises of Villiers, duke of Buckingham. Neglected by his patron, he turned his attention to the drama, and, in 1675, produced his tragedy of Nero, and, from that time to 1681, produced a tragedy yearly. He also tried his abilities as an actor, but failed in the attempt. In 1684, insanity rendered his confinement necessary, and he was taken into Bethlehem hospital, where he remained until 1688, when he was discharged, and wrote two more tragedies, the Princess of Cleves, and the Massacre of Paris, which appeared in 1689 and 1690. He died in 1691 or 1692, in consequence of some injury received in a drunken night frolic. He is the author of eleven plays, all of which were acted with applause; but his natural fire and pathos were buried in a torrent of words, and clouded by a tendency to turgid and bombastic eloquence.

LEE, RICHARD HENRY, a signer of the American Declaration of Independence, was born January 20, 1732, at Stratford, Westmoreland county, Virginia, and, after a course of private tuition in his father's house, was sent to the academy of Wakefield, in Yorkshire, England, where he became distinguished for his proficiency in the classics. He returned to his native country when about in his nineteenth year, and his fortune rendering it unnecessary for him to devote himself to any profession, his time was most usefully spent in the improvement of his mind. The first endeavour which he made to serve his country, was in the capacity of captain of the volunteer companies which were raised in 1755, for the purpose of aiding the expedition under General Braddock. He was disappointed, however, in his patriotic desires, Braddock having refused to accept any more assistance from the provincials than he was obliged to. In his twenty-fifth year, Lee was appointed a justice of the peace for his native county—an office then given only to persons of the highest character, and generally but to persons of considerable experience. Not long afterwards, he was chosen a delegate to the house of burgesses, from Westmoreland county, and thus commenced the career of politics, for which he was peculiarly fitted, both by his natural disposition and talents, and the studies in which he was reared. Works of civil and political morality, history, the principles of the civil law, and the laws of his own country, had occupied the principal share of his time, whilst he had not neglected the more elegant departments of polite literature; and he soon obtained distinction in debate. His voice was always raised in support of those principles which were advocated by the republican or anti-aristocratic action of the legislature; and, when, in 1764, the declaratory act was passed in the British parliament, in pursuance of the right claimed by that body of taxing America, he was the first to bring forward to be subject to the notice of the assembly of which he was a member. A special committee having, in consequence, been appointed to draught an address to the king, a memorial to the house of lords, and a remon-

strance to the house of commons, Mr Lee was placed on it, and selected to prepare the two first papers. These, accordingly, proceeded from his pen, and, in the words of his biographer and grandson, "contain the genuine principles of the revolution, and abound in the firm and eloquent sentiments of freemen." In 1765, Patrick Henry introduced in the Virginia legislature his resolutions against the stamp act, which had just been passed by the British parliament. Mr Lee lent Mr Henry's motion his powerful and most zealous assistance. Not long after it had been carried, in spite of the efforts of the influential party, who advocated the measures of the mother country, Mr Lee, amongst other methods which he took to prevent the operations of the stamp act, planned and effected an association "for the purpose of deterring all persons from accepting the office of vender of stamp paper, and for awing into silence and inactivity those who might still be attached to the supremacy of the mother country, and disposed to advocate the right of colony taxation." The association bound themselves to exert every faculty to accomplish the end for which they had united together, "at every hazard, and paying no regard to danger or to death." In consequence of the opposition the stamp act encountered in the colonies, the British ministry were forced to repeal it; but they did so with a reservation of the right of the mother country "to bind the colonies in all cases whatever." In 1767, parliament having passed two acts, one laying a tax on tea, and the other requiring the legislature of the colony "to make provision for quartering a part of the regular army." Mr Lee exerted himself in every way to excite a spirit of hostility to them, perceiving, as he did, their despotic tendency, and feeling, even then, that a struggle for freedom must eventually take place. It would be impossible for us, consistently with our limits, to enter into a minute detail of the unceasing efforts of Mr Lee's patriotism between this period and the assembling of the first congress in Philadelphia; we can only mention that the celebrated plan which was adopted in 1773, by the house of burgesses, for the formation of corresponding committees to be organized by the legislatures of the several colonies, and also that of corresponding clubs or societies, among the "lovers of liberty" throughout the provinces, for the purpose of diffusing among the people a correct knowledge of their rights, of keeping them informed of every attempt to infringe them, and of rousing a spirit of resistance to arbitrary measures,—both originated with him. The same idea had, about the same time, been conceived and proposed by Samuel Adams in Massachusetts—a circumstance which has occasioned a dispute concerning the merit of having given birth to measures which were the forerunners of the general congress. It cannot be doubted, however, that Mr Lee followed only the suggestions of his own mind with regard to the proposal, as, several years before, in 1768, he had requested Mr Dickinson of Pennsylvania, in a letter, to bestow his consideration upon the advantages of plans which he communicated to him of the same purport. In 1774, the first general congress assembled at Philadelphia, and Mr Lee attended it as one of the Virginia delegation. His labours during this session, as throughout his whole congressional career, until his seal and activity were partially arrested by bodily infirmities, were unremitting. Of all the leading committees—those to prepare an address to the king of Britain, to the people of Britain, and to the colonies, and those to state the rights and grievances of the colonies, and to carry into effect the resolution of non-intercourse with Great Britain—he was a member; and from his pen proceeded the memorial

of congress to the people of British America. In the following year, he was unanimously elected, by the people of Westmoreland county, to the assembly of Virginia, by which he was sent to the second congress. At this period, hostilities were in full operation between the two countries, and one of the first acts of the new congress was to invest George Washington with the command of its armies. His commission and instructions were furnished by Mr Lee, as chairman of the committee appointed for that purpose. The other committees on which he served in this session, were those named to prepare munitions of war, to encourage the manufacture of saltpetre and arms, and to devise a plan for the more rapid diffusion of intelligence throughout the colonies. The second address of congress to the people of Great Britain—a composition unsurpassed by any of the state papers of the time—was written by him this session. But the most important of his services, in this second congressional term, was his motion, June 7, 1776, "that these united colonies are, and of right ought to be, free and independent states; that they are absolved from all allegiance to the British crown; and that all political connexion between them and the state of Great Britain is, and ought to be, totally dissolved." His speech on introducing this bold measure, was one of the most brilliant displays of eloquence ever heard on the floor. After a protracted debate, it was determined, June 10, to postpone the consideration of this resolution until the first Monday of the ensuing month of July; but a committee was ordered to be immediately appointed to prepare a declaration of independence. Of this committee he would have been the chairman, according to parliamentary regulations with regard to the original mover of an approved resolution; but he was obliged, on the same day (the 10th), to leave congress, and hasten to Virginia, in consequence of the dangerous illness of some of the members of his family. Mr Jefferson was substituted for him, and drew up the declaration. In August following, Mr Lee returned to his seat in congress, which he continued to occupy until June, 1777, pursuing, with unabated ardour, the path which was to lead to the freedom and happiness of his country. In that month, he solicited leave of absence, and returned to Virginia. This step was taken on account of the delicate state of his health, and also for the purpose of clearing his reputation from certain stains which malice or overheated zeal had thrown upon it, which he effectually did, by demanding an inquiry into the allegations against him, from the assembly of his native state. The result of this inquiry was a most honourable acquittal, accompanied by a vote of thanks to him for the fidelity and seal of his patriotic services, which the speaker of the house, the venerable George Wythe, in communicating it to him, prefaced by a warm and flattering eulogy. In August, 1778, he was again elected to congress, but was forced, by his declining health, to withdraw, in a great degree, from the arduous labours to which he had hitherto devoted himself. In 1780, he retired from his seat, and declined returning to it until 1784. In the interval, he served in the assembly of Virginia, and, at the head of the militia of his county, protected it from the incursions of the enemy. In 1784, he was chosen president of congress by a unanimous vote, but retired at the end of the year, and, in 1786, was re-elected to the Virginian assembly. In the convention which adopted the present constitution of the United States, Mr Lee joined in the vote of congress which submitted the plan they proposed to conventions of the people of the states. He was, however, hostile to it himself, thinking that

it had too great a tendency to consolidation. When it was adopted, he and Mr Grayson were chosen the first senators from Virginia under it, and, at that capacity, he moved and carried several amendments. In 1792, his health forced him to retire from public life, when he was again honoured by the Virginia legislature with a vote of thanks. He died June 19, 1794.

LEECH (*Airudo*, Lin.); a genus of molluscous animals, which have an oblong body, a mouth surrounded by a lip, and a disk at the posterior extremity, by both of which they can attach themselves to bodies. In the mouth are three small jaws, tongues, or plaits of skin, by which they are enabled to extract the blood of other animals, that forming their principal nourishment. Leeches are hermaphrodites, and some species are viviparous. They occur in ponds and streams, in almost all countries. They derive their principal interest from the use made of them as a medical agent. There are several of the species which are capable of being thus used, though it is commonly supposed that only two sorts are proper. The employment of leeches in France may be judged of from the circumstance, that the hospitals of Paris require an annual supply of several hundred thousands. The American species do not draw as much blood as the British, which is calculated, on an average, to detract one ounce each, whilst the majority of the American do not take more than from two to three drachms each. The leech, when forcibly pulled away whilst acting, is very apt to leave the teeth, or plaits of skin, spoken of above, in the wound, occasioning pain and inflammation of the part; the leech is also rendered incapable of again biting. The most certain method inducing these animals to bite, is to cleanse the skin thoroughly: the leeches should be exposed to the air for a short time previous to their application, as by this means they will bite more freely. If they are voracious, they may be applied to the part by being held lightly in the finger, or they may be placed in a cup which is to be inverted over the part from which the blood is to be drawn. They should not be disturbed whilst sucking, as the patient be exposed to too great warmth, or they will fall off; this they should always be permitted to do of their own accord. They are used to disgorge, by putting them in a weak solution of common salt; and, if they have not been injured, they may be used five or six times. They are taken either by hand or by means of a glass net. In keeping them, great care should be taken to move the water frequently, and not to place too many in the same reservoir, and to remove speedily all that may die. Notwithstanding every precaution that can be taken, they will sometimes perish in great numbers, apparently from an epidemic disease. It appears that, in such cases, the use of charcoal is the preventive: for this purpose, the bottom of the reservoir is to be strewed with small pieces of the substance, kept down by moss. (See Diction. Hist. nat. et med. des Sanguisues; North Am. Med. and Surg. Jour., 1826, &c.) In 1821, France is said to have exported 1,500,000, and in 1823, 33,650,000.

LEEDS; a large trading and manufacturing town of England, in the West Riding of Yorkshire, 110 miles distant from London. It is situated on the Aire, which is navigable from the Humber up to the town, whence the Leeds and Liverpool canal proceeds on the other hand to the west, so that it is equally open to the eastern and western seas. Along the river, the town extends about two miles from east to west. The houses, mostly of brick,

are in general well built, and, in the modern part of the town, which is daily extending, handsome and elegant. In the other parts, the streets are narrow and crooked. Leeds is a place of great antiquity, as it is mentioned by Bede, the ecclesiastical historian; and it is also noticed in Domesday Survey. A castle formerly existed here, which was besieged by king Stephen in 1139; and in this fortress Richard II., after his deposition, in 1399, was confined for a short time. Leland, writing in the reign of Henry VIII., describes Leeds as "A pretty market-town, subsisting chiefly by clothing, reasonably well builded, and as large as Bradford, but not so quick as it." The town received its first charter of incorporation from Charles I. in 1626, when Sir John Savile, afterwards ennobled, was made the first honorary alderman; and in compliment to him, the arms of the town are very appropriately decorated with Lord Savile's supporters, two of the Athenian birds, sacred to Minerva, the goddess of wisdom, and patroness of the arts of spinning and weaving. A second charter was given to the town by Charles II., in 1661, and renewed by James II. in 1684.

Leeds has long been famous not only for the manufacture of woollen cloth in general, but also as a mart for the two varieties of mixed and white broad cloths. The mixed cloths are those which are made with dyed wool, which in the seventeenth century, were exposed for sale on the battlements of the long and wide bridge over the Aire, and afterwards in the open air in the street, called the Briggate. The inconvenience and damage to the cloth, from exposure to the weather, suggested the necessity of a different arrangement; and in 1758 the mixed cloth-hall was erected at the general expense of the merchants and manufacturers. This is a quadrangular edifice, surrounding a large open area, from which it receives the light abundantly, by a great number of lofty windows; it is 128 yards in length, and sixty-six in breadth, divided in the interior into six departments, or covered streets, each including two rows of stands, amounting in number to 1800, held as freehold property by various manufacturers, every stand being marked with the name of the proprietor. This hall is exclusively appropriated to the use of persons who have served regular apprenticeship to the trade or mystery of making coloured cloths. The markets are held on Tuesdays and Saturdays, and only for an hour and a half each day, at which period alone sales can take place. The market-bell rings at six o'clock in the morning in summer, and at seven in winter, when the markets are speedily filled, the benches covered with cloth, and the proprietors respectively take their stands; the bell ceasing, the buyers enter, and proceed with secrecy, silence, and expedition, to bargain for the cloth they may require, and business is thus summarily transacted, often involving an exchange of property to a vast amount. When the time for selling is terminated, the bell again rings, and any merchant staying in the hall after it has ceased, becomes liable to a penalty. The hall is under the management of fifteen trustees, who hold their meetings in an octagonal building, erected near the entrance to this hall. Similar in its plan to the preceding, is the white cloth-hall, which is divided into five streets, each with a double row of stands, amounting in all to twelve hundred and ten. The markets are held here on the same days, but they do not commence till after the conclusion of those at the mixed cloth-hall, and are subject nearly to the same regulations. Besides these principal halls there is also a small hall of more recent erection, in Albion Street, appropriated to the use of such clothiers as are excluded from the others in consequence of not

having served as apprentices to the trade. The manufacturing district whence these halls are supplied, extends about ten miles southwards of Leeds, fifteen miles to the south-west, and eight or ten to the north and west; the mixed cloths being made chiefly in the neighbourhood of the river Aire, and the white cloths in that of the Calder. Large quantities of fancy goods are also made, such as swandowns, toilinetts, kerseymeres, bear-skins, shalloons, stuffs, Scotch camlets, blankets, carpets, pelisse-cloths, and shawls in great variety. Near the town, are potteries, where large quantities of earthenware are made, and exported thence to Scotland, Ireland, Holland, Germany, Russia, the Baltic, and the Mediterranean; here also are establishments for making canvass, sacking, thread, &c.; others for the finer kinds of linen; and in or near Leeds are several cotton-mills, chiefly worked by means of steam-engines. Here are also iron and brass foundries, with establishments for making various kinds of machinery; oil and mustard mills, paper mills, silk-mills, and works for the preparation of oil of vitriol, aquafortis, and other chemical articles. Within the parish, which is thirty miles in circumference, are several productive coal-mines; and there are likewise quarries of argillaceous schist, whence is procured an abundant supply of slates and flagstones for paving.

Leeds has many elegant public structures, among which may be mentioned the theatre, the new court house, and the commercial buildings. It enjoys the benefits of a Literary and Philosophical Society, an institution for the promotion of the fine arts, several public libraries, &c. The population of Leeds, which in 1775 was only 17,117, amounted in 1831 to 123,393.

LEEK (*allium porrum*); a mild kind of onion, much cultivated and highly esteemed in some places for culinary purposes. The stem is rather tall, and the flowers are disposed in large compact balls, which are supported on purple peduncles.

LEEWARD ISLANDS. The terms *Leeward* and *Windward*, applied to the West India islands, were given them from their situation in a voyage from the ports of Spain to Carthage or Porto Bello. The islands, which lie to leeward, extend from Porto Rico to Dominica.

LEEWARD, To, denotes towards that part of the horizon which lies under the lee, or whither the wind blows.

LEFEBVRE, FRANÇOIS JOSEPH, duke of Dantzig, marshal and peer of France, &c., born at Rufack, department of the Upper Rhine, in 1755, and after having served with distinction in the wars of the republic and the empire, died in 1820. He entered the military service in the *gardes Françaises*, and at the revolution was sergeant. Having warmly embraced the new principles, and distinguished himself by his prudence and firmness, his promotion was rapid. In 1794, he was made general of division; and, in the succeeding campaigns, continued to render himself conspicuous by his courage and military skill. He espoused the cause of general Bonaparte, whose designs he was able to forward on the eighteenth Brumaire, as he had, at that time, the command of the seventeenth military division, which included Paris. His services on this occasion were rewarded by the dignities of senator, marshal of the empire, grand cross of the legion of honour. He bore an important part in the victory of Jena, distinguished himself at Eylau, and received the chief command at the siege of Dantzig, at which he gave the most brilliant proofs of genius and humanity. In 1808, he served in Spain; in 1809, again in Germany; and, in the Russian campaign, commanded the imperial guard. After the abdication of the emperor, the king created him peer, and, during the hundred days,

Napoleon included him in his upper chamber. His name was consequently erased after the second restoration; but, in 1819, he was again summoned to take his seat.

LEFEVRE, ROBERT; a portrait painter in Paris; a pupil of Regnault. He produced also historical pieces of great merit, which, with those of David, Girodet, Guérin, and Gerard, belong to the best of the modern French school. Several portraits of Napoleon by Lefevre are among the best. He died in 1831.

LEFORT, FRANCIS JAMES, the celebrated favourite of Peter the Great, was born at Geneva, 1656. His father, a merchant in that place, sent him to Hamburg to become acquainted with commerce; but, having an inclination for a military life, he went secretly to Marseilles, in his fourteenth year, and entered first the French and afterwards the Dutch service, which he left to go to Moscow, by the way of Archangel, in 1675. Here he became secretary to the Danish ambassador; and a fortunate accident gave him an opportunity to gain the favour of the young czar, Peter Alexiowitch, which he retained till his death. In both was the germ of greatness, which was gradually developed. Peter felt that he needed an instructor and assistant; and Lefort possessed talents fitted for both offices. The first great service which he rendered the czar was in a rebellion of the Strelits (1688). Lefort quelled the insurrection, and saved the prince from the danger which threatened his life. This service gained for him the unbounded confidence of the czar, who was now become the absolute master of Russia. Lefort's influence increased daily. He established the military system of Russia, and laid the foundation of her navy, which Peter afterwards carried to such a degree of perfection. When Peter travelled into foreign lands, in 1697, Lefort was the principal of the embassy, in the train of which the czar remained incognito. In the mean time, the nobles, jealous of the favour shown to a foreigner, saw a favourable opportunity to revenge themselves, in the long absence of Lefort and the czar. The Strelits rebelled; but Peter darted on them with the rapidity of an eagle, and took a bloody revenge. The czar, Lefort, and Mensikoff executed the guilty with their own hands. Soon after, Lefort died (1699). He had a comprehensive and cultivated mind, a penetrating judgment, much presence of mind, great dexterity in sounding those of whom he wished to make use, and an uncommon knowledge of the resources of the Russian empire. The groundwork of his character was firmness, invincible courage, and justice; but his habits were irregular, which hastened his death.

LEGATES, with the ancient Romans, were the assistants of a proconsul or proprator, in the administration of a province and in the command of the army; also the higher officers, who commanded under the general-in-chief of any army. Of the papal legates, there are several kinds. *Legatus natus* is a mere title connected with an episcopal see, by the grant of the pope. These see lie out of the Roman states; among them are those of Treves, Cologne, Salzburg. The real envoys are called *legati missi*. Among them, the *legati a latere* have the highest rank, and are sent on particularly important missions to the principal courts, or into the provinces of the papal dominions as governors. They are taken from the college of cardinals only. The districts of the States of the Church, therefore, are called *legations*. Legates who are not cardinals are called *nuntii apostolici*. If they are sent *cum facultate legati a latere*, their power is equal to that of a *legate a latere*. All Catholic governments, however, do not allow them equal authority. Thus the Austrian expressly prohibits any clergyman from transacting business with the pope through the legate.

LEGATION is used to signify the body of official persons attached to an embassy; hence *secretary of legation*. (See *Ministers, Foreign*.) *Counsellor of legation* is a title bestowed in Germany—the head of counsellors—on certain officers connected with the ministry for foreign affairs. Very often, however, it is a mere honorary title, conferred upon persons who never had any connexion with politics, as Jean Paul Richter, who was made counsellor of legation by one of the petty princes. *Legation* also signifies a division of the States of the Church. See *Legate*.

LEGATO (*Ital.*); a word used in opposition to *staccato*, and implying that the notes of the movement or passage to which it is affixed are to be performed in a close, smooth, and gliding manner, holding each note till the next is struck.

LEGEND (*legenda*); the title of a book containing the lessons that were to be read daily in the service of the early Roman Catholic church. The term *legend* was afterwards applied to collections of biographies of saints and martyrs, or of remarkable stories relating to them, because they were read at matins, and in the refectories of cloisters, and were earnestly recommended to the perusal of the laity as proofs of the Roman Catholic faith. The Roman breviaries likewise contain histories of the lives of saints and martyrs, which were read on the days of the saints whom they commemorated. They originated in the twelfth or thirteenth century, and they contributed much to the extinction of the old German (heathen) heroic traditions. In the middle ages, a collection of the lives of the saints was known by the name of *Legenda Sanctorum*, or *Historia Lombardica*. There is a celebrated collection, called the *Golden Legend* (*Aurea Legenda*), by Jacobus de Voragine, archbishop of Genoa, who died in the year 1298. The histories of saints, which are founded merely on tradition, are also known by the name of *Legends*. (See *Basile's* historical and critical treatise on the histories of the saints and martyrs, in his work entitled *Les Fies des Saints*.) As these histories were often nothing more than pious fictions, the name of a *legend* was given by the incredulous to all fables of a similar nature, to all fictions which make pretensions to truth. Valerius Augustinus, who was bishop of Verona in the sixteenth century, in his work *De Rhetorica Christiana*, ascribes the numerous fables, which have been ushered to the world under the title of legends, in part to the custom prevailing, in many monasteries, of requiring the monks to write Latin paraphrases and dissertations on the most striking circumstances in the lives of the saints, in which they were allowed to ascribe to tyrants and persecuted saints such words and actions as they considered most adapted to their situation and character. This gave rise to those embellishments of history, which were preserved, and afterwards found in monasteries, and mistaken for true histories. Although many of the legends are tasteless and unmeaning fictions, the offspring of childish credulity, or intended to gratify it, there is also a large number of highly poetical and ingenious fables among them. Hence many poets have attempted to avail themselves of these rude materials, and to arrange them in the modern taste; and hence every poetical fiction, in the style of ecclesiastical tradition, whether in verse or prose, is called a *legend*. The principal characteristic of a legend is the marvellous, which should be of a religious nature, or relating to some traditions of the church, without, however, falling into frivolity. The legend is a production of Christianity, and, like the traditions of the church, wholly different from the *mythos*, or ancient fable. The style proper to it is plain and simple, such as would naturally flow from the gentle and

tion of a pious heart, and wholly inconsistent with ornament and poetical decorations.

*Legend* is also used for the motto or words engraved, in a circular manner, round the head or other figure upon a medal or coin. The meaning of this term is similar to that of *inscription*; but the latter refers chiefly to the writing placed in the middle of the coin, while the legend, as we have just observed, surrounds it.

LEGHORN (*Livorno*); a commercial city in Tuscany, on the Mediterranean; lat.  $43^{\circ} 33' 5''$  N.; lon.  $10^{\circ} 16' 53''$  E. The streets are even and well paved, but narrow and dark, from the height of the houses, which are of stone: there are, however, no palaces, like those of the other towns of Italy. The finest street is the *strada Ferdinandea*, which passes through the middle of the town to the port, through the *piazza d'armi*. The town occupies but a small space in proportion to its population, contains seven churches, one archducal palace, one Greek, one Armenian church, and 65,355 inhabitants, amongst whom are about 20,000 Jews in a separate quarter of the town, who possess a beautiful synagogue, two schools, a library, a printing-office, several collections, and many privileges. Greeks, Armenians, and Turks (who have a mosque), are also found here. There are large magazines of salt, tobacco, and oil. In the neighbourhood of the town is an excellent quarantine establishment with three lazarettos. The coral works produce 160,000 dollars yearly. There are also distilleries of rosoglio, tanneries, dyeries, paper, and tobacco manufactories. The port is annually visited by more than 4000 ships. A packet sails between this place and Marseilles. Leghorn is the principal commercial town of Italy, and has an extensive trade to the Levant. The principal commercial nations have consuls at Leghorn. Commerce is principally in the hands of foreigners, particularly the British. The Armenians and Jews are the general brokers of all nations. Much commission business is carried on, and there are large dealings in bills of exchange. The exports of Leghorn consist principally of raw and manufactured silks, olive-oil, fruits, shumac, valonia, wines, rags, brimstone, beeswax, marble, argol, anchovies, manna, juniper berries, hemp, skins, corn, &c. Leghorn plaiting or straw hats is the finest in the world, and large quantities are imported into Britain. The imports are very numerous and valuable comprising all sorts of commodities, with the exception of those produced by Italy. Recently, however, the trade of Leghorn has fallen off. Since 1633, it has been an important commercial place. The town, which was then insignificant, was at that time enlarged. The port is protected by two strong towers situated on rocks in the sea, and by an old castle. It is liable to become choked, and has not sufficient depth for large ships; these, therefore, have to anchor outside the mole which protects the harbour. This mole 600 paces in length, is well paved, and used for sailing. On the place before the inner port is the colossal marble statue of the grand duke Ferdinand I. From thence a bridge leads to the outer port, where the greater number of vessels are at anchor. Without the port, on a rock in the sea, is a light-house. Good water for drinking is brought from a well, to which little vessels go daily, drawn by men and horses. Between the town and the surrounding country is a long promenade, called *gli Sparti*. The *piazza d'armi*, the road to Monte Nero, a place of pilgrimage, also serve as public promenades. In 1279, Leghorn was still an open town. When the port of Pisa was destroyed, the prosperity of Leghorn increased, particularly when it passed to the hands of the Medici in 1421 and 1495. Alexander of Medici

made it a strong-hold, and built the citadel. Cosmo I. declared the port a free port. From this time forward, the wealth of Leghorn has increased (interrupted only by the wars of the revolution, and, in 1804, by the yellow fever). The society of arts and sciences there established is called *Accademia Labronica*.

LEGIO FULMINATRIX (*the thundering legion*). This term was applied to a Roman legion in the time of the emperor Aurelius. The following account of the name is given by the Christian traditions. After the expulsion of the Marcomanni and Quadi from Hungary, the emperor Marcus Aurelius, pursuing these German tribes with a detachment of his forces, A. D. 174, was shut up in a valley, surrounded on every side by high mountains. To those who were thus cut off from the main body of the army, the heat and the want of water were no less dangerous than the attacks of the enemy. In this crisis, a sudden shower of rain reanimated the Roman soldiers. At the same time, a storm of hail, attended with thunder, assailed the enemy, who were now easily repulsed and conquered. Both heathen and Christian authors agree in their relation of the principal circumstances of this event. The adherents of each religion saw in it the influence of the prayers of their brethren. According to Dio Cassius (*Excerpta Xiphilini*, l. lxxi., cap. 8), the miracle was wrought by an Egyptian sorcerer in the train of the emperor; according to Capitolinus (*Vita Marc. Aurel.*, cap. 24), it was the effect of the emperor's prayers; but, according to Tertullian (*Apologet.*, cap. 5, *Ad Scapul.*, cap. 4) and Eusebius (*Hist. Eccles.* l. v., cap. 5), it was brought about by the prayers of the Christians in his army; hence the legion to which these Christians belonged was denominated *fulminatrix*. The letter of the emperor Marcus Aurelius, commonly printed in Greek in the first apology of Justin Martyr, gives the same account with the Christian writers; but it is spurious. The marble pillar erected at Rome in honour of Marcus Aurelius, and still standing, represents this deliverance of the Roman army, the Roman soldiers catching the falling rain, and a warrior praying for its descent. It is not, however, to be considered as a memorial of any influence exercised by the Christians in the event.

LEGION; a division of the Roman army. Under Romulus, it was composed of 1000 foot and 100 horse, selected from each of the three tribes. The body thus selected (hence the name *legio*) amounted, therefore, to 3300 men. In the time of Polybius, a legion consisted of 4200 men, and it was finally increased to 6200 foot. All the soldiers of a legion were Roman citizens: no slaves were admitted, except in cases of the most pressing necessity; nor any citizen under seventeen years old, except in peculiar circumstances of danger. There was commonly an equal number of auxiliaries attached to each legion, so that, in the later periods of Roman history, we must understand by a *legion*, a corps of 9000 or 10,000 men. The foot of each legion, when it consisted of 3000 men, were divided into ten cohorts, and each cohort into three companies (*manipuli*) of 100 each, hence called *centurie*. When the legion was enlarged, the same division was still retained, with the difference that each *manipulus* was now divided into two centuries, and each century into ten *decuria*. The commander of a legion was styled the *legatus*. Sometimes, instead of a legate, six military tribunes were appointed from each, who commanded in succession, each for the space of a month, under the direction of the consul. The principal standard of a legion was a silver eagle; and the legions were named from their commander (as the *Claudian legion*), or from the place

where they were stationed, or from some deity, or from birds, or from some remarkable event. The following cut represents various standards of Roman legions:—



In the time of Augustus, the army consisted of twenty-five legions.

*Legion* is also used, proverbially, to signify a large and indefinite number of persons or things. This term was revived in the time of Napoleon, and has since been commonly applied to a body of troops of an indefinite number, and usually of different kinds. Such legions are mostly formed at the beginning of a war, and dissolved at the close. Of this sort were the English-German legion, and the Russian-German legion, in the last war for the independence of Europe. The French national guards were divided into legions and cohorts. After the dissolution of the army raised by Napoleon in 1815, the remains of which had retired beyond the Loire, the new French army was divided into legions, which were named from the departments. This arrangement, however, was abolished towards the close of the year 1820.

**LEGION OF HONOUR** (*légion d'honneur*); an order instituted by Napoleon, while consul, May 19, 1802, for military and civil merit. The proposition produced much debate in the legislative body, and passed after a strong opposition. It was the object of Napoleon to kindle a spirit of ambition, the most necessary national element for the support of wars, of which he foresaw that it would be necessary for him to wage many, and for this purpose the institution was admirably calculated. At the same time, it cannot be denied that, abstractly considered, it is to be regretted, that a nation, which had just declared itself so loudly for liberty, should appear so eager for ribands—an invention of those very times against which the revolution was directed. Moreau, who was altogether opposed to Napoleon, ridiculed the institution. The cross of the legion of honour was given to all who had previously received a military weapon as a mark of honour, and to a great number of new members. Its effect upon the soldiers was very great. After Napoleon's assumption of the imperial dignity, the statutes received some modifications. The oath was originally as follows: "I swear, on my honour, to devote myself to the service of the republic, to the preservation of the integrity of its territory, to the defence of its government, its laws, and the property by them consecrated; to oppose, by every means which justice, reason and the laws authorize, all acts tending to re-establish the feudal system, or to revive the titles and distinctions belonging to it; finally, to contribute, to the utmost of my power, to the maintenance of liberty and equality." After Napoleon became emperor, the form of the oath was somewhat changed. The members swore to devote themselves to the service of the empire, to

the preservation of the integrity of the French territory, to the defence of the emperor, to the support of the laws, and of the property which they had made sacred; to combat, by all the means which justice, reason and the laws authorized, every attempt to re-establish the feudal régime, and to concert, with all their might, in maintaining liberty and equality. The decoration consisted of a star containing the portrait of Napoleon, surrounded by a wreath of oak and laurel, with the legend *Napoleon, empereur et roi*; on the reverse was the French eagle with a thunderbolt in his talons, and the legend *Honneur et patrie*. The star of the *légionnaires* was of silver, that of the officers of gold, and was suspended from a red riband with a white margin. The order consisted of grand-crosses (*grand aigle*), who wore the cross on a broad riband hanging over the left shoulder, and a star on the left side of the breast; of *grand-officers*, who wore the cross in the button-hole, and a star, somewhat smaller on the left side; of *commanders*, who wore the cross round the neck; of *officers*, who wore the gold cross with a bow in the button-hole, and of *legionaries*, who wore the silver cross with a simple riband in the button-hole. The legion was composed of sixteen cohorts, each of which had its seat in a different city, and contained 417 members: the whole number was, therefore, at first, 6672. Each cohort had a chancellor, treasurer and chief—the whole order a grand-chancellor and grand-treasurer. The pension of a grand-officer was 3000 francs, annually; of a commander, 2000; of an officer, 1000; of a legionary, 250 francs. There was also an institution for the education of the daughters of members of the legion of honour at Ecouché, under the care of Madame Campan. After the restoration of the Bourbons, the order underwent essential changes. The head of Henry IV. was substituted for that of Napoleon, with the legend *Roi de France et de Navarre*; and, on the reverse, the *fiat de la* took the place of the eagle. The grand-crosses were limited to eighty, the grand-officers to 160, the commanders to 400, the officers to 2000: the number of the legionaries was left unlimited. New members received no pensions, whilst those of the old members exceeded the prescribed sum; but on the death of the old members, the new ones were to receive their pensions. Foreign members received no pensions. It was evident that the legion of honour was badly treated by the Bourbons, who restored the old order. The members created during the hundred days were, of course, not acknowledged by the Bourbons; but, in 1831, general Lamarque obtained their acknowledgment by a spirited speech, in the chamber of deputies, for which they sent him a sword with an inscription. Military honours are paid to the members of the legion, as they are also to the bearers of the *croix de Juillet*, which has been granted to 1300 persons who distinguished themselves during the struggle of July, 1830. This cross takes precedence of that of the legion of honour.

**LEGISLATION.** See *Law*.

**LEGISLATIVE BODY** (*corps législatif*): an assembly, in the time of the French consulate and empire, consisting of 300 persons, which had neither the right to discuss nor to initiate a law, but merely to vote on a law proposed by the government and discussed by the tribunate (as long as that body existed, in their presence. The tribunate, on the other hand, had not the right to vote. It was an extremely lame contrivance, showing the political imperfections of the French at that time.

**LEGISLATURE.** *Houses of.* Whether it is preferable to have two houses of legislature or one, has been a question on which politicians have maintained different opinions, though, at present, public

opinion appears to be in favour of two houses, the instances of Britain and the United States of America, giving great weight to this division of the legislative power, and a single house in the case of large nations seems to be ill adapted to modern representative governments. During the middle ages, indeed, and as long as the assembly of the estates existed, these formed, in general, certainly, only one body; for, although the different estates may have met in different rooms, they had no proper independence of each other. In England, which has led the way in constitutional institutions, a happy conjunction of circumstances early united the clergy with the high nobility into one house, and the lower nobility, or gentry, with the representatives of the cities, into another; whilst, in the countries of the European continent, the clergy, the nobility, and the representatives of the cities, although they constituted different estates (in some cases, the superior nobility [*magnates*] and the free peasants formed also distinct estates), made but one legislative body; and, in most cases, the representation was so unequal, that the nobility and clergy entirely outweighed the commons, threw all the burdens of the state upon the citizens and peasantry, and prevented, almost entirely, the development of constitutional establishments. In England, however, the division into two houses has had the effect of repressing the assumptions of different classes, by making them mutually checks upon each other, developing constitutional and public law, and introducing general taxation, and has contributed most essentially to the superiority in political advantages of the English people over the other nations of Europe. See the article *Britain*, division *Parliament*; in that article, also, will be found an account of the privileges of the two houses, and of the difference between them.

In the more important British colonial establishments, political institutions, modelled, to a considerable degree, on those of the mother country, have been introduced—a governor, with a council (appointed by the British government), and a house, or assembly, with members elected by the people. This is the case where the extent and population of the colony warrants such an organisation, and where the colony does not belong to a company, or where the great number of natives, living interspersed with the colonists, does not prevent such an establishment. Thus a council and a house of assembly exist in the two Canadas, Nova Scotia, New Brunswick, the British West Indies, and they existed in many of the colonies, which afterwards declared themselves the United States of America. The latter established, on declaring themselves independent, a congress, consisting of delegates from the several states, invested with certain powers by the articles of confederation, and forming but one body. After the close of the revolutionary struggle, the federal constitution established a house of representatives, chosen by the people of the several states, and a senate, consisting of members chosen by the legislatures of the several states for six years. The separate states also established each two houses of legislature, with the exception of Vermont, which has but one. In Massachusetts and New Hampshire, the senators are apportioned among districts, with reference to the amount of taxes paid by the districts respectively. In the other states, the rule of apportionment is that of numbers. In the tabular view of all the constitutions of the United States, affixed to the article *Constitution*, the reader will find the term for which, and the conditions upon which, the members of the two houses are elected, in the different states, and for the federal government.

The French revolution began by uniting the three

estates in one house, in 1789. Different constitutions were framed in rapid succession. The constitution of Sept. 3, 1791 (monarchical), established but one legislative house. The constitution of June 24, 1793 (republican), declared, in section thirty-nine, the legislative body "one, indivisible, and permanent." The constitution of the year III., Sept. 23, 1795 (with a directory of five members), established a council of elders, consisting of 250 members, and a council of five hundred. The members of the latter were to be, at least, thirty-five years of age, those of the former, at least, forty years. The council of five hundred had the exclusive right of initiating laws. Both were chosen for three years. The constitution of Dec. 13, 1799 (consular), established a legislative body, which could only adopt or reject propositions made by the government, and communicated and discussed by the tribunate. (See *Legislative Body*.) The members were chosen for five years. There was also a conservative senate. (See *Senate*.) The consulate for life, and the imperial government, retained the legislative body, but the tribunate was abolished. The *Charte Constitutionnelle* at last established houses of peers (for life or hereditary), and of representatives—the latter on the basis of taxation. See *Charte Constitutionnelle*, *Election*, and *France*.) In the article *France*, it will be seen, that, in 1830, when the elder Bourbon line was declared to have forfeited the throne, it was provided, in the additions to the charter, that the organization of the peerage should undergo a revision in 1831: the result we shall give under the article *Peer*.

Poland, by the constitution granted by the emperor Alexander, had two houses—a senate, consisting of members appointed for life by the sovereign, and not by the viceroy, and a house of representatives. The kingdom of Norway has two chambers—the *Logthing* (q. v.) and the *Odelsting*, both together composing the *Storting*. (q. v.) Bavaria, Hanover, Wurtemberg, Baden, and Hesse-Darmstadt, have each two houses. The constitution which Joseph Napoleon gave to Spain, July 6, 1808, established one house, the cortes, consisting of three estates,—the prelates, nobility and people, with a senate, which, however, is not to be considered as a branch of the legislature. The constitution of the cortes of March 19, 1812, established but one house—the cortes. This organization was imitated in Piedmont, Naples and Portugal, at the time of the respective revolutions in those countries. The constitution granted to Naples by Joseph Napoleon, June 20, 1808, established one house—a national parliament—consisting of five benches (*sedili*), those of prelates, nobility, landholders, learned men and merchants. Lord Bentinck's constitution for Sicily (1812) established two houses. In Sweden, by the constitution of June 7, 1809, there is but one house, consisting of the estates—the nobility, clergy, citizens, and crown peasants. In the kingdom of the Netherlands, there were two houses of the states-general, one composed of members for life; and, also, two houses of the provincial estates. Saxe-Weimar has but one house, as had Saxe-Hildburghausen, at least before its union with Meiningen. Under the article *Netherlands*, we shall give the new Belgian constitution. In the Ionian Islands, there is a senate of ten members, and a legislative body of forty members. (See *Ionian Islands*.) The diet of Switzerland (*Tagsatzung*) consists of nineteen deputies, who vote according to instructions from their respective cantons. The constitution of the German diet (*Bundestag*) is similar. (See *Germanic Confederation*.) Neither of these bodies has any resemblance to the congress of the United States of America. The constitutions of the new American governments, as Colombia, Brasil, Mexico, &c., have,

in general, established two houses, on the plan of those of the United States. In Bolivia, the legislative department consists of three branches, the tribunes, the senators, and the censors. (See *Brazil, Peru, Mexico*, &c.) We ought to mention, in connexion with this subject, that, in most governments, the executive has also a legislative voice, in so far that its sanction is required to give the force of law to the acts of the legislative bodies. Thus, in Britain and France, the royal assent is necessary to the passage of a bill. In the United States of America, the president, and, in the larger part of the states, the governors, have a provisional *veto*.

LEGITIMACY; from *lex* (the law), whence *legitimus* (conformable to law); hence *legitimate* children are the offspring of a lawful marriage; and those which are born out of wedlock are said to be *legitimated* when they are declared legitimate by the state. A person *legitimizes* his claims when he produces legal proof of their justice. After the French revolution, in the last century, had deprived the Bourbons of the throne of France, to which they laid claim by virtue of their right of succession, and, in particular, after their recovery of it, in 1814, the word *legitimacy* became very common in the language of European politics. The question, Who is the legitimate ruler? is intimately connected with the general subject of sovereignty. (q. v.) Formerly, when political questions were treated less scientifically, legitimacy was not so much a point of contest. States, countries, nations, passed by inheritance, conquest, marriage contracts, &c., and the legitimacy of a prince was decided, generally, like an affair of ordinary diplomacy; less, however, in the case of Britain than of the continent. But when the allies dethroned Napoleon and his brothers, they wanted something to oppose to the claims which he derived from his election by the people. A phantom was therefore created, at the congress of Vienna, called *legitimacy*, and since that time, has been constantly used, but never defined, which, indeed, it cannot be, because the facts before the world are too stubborn for this theory of the hereditary descent of nations, like common property. If this right of inheritance could be proved, legitimacy would be something very easily definable; but there is a difference between an estate and a nation. The Austrian Observer, a semi-official paper, in order to prove the Turks legitimate masters of Greece, once defined legitimacy thus: "Every sovereign is legitimate who is such by a long series of treaties with other lawful sovereigns." Austrian logic! Misconceptions of certain passages of the Old Testament, a confusion of religious and political ideas, together with feudal views surviving the institutions which gave them birth, have involved the question of legitimacy in great obscurity. The most absurd doctrines have been broached in the attempt to support this doctrine of the holy alliance, and other follies, which have been maintained at the expense of the blood and happiness of nations. If it rests on long possession, we might ask how many generations are required to legitimate robbery; or we might say, with Luther, that, on this principle, Satan is the most legitimate of rulers, because his kingdom is the oldest. In our prosaic times, those who rest the right of sovereignty on birth cannot, like the ancients, make a Jupiter or an Apollo the founder of a royal line, and deduce the divine right of princes from their divine descent; and, if they look no higher than a human ancestor, it will be hard to prove the direct descent of many a princely house from the source whence it derives its claims to sovereignty. The memoirs of courts show how often plebeian blood has been mixed with royal. But it is needless to spend time in refuting a theory which even Chateau-

brand, once its staunch defender, has disclaimed. In a late speech, he says, "I do not believe in the divine right of kings," and "monarchy is no longer a religion; it is a political form."

For all who consider the state as a society of men with equal rights, and the government as established for their welfare, the question is easily solved. He who rules with the approbation of the people is legitimate. If, after submitting, for a while, to one family, they choose to transfer their allegiance to another, they have, incontestably, the right to do so. The mistakes to which they may be liable, in using their rights, do not affect the rights themselves. The good of the people is the sole object of government, and no title, however, high-sounding, or old, or well-earned, can contest with it. History, moreover, is full of instances of reigning houses displaced by revolutions, and succeeded by others, which have been considered legitimate, on account of their acceptance by the people.

\*The word *legitimacy* is now commonly used, in Europe, to denote the lawfulness of the government, in a hereditary monarchy, where the supreme dignity and power pass by law from one regent to another, according to the right of primogeniture. In this sense, Napoleon Bonaparte is called an *illegitimate* ruler of France, though he was acknowledged by the French nation, and by other powers (even by Britain, which negotiated and concluded with him, as first consul, the peace of Amiens). Louis Stanislaus Xavier, on the contrary, as the eldest brother of Louis XVI., is called a *legitimate* ruler of France, because (agreeable to the Salic law, which prevails in the French monarchy), after the death of Louis XVI., his son was to succeed to the throne, under the title of *Louis XVIII.*; and, as he died without children or brothers, and his sister could not succeed, his first uncle (formerly count of Provence) was to be considered as Louis XVIII., although the Bourbon dynasty, in fact, ceased to rule at the death of Louis XVI. This signification of the word is plainly too limited; for, 1. it is not adapted to states with elective governments, notwithstanding a regular government is established in them, as well, as in hereditary states, by constitutional laws, and consequently there are legitimate rulers in them; 2. it is not adapted to hereditary states, if the reigning family becomes extinct, when a new family must be called by the nation to the throne, or a different form of hereditary succession be adopted in regard to the persons who are to fill the highest offices of dignity and power. But there is an error, also, at the very foundation of the above definition of legitimacy: it supposes that the state, that is, the people living in a certain territory, in civil union, is the private property of a single family, transmissible, like all other private possessions, from the parents to their children, or other relations, as long as any branch of the family is living; for one man can never, rightfully, be the property of another—still less a multitude of people, in civil union, or a state. If the idea of property was applicable in this case, the ruler ought rather to be called the property of the state, than the state the property of the ruler; but the idea does not admit of being applied to the relation existing between a state and its governor. This relation can be properly considered only as a contract by which the dominion of the state is given to the ruler, whether the compact be merely virtual and tacit, or express and formal, and whether the supreme power is given to a definite individual, who is appointed anew every time, or to a whole

\* What follows of the article Legitimacy from this point, must be taken as the view of Continental jurists on the subject.

family, from which the rulers are to succeed one another, without a fresh choice, in order to prevent the dangers attendant on frequent elections. But there is another and more comprehensive signification of the word *legitimacy*, by which we are to understand the order existing in a state, and established by law, with respect to the form of government, and the persons to whom it is intrusted. The historical origin of this order is not to be taken into the account, but merely the fact that it is established by the law, (which, in theory, expresses nothing else than the universal will, or the will of the people), and has thus gained the form of a right. If we look to history, we shall find few governments that have a claim to legitimacy as having been lawful in their origin. As regards the Bourbons, it is well known that Hugh Capet, the founder of the third dynasty of the French kings, from whom also the Bourbons descended, gained the French throne, to the injury of the existing sovereigns, by his courage and ability, in the tenth century. If it is asserted that illegitimate authority was made legitimate by being transmitted from one person to another, then it must be conceded, that, if Napoleon had died before his abdication, and left the power to his son, the latter would have been a legitimate sovereign of France, and consequently there would have been two legitimate dynasties in the kingdom—the Bourbon and the Napoleon; but it is not easily understood how mere transfer can make that power legitimate which was at first illegitimate. It cannot be considered the same as prescription (*prescription*); for prescription only takes place when a positive law, relating to the rights of private persons, has fixed a certain period, within which some result takes place; but neither national law, nor the laws of single states, fix any kind of prescription in regard to the rights of a government. A ruler, in truth, becomes legitimate, if the people submit to him, and thus in fact, if not formally, consent to cede to him the supreme dignity and power; but this was the case with Napoleon. The French people acknowledged him their sovereign—first under the title of *first consul*, and afterwards under the title of *emperor*; and the state of things thus established in France, was approved even by foreign powers. The French nation cannot have been forced to submit to him, because, when he took the reins of the government, he had come from Egypt without an army, and his power was far too small to subdue the whole French people. Grant that one party was unjust in declaring the family of Louis XVI. to have forfeited the throne, still the French princes, by their flight from France, had, in a manner, banished themselves, and resigned their claims to the throne; for these claims could not be maintained by words merely, but required action. They were not permitted to leave the king, with whose person all their rights were connected; on the contrary, they were bound to defend his person and his rights, as a sovereign, even at the peril of their lives. But as they regarded only their own safety, and deserted France and its rose, it might easily be shown that they, in fact, renounced their claims, and even promoted that anarchy, from which none but a mighty hand could rescue their country. If now France acknowledged and delivered (for such Napoleon, at that time, indisputably appeared) as its monarch, because the old nation suffered its claims to be overlooked, what is wanting to make him a legitimate sovereign? At this legitimacy was wanting, when, on his return from Elba, he undertook to resume the throne of France; for in this case, he overthrew an existing political order, and occasioned a kind of anarchy. A large part of France formally withstood him, and refused to send representatives to the *champ de Mai*,

where he intended to establish his legitimacy. Moreover, no foreign power recognised his authority. What the event would have been if Napoleon had prevailed at Waterloo, cannot be determined; but it is certain that the modern French theory of legitimacy would have been subjected to the greatest difficulties. This theory, however, has never been reduced to practice, but only the more limited one above-explained, as is proved by history in general, and, particularly, by the history of Britain, where the throne of the Stuarts is now occupied by sovereigns, whom all the world looks upon as legitimate, though, till the death of the last pretender, they must have been viewed, according to the ultra theory, as illegitimate. This leads us to the conclusion, that the proper point of view for considering legitimacy, at present, in Europe, is not, in relation to the lawful title to power, but only to its actual existence; and that the national law of modern Europe, while it aims to put an end to the convulsions of the last thirty years, is founded on the support of the present state of things, with the changes confirmed by the unanimous consent of the principal European powers. Hence arises a very definite notion of legitimacy, wholly free from the difficulties which occur in accounting for the lawful origin of power. For, on this ground, it is no longer necessary to show how a national government and dynasty was established in early times, but only that it is now acknowledged. The acknowledgment is that of the European powers, so called by way of eminence; that is, according to the use of the term since the congress of Vienna, in 1815, of all those states which do not depend entirely for their existence on a federative union; or of the eight powers which signed the peace of Paris; or, in a more limited sense, of the five powers which sent their commissioners to the last congress. In this practically admitted signification, legitimacy relates not merely to the dynasty, but also to the forms of government. It holds strict monarchical principles, as a general rule, and allows only the few actually existing exceptions; but it would be impossible to acknowledge an antimonarchical change, even though it were proposed voluntarily by the sovereign himself; for with this idea of legitimacy is closely connected the right of the European powers to prevent by force of arms, any alterations in the government, which are opposed to the monarchical principles of other states; and as, in this, it has reference only to the dangers which may accrue to other states from the establishment of republican institutions in any one, it considers only the fact of their existence, not the manner of their origin. The right of armed interference in the internal affairs of foreign states, it is well known, has never been disputed, but by Britain and America. Indeed, it has been maintained even by philosophers (Kant, *Zum ewigen Frieden*—On perpetual Peace) who make it a fundamental article of international law, that no state should be without a representative government. This right of armed intervention, however, admits of serious question: if it was once acknowledged, it might be used, also, by republics. In addition to the importance of the doctrine of legitimacy, in regard to subjects of international law, it is equally important as respects the internal government of a state; as it depends chiefly upon this to decide how far the acts of a government, merely usurped, can be obligatory on the legitimate government, if it should be again restored. This obligation can neither be maintained nor denied, unconditionally. It is impossible to declare all those acts of the public authority, which have taken place during a long usurpation, invalid. It would be equally absurd to treat as absolutely unalterable all abuses of justice (confiscations, penal laws, attacks

upon the private property of the legitimate ruling (house) by which the usurpation was attended. If the previous sovereign, therefore, is deposed, no one can refuse to the people the right of submitting, at least for a season, to that power which has been established in the place of the legitimate government, especially when the latter has ceased to struggle against the usurper, or continues its resistance without sufficient means. This principle was nowhere expressed so early and so decidedly as in Britain; for nowhere has there been such a variety of governments, which were afterwards declared to be mere usurpations, as there, during the contest, for sixty-four years, between the houses of York and Lancaster, and, subsequently at the time of the commonwealth and of Cromwell. Hence the British early learned to distinguish actual sovereignty (government *de facto*) from legal government (government *de jure*), and laid down the position, that subjects were bound to yield obedience, even to a usurper, as long as he is in full possession of public power, and that they are equally guilty of high treason in forming conspiracies against such a usurper, as against the lawful monarch. (This is said by Sir Matthew Hale, in his Pleas of the Crown, i. 60; Blackstone, Commentaries, i. 370, and iv. 77.) Accordingly, under Edward IV. of York, when he had deprived the house of Lancaster of the throne, in the person of Henry VI., persons were punished, who had been guilty of treason against the last king of the deposed house; and an express law of Henry VII., in the year 1495, declared all persons innocent, who had promised or yielded obedience to the king *de facto* (the usurper). Although Charles II. numbered the years of his reign from the death of his father (Jan. 30, 1649), yet all the acts of the interregnum remained in full force, unless they were necessarily repealed by the enactment of new laws. In France, at the restoration, the statesmen were obliged to adopt the same principle. The idea of legitimacy is to be considered, moreover, in reference to the limits of the power of sovereigns, as well the natural and universal, as the positive or conventional. Even the ancients distinguished tyranny—power without a just foundation (*tyrannis abque titulo*, or usurpation)—from the unjust use of power in itself legitimate (*tyrannis exercitio*); and, if legitimacy is once viewed as a principle of national law, it must necessarily be as much an object of support, in this latter relation, as it is against usurpation and revolution. The maintenance of the existing state of things is as much required in this view as in the others, and for a higher purpose. If the European powers are justifiable in maintaining their monarchical principles, they are no less authorised to maintain them in their purity; that is, as the means of legal authority, and to prevent the ruin of those institutions by which they are to be kept from degenerating into despotism; or, if these institutions have already been destroyed, to renew them, as prudence and the spirit of the times will allow. This authority, which may be deduced from a necessary duty, they have particularly when it is requisite to support an existing government, by arms, against usurpation or the violence of the mob. When this view of legitimacy finds place among the practical principles of national law (and it cannot be said to be rejected, as much has already been done in its spirit), an important step will have been made towards the accomplishment of the grand project of universal order, a universal tribunal, and universal peace. See Malte Brun's *Traité de la Légimité*, &c., Paris, 1825; and the articles *Aix-la-Chapelle*, *Congress*, *Holy Alliance*.

LEHMANN, JOHN GEORGE; a major in the royal Saxon army, and the inventor of a method of topo-

graphical drawing, which is called after his name. He was the son of a miller in humble circumstances, and born May 11, 1765, at Baruth, in the former Saxon electorate. His early education he received from the village smith, and afterwards worked in the mill. The recruiting officers, who often attacked the lower class of people in disguise, waylaid him, and carried him off to their quarters, as he was going to church. Lehmann soon distinguished himself by his industry and skill in writing and drawing. In 1793, he obtained his discharge, in order to devote himself entirely to topographical labours, and surveyed about 500 square miles in the Ennsperg, together with several private estates. The want of the common facilities for surveying, led him to the invention and application of those important rules, which are found in the second volume of his work. Lehmann also gained much experience in regard to the origin and constitution of single elevations, and of mountainous chains, and afterwards founded upon it his mode of topographical drawing, translated into English by Siborn. He made the campaign with Napoleon, in the Saxon army, and performed important services. Napoleon held him in high estimation. By constant application to his profession, he contracted a disease which finally terminated his life. Sept. 6, 1811. His system is of great importance to the soldier. It was published, after his death, by professor Fischer, with Lehmann's last improvements.

LEIBNITZ, GOTTFRIED WILHELM, baron &c., one of the most celebrated scholars and philosophers that Germany has ever produced, was born at Leipzig, July 3, 1646. His father, who was professor of jurisprudence in that city, died before he was half completed his sixth year. Leibnitz attended the school of St Nicholas, in Leipzig, till he was fifteen years old, without, however, adhering strictly to the prescribed course, as he was devotedly attached to Livy and Virgil, among the Latin writers. The latter he knew almost entirely by heart, and, even in his old age, he used to repeat whole books of his poems. He was soon distinguished for rapidity of comprehension and facility of expression. At the age of fifteen years, he began his academical course at Leipzig, and, although his principal study was ostensibly law, he paid particular attention to mathematics and philosophy, at that time taught by Johann Thomasius. He passed one year at Jena, in order to avail himself of the instructions of the celebrated mathematician Eberhard Weigel. After his return to Leipzig, he studied the Grecian philosophy. He gave a splendid proof of his progress, in his philosophical dissertation *De Principio Individuationis*, which was defended under Thomasius (1664), and which was followed by several legal treatises, e.g. *De Conditionibus* (1665), and by a remarkable philosophical-mathematical treatise, *De Arte Combinatoria*. In his twentieth year, he presented himself to the legal faculty, as a candidate for a doctorate, but was refused on account of his youth, and received his degree at Altdorf. He was offered the place of professor extraordinary of law, in that university, but he preferred going to Nuremberg, where there were many distinguished men. The famous Von Boineburg, minister to the elector of Mainz, having become acquainted with him, withdrew him from a society of alchemists, in that city, with which he had connected himself, and, promising him a place of service of the elector, induced him to fix himself at Frankfurt on the Maine. Here appeared in 1686, his *Novæ Methodus discendi dædædædæ Jædædædæ prudentiæ*, which is remarkable for its clear and, at the same time, profound views, and which, at the request of his patron, was soon followed by a treatise, in which he endeavoured to prove to the Pope, that

it was for their interest to elect the prince of Neuburg king, in preference to any of the other candidates. At the suggestion of Boineburg, he was now named an electoral counsellor, and chancellor of justice; but this business could not satisfy a mind thirsting for knowledge. He continued his literary labours, and published his *Theoria Motus abstracti*, and *Theoria Motus concreti* (1671,—two physical inquiries, remarkable only for the boldness of their views), and also his *Sacrosancta Trinitas, per nova Argumenta logica defensa*, a work directed against the attacks of the Pole Wissowatius, on the doctrine of the Trinity. In the mean time, the literary splendour of Paris had attracted his attention, and he willingly undertook to accompany the young Boineburg thither (1672). The distractions of this capital did not draw him from his studies. He applied himself particularly to mathematics, and enjoyed the acquaintance of the celebrated Huygens, whose expectations he answered by the invention of an arithmetical machine, similar to that of Pascal. His patron, Boineburg, died 1673, and Leibnitz, who had nothing to detain him longer in Paris, declined the place of pensioner in the academy, as it would have been necessary for him to embrace the catholic religion, and went to England, where he became acquainted with Wallis, Bayle, Oldenburg, and Newton. He then applied to the duke of Brunswick-Lüneburg, who gave him the office of counsellor, and a pension, with permission to extend his residence in foreign countries at his pleasure. Availing himself of this permission, he returned to Paris, where he spent fifteen months, devoted entirely to mathematics, and then returned, by the way of England and Holland, to Hanover, where he arrived 1676, and immediately entered upon the superintendence of the library, which was his principal duty. Here he soon published his treatise *De Jure Suprematus ac Legationis Principum Germaniae*, and laboured, with great zeal, to effect the publication of the *Acta Eruditorum*. On the death of the duke of Brunswick, his successor commissioned Leibnitz to write the history of his house. In order to consult the documents necessary for that purpose, Leibnitz went (1687) to Vienna, and (as the old counts of Siguria, Tuscany, and Este were sprung from the same source as the house of Brunswick) thence to Italy. The three years which he spent in making these tours of investigation, supplied him with an immense mass of diplomatic and political materials, the smallest portion of which appeared in the work he had undertaken: the remainder was published in 1683 and 1700, under the title *Codex Juris Gentium diplomaticus*, and *Manissa Codicis*. At the same time, he employed himself in arranging the materials which he had collected for his historical undertaking, and, after having published an essay on the connexion between the houses of Brunswick and Hanover, which procured him the appointments of privy counsellor of justice, and historiographer, he gave to the world (1701—11) *Scriptores Rerum Brunsvicensium* (3 volumes, folio). But this important work was only a preparatory step. The history itself was never published: the outline only was found among his papers after his death, and published in the *Acta eruditorum* for 1717. According to this plan, we could have had a general account of the primitive condition, not only of Germany, but of the whole world, in conformity with the views given by Leibnitz in his *Protogæa*. (See the *Acta Eruditorum* for 1683.) The *Accessiones historicae*, and the *Disquisitiones de Origine Francorum*, were published at Hanover, in 1715. As Leibnitz displayed a profound knowledge of history in the above-mentioned works, he showed a no less intimate acquaintance with geology, in his attempts at forming a plan for

re-uniting the Protestants and Catholics, in which he spent much fruitless labour, in conjunction with Molanus and Bossuet. Among his plans for the good of mankind, may be mentioned his exertions to invent a universal character, and a common philosophical language (*pasigraphy*). His labours in another scientific undertaking were better rewarded. The elector of Brandenburg (afterwards Frederic I., king of Prussia) requested his advice in the establishment of the royal academy of sciences at Berlin, and, when the institution was completed, according to his plan, the elector made him president of the academy (1700.) Leibnitz furnished a great part of the papers in the *Miscellanea Berolinensia*, which the new academy published in 1710. On the death of the king, three years after, his successor having little taste for the sciences, Leibnitz foresaw the fall of the society, and therefore hastened to Vienna, to obtain for it the protection of the emperor Charles VI. His efforts were unsuccessful, although he got a most flattering reception from the emperor, who had already conferred on him the dignities of baron, and of aulic counsellor, with a pension of 2000 forins. He also had an interview with the czar Peter, at Torgau (1711), who, in return for his advice concerning the civilisation of his vast empire, conferred on him the title of privy counsellor, with a pension of 1000 roubles. Loaded with honours, he crowned his literary fame by his celebrated *Essai de Théodicée* (1710), in which he maintained the doctrines of pre-established harmony and optimism, and which was followed (1715) by his *Essai sur l'Entendement humain*. The life of this individual, so highly favoured by fortune, was not entirely free from calamity. His unfortunate controversy with Newton, concerning the discovery of the differential calculus, and the pains of the gout, embittered the close of his active life. He died in his seventieth year, November 14, 1716. His monument, constructed in the form of a temple, bears the simple inscription *Ossa Leibnitii*.

Leibnitz was of the middle size, thin, but of firm health, with an habitual stoop. His hair was black in his youth, but labour early rendered it white; and his eyes, which were short-sighted, were strong, even in old age. He had a pleasing countenance, a warm temperament, and as much animation in his delivery as he had in his labours. He studied during nearly the whole night, and often took his sleep in his chair, which is preserved in the library at Hanover. Reading every thing, without distinction, he contented himself with making short extracts, on little pieces of paper, which he kept in different compartments, though his memory was so excellent that he had little need to refer to them. His correspondence, which extended even to China, together with the other relations which he maintained with different classes of men, took up a great part of his time. In his intercourse with others, he was easy, without arrogance or jealousy; irritable, but quickly reconciled. His expenses were very moderate, and his enemies reproached him with avarice. He was totally negligent of his domestic affairs, and was never married.

The spirit of the age, the study of the older systems of philosophy, among which the Grecian had occupied much of his attention, and, above all, the mathematical turn of his mind, combined to produce his peculiar system of philosophy. He expected to reform philosophy by giving it this direction, and he hoped to establish its principles in such a manner that the strife between different parties would cease of itself. On this account, he was in favour of rationalism (q. v.), in the sense in which it was maintained by Plato, and the system of demonstration, which

prevented him from entirely rejecting the scholastic philosophy. There are in philosophy, as in mathematics, necessary truths, which cannot be learned from experience, but must be grounded in the soul itself, as they rest on principles, the proof of which is independent of the evidence of the senses. This forms the basis of the Leibnizian rationalism, the principal characteristics of which are a peculiar theory of knowledge, the doctrine of Monadology, and the Theodicea, or doctrine of optimism. With regard to knowledge, according to this system—1. The necessary truths are innate in the soul, not, indeed, actually forming objects of knowledge, but capable of being called forth by circumstances. Whatever is derived from the senses is confused, and distinct knowledge is possessed only by the understanding. These views are opposed to the empiricism of Locke. In order to attain truth, it is necessary to use the rules of logic, as mathematicians also use them, by unfolding, analytically, the simple truths contained in a subject, until the fundamental truth is attained. The Cartesian criterion—clearness and distinctness—is not sufficient. "Our conclusions," says Leibniz (*Op.* ii, 24), "rest on two great principles—the principle of contradiction (according to which we deem that false which involves a contradiction, and that true which is opposed to falsehood), and the principle of the sufficient reason (which teaches that no assertion is true, if no sufficient reason can be given why it is true, rather than false), which leads to an absolute final reason, independent of accidental circumstances. But the final reason of the certainty of innate necessary truths is in God, as the source of all necessary and eternal truth. 2. Monadology forms the central point of the system, and Leibniz believed that, in this, he had discovered the fundamental basis of actual knowledge. All experience teaches us that there are compound substances; consequently there must be simple ones. The senses give us only confused, the understanding distinct, knowledge; and the simple, which cannot be recognised by the senses, is the ground of the compound. These simple substances, from which the compound are formed, and each of which differs, in its qualities, from all others, since there are no two things exactly alike, Leibniz calls *monads*, of which he assumes four sorts—pure monads (or living beings), the souls of beasts, the souls of men, and God, who, as the origin of all knowledge, of reality, and of the existence of things, the eternal, original Monad, he calls the *Monas monadum*. All created monads are united with bodies, or, rather, all finite beings are aggregates of monads, some having a central and governing monad. The different classes of monads conceive of the universe with different degrees of distinctness: God alone conceives it perfectly. There is no actual influence (*influxus physicus*) of one thing on another, but only an ideal connexion; i. e. the internal changes of each monad are so arranged as to agree with the changes in the monads immediately connected with it. The cause of this agreement is the infinite wisdom and almighty power of the Deity. The divine understanding is the prototype of all truth, beauty, and absolute good, and by it all the interior changes in the monads were so predetermined, that there is a perfect harmony in their succession. This predetermination or established harmony was arranged by the Godhead when the plan of the world was formed. 3. The Theodicea is the defence of the supreme wisdom of the Creator of the world, which had been impugned, on account of the existence of evil. Such a Theodicea Leibniz attempted, particularly on account of the contrary views brought forward by Bayle. According to the Leibnizian system, an infinite number of

worlds are possible in the divine understanding; but, of all possible ones, God has chosen and formed the best. Every thing which really is, is best in connexion, even if, by itself, it is imperfect. The system is therefore denominated *optimism*. Each being is intended to attain the highest degree of happiness of which it is capable, and is to contribute, as a part, to the perfection of the whole. The existence of evil is no argument against this system, because metaphysical evil is merely a necessary imperfection in the nature of finite things, from whom imperfection, physical evil, (suffering) and moral evil (sin) necessarily proceed. Moral evil is founded on the freedom of finite spirits, which consists in choosing, according to grounds of preference, one among many physically possible actions; for, although every thing in the world is necessarily determined, all man, being ignorant of the future, must act from the convictions of his reason. Leibniz nowhere makes a complete connected exposition of this philosophical system, but has only proposed it in his writings, by piecemeal, and it is therefore difficult to follow in course of thought.

This is not the place to enter into a more critical examination of the value of these hypotheses; it is sufficient to observe, that they have been of the greatest service in promoting the progress of reason, as they have given that impulse to the philosophical world, which his mathematical discoveries, on account of which we now proceed, gave to the mathematicians of his time. His attention was early directed to mathematical researches; and, as a hint to the countess of Kielmannsegg (1716, he remarks that, even in his sixteenth year, he was occupied in considering the differences of those numbers whose succession forms a regular series. He then arrived at the law of constant magnitudes, which a step found exactly, or by approximation, if the number of the series, and then their first, second, &c. differences are subtracted from each other, but, when he was in England, wishing to publish his supposed discovery, he found himself anticipated by a French mathematician, Regnault. A second similar idea induced him to study Mercator's *Logarithmotechnica*, which he carried with him to France, where he surprised Huygens by communicating to him his discovery of an infinite series for the surface of the circle, similar to that of Mercator for the hyperbola. This was made known by Oldenburg to Newton, who congratulated Leibniz on his discovery. Inspired by this result, Leibniz resumed his researches into the difference of numbers, and, in this way, he was led to the discovery of the differential calculus. In a letter of June 21, 1677, he communicated the discovery to Oldenburg, for Newton's examination. In comparing the whole course of reasoning which he pursues in his calculations, with the views which lie at the foundation of Newton's method of fluxions, not the least similarity can be discovered between the two methods; which is the best proof that each of these great men, in reality, attained the same result for himself, entirely independent of the other. Leibniz, however, received no answer from Newton to this remarkable letter, and things remained in this state till 1682, when the *Acta Eruditorum* was commenced. Leibniz was, from the beginning, one of its most active contributors, and, in the October number of 1684, he published a complete account of his differential calculus, exactly as he had communicated it to Newton. It is worthy of remark, that, at this time, no one questioned the claims of Leibniz to the discovery of this new mode of calculation. On the contrary, Newton publicly acknowledged the merit of the German, and made the most honorable mention of him in his *Principes*. Leibniz continued

with maturing activity, to make improvements in his method. The differential calculus, together with its converse, which Leibnits called *summatory*, but to which John Bernoulli gave the name of *integral calculus*, was in high esteem on the continent, and had been much used and extended, both by Bernoulli and the marquis de l'Hopital, when, in 1699, twenty-two years after the letter of Leibnits to Newton, which was dated June 21, 1677, and fifteen years after the publication of the theory in the manner already mentioned, in the October (1684) number of the *Acta Eruditorum*, it was contended, for the first time, by Patio de Duillier, that Newton was the discoverer of this mode of reckoning. This article was written in an offensive tone, and Leibnits answered it in the *Acta Eruditorum*. His reply for a time put an end to the dispute; but five years afterwards (1704), Newton, having published his *Optics*, at the close of which he appended an exposition of his method of fluxions, which he claimed to have invented as early as 1666, the *Acta Eruditorum* gave an extract from this work in the next year, and, by making a comparison between the method of fluxions and the system of differential calculus, to the disadvantage of the former, awakened anew the dispute between the parties. Keill, professor of astronomy at Oxford, declared, in the *Philosophical Transactions* for 1708, not only that Newton was the original inventor of the new system, but that Leibnits had formed his upon Newton's merely by changing the expressions and the signs. Leibnits, therefore, wrote to Hans Sloane, secretary to the royal society, to request the society to decide between him and Keill. The society immediately named a committee, who came to the following conclusion, that, in reality, there was no difference between the differential calculus and fluxions, and that the question did not turn on the invention of the one or the other, but on priority, with respect to which there was strong proof that Newton had possessed the system fifteen years before the publication of Leibnits's article in the *Acta Eruditorum*, and that, therefore, Keill's assertion concerning Leibnits could not be considered as a calumny. This decision of the society only rendered the schism between the parties wider; and Leibnits rendered the quarrel irreconcilable, by sending a letter to the abbé Conti, who was then in England, and acted the part of a mediator between the parties. In this letter, which was intended to be shown to Newton, among other offensive expressions, he gave him to understand, that it was impossible that he should have invented the algorithm of infinitely small magnitudes before himself. Newton replied through Conti; and the dispute continued till the death of Leibnits.

Lewis Dutens, secretary of legation in the English service, published the most complete and accurate edition of the works of Leibnits—*Goetii Leibnitii Opera omnia* (Geneva, 1768, six volumes, 4to). In Dutens' edition, however, all those philosophical works are omitted which Raspe published (Amsterdam, 1760, 4to), under the title *Œuvres philosophiques de M. Leibnitz*. Both collections should be united. Dutens did not accomplish his undertaking without great difficulty, and he describes, in a very interesting manner, the obstacles encountered in collecting writings so numerous and so widely scattered, and his correspondence on the subject with Voltaire, in his *Mémoires d'un voyageur qui se repose* (volume i. p. 248). Eccard, an intimate friend, and, after his death, librarian at Hanover, first wrote the life of this extraordinary man, who had surveyed the whole field of science with a penetrating eye. We have also eulogies on him by Kastner (1769), by Bailly and Fontenelle.

LEICESTER; a town of England, the capital of Leicestershire, situated on the Soar, in the centre of the finest wool district in the kingdom, ninety-six miles N. N. W. of London. The chief manufacture is that of combing and spinning wool, and making it into stockings; and, in this business, it is, except Nottingham, the principal town in the kingdom. Population, in 1831, 39,306.

LEICESTER, EARL OF. See *Dudley, Robert*.

LEICESTERSHIRE; an inland county of England, bounded on the north by Derbyshire and Nottinghamshire; on the south by Northamptonshire; on the east by Lincolnshire and Rutlandshire; and on the west by Warwickshire and Derbyshire. It extends from north to south about thirty miles, and from east to west about twenty-five. The greater part of this county presents nearly a level surface, and the land is chiefly appropriated to the purpose of grazing. The soil consists generally of a fine mixture of sand and clay. The rivers of Leicestershire are, the Soar, the Wreak, a branch of the Soar, the Swift, the Welland, the Avon, and the Anchor. With the Soar, the Wreak, and other streams, are connected various navigable canals, which have been constructed for the benefit of commerce. The principal mineral products of the county are coal and limestone; the mines are situated near the borders of Derbyshire. In some parts the limestone is blended with rich lead-ore. At Swithland, on the east side of Charnwood Forest, are raised large quantities of slate; and freestone and clay for bricks may be found in most parts of the county. The hill of Mountsorrel is composed of a reddish kind of granite, which hardens on exposure to the atmosphere, and forms an admirable article for street pavements. In digging for coal on Ashby Wolds, saline springs were discovered 200 yards below the surface, and baths have since been erected on the spot.

Leicestershire is famous as a grazing country, for breeding and feeding cattle and sheep. The Leicestershire sheep are particularly noted, and the Leicestershire kine are also greatly esteemed in most parts of the kingdom. The principal object of the graziers is to fatten their cattle for the butcher; but in some parts of the county, as Hinckley, Bosworth, along the Trent, on the borders of Derbyshire, and in the vale of Belvoir, the dairy is much attended to. In the neighbourhood of Melton Mowbray is now made the peculiar kind of cheese called Stilton, deservedly styled for its excellence the Parmesan of England. Leicestershire has long been noted for a useful and beautiful breed of black horses, comprising varieties for the plough and the wagon, or for the race-course and the chaise. It is, indeed, one of the first sporting counties in England; several noblemen and gentlemen keep hounds, and the meetings during the hunting season are numerous and well attended. To provide food for the horses and stock of the farmer, more than half the land is constantly kept in pasture, and the remaining part is chiefly appropriated to the production of grain and other food for cattle. The staple manufacture of Leicestershire consists in the combing, spinning, and making of wool into stockings, either by knitting or weaving. The principal articles of commerce are cheese, worsted hose, hats, lace, and wool; besides great numbers of cattle and sheep, which are sent to London, Birmingham, and other places. The market-towns are Ashby-de-la-Zouch, Billasdon, Market Bosworth, Castle Donnington, Hallston, Market Harborough, Hinckley, Loughborough, Lutterworth, Melton Mowbray, and Mountsorrel; besides the borough of Leicester. Population of the county in 1831, 197,003.

LEIGHTON, ROBERT, an ecclesiastic of singular learning, integrity, and benevolence, was born in Edinburgh in 1611, and received his education at the university there, which he entered as a student in 1627. He was subsequently sent to France, and, on his return, obtained Presbyterian ordination, and was settled at Newbottle, near Edinburgh. Disapproved of by his Presbyterian brethren, as not sufficiently polemical in his discourses, he resigned his living, and was soon after chosen principal of the university of Edinburgh. When Charles II. resolved to re-establish episcopacy in Scotland; Dr Leighton was induced to accept a bishopric, but chose the humblest of the whole, Dumbfries, and would not join in the pompous entry of his brethren into Edinburgh. He, nevertheless, became archbishop of Glasgow, chiefly impelled, it is believed, by a hope of furthering a scheme of reconciliation between the Presbyterians and Episcopalians. Disappointed in this hope, as also in his wishes to moderate the acrimonious feelings of both parties, he went to London, and requested leave to resign his see; but his resignation was not accepted. He, never, however, returned to Scotland, and died in London, Feb. 1, 1684, in the seventy-first year of his age. Archbishop Leighton was celebrated for his gentleness, moderation, and disinterestedness; for, although his bishopric produced only £200, and his archbishopric barely £400 per annum, he founded exhibitions both in the colleges of Edinburgh and Glasgow. As a preacher, he was admired beyond all his contemporaries, and his works have not yet lost their popularity, a complete edition of them having been published in 1806 (6 vols. 8vo.), with a life of the author.

LEIPSIK (properly, *Leipzig*). There is, perhaps, no city in Europe of its size and population, so important in a literary, commercial, and historical connexion, as Leipzig. At the end of the tenth century, a little Slavonian village stood in the angle formed by the confluence of the Parde with the Pleisse. It received its name from the numerous lindens (*Scalvonic, tip, tipa*) in the neighbourhood. The first mention of Leipzig, as a fortified city, with walls and ditches, is in the twelfth century, in the time of Otto the Rich, who established the two fairs of Easter and Michaelmas. The bull which Alexander V. issued in 1409, for the establishment of the university, calls it "the populous and spacious Lipak." The city itself, at that time, was probably of the same extent as at present, for the ditch surrounding it existed in 1454. But during the peace which followed the seven years' war, the fortifications fell into decay, and the ditch was converted into a garden, which, instead of ramparts, encircled the whole city. With the increasing prosperity of the citizens, the city received new embellishments. Leipzig stands in a large plain, which is fertile, and enlivened by thriving villages. According to Oberreit, the observatory is situated in lat.  $51^{\circ} 20' 19''$  N., lon.  $12^{\circ} 21' 45''$  E. Population, 41,000. The plains of Leipzig are watered by four rivers—the Pleisse, the Elster, the Parde, and the Luppe. The city has four gates, and is divided into four quarters, containing seven squares, six principal streets, and twelve small streets. The principal public buildings, some of which are fine specimens of architecture, are, the town-house, built in 1599, the exchange, the churches of St Thomas and St Nicholas, the St Thomas school, the Auerbach court, the Pleissenburg with the observatory, the cloth hall, &c. Among the inhabitants are many descendants of the fugitive Huguenots, Italians, and some Jews, enjoying protection. The commerce of Leipzig, which draws foreigners from almost all nations to the great fairs, has

not, indeed, the extent which it had thirty years since, but it employs, nevertheless, directly, or indirectly, the majority of the inhabitants. Between 8000 and 9000 purchasers assemble at the great fairs. The principal articles are horses (400 to 800 select animals is the average number offered for sale), peltry, cotton stuffs and cotton, wool, animal products, English and French goods, and the productions of the Erzebirge, books and works of art. There are, in the city, about 300 retail dealers, and 200 wholesale merchants. Traders often come hither from distant countries—Greeks, Russians, and even Persians. The book-trade of Leipzig is unique. Every German publisher has an agent there, who receives and disposes of his publications. The agents send packages of books, twice a week, to all parts of Germany. Twice a year, a book-fair is held at Leipzig, which is attended by booksellers from all parts of the country. Some French, Russian, and British booksellers are also present. The Leipzig annual catalogue of books shows the immense number that are written in Germany. Manuscripts, in general, have been pursued with little success at Leipzig; but the manufacture of gold and silver thread, of tobacco, of playing cards, oil-cloth besides printing and type-founding, have profusely employed, for years, a large number of workmen. The university library, of about 60,000 volumes, with 1600 manuscripts, is principally rich in the philological and medical departments, as well as in ancient theology. It was formed from the libraries of the suppressed monasteries. The public library, founded in 1605, contains valuable treasures of history and jurisprudence. The collections of paintings of Spitz, Keil, and other private individuals, are uncommonly extensive and easily accessible to amateurs. To the young musician, Leipzig affords great opportunities of improvement. The principal productions of modern instrumental music are here heard in great perfection. For centuries have the two learned schools of St Thomas and St Nicholas been celebrated. Gesner, Ernesti, Fischer, Reiske, were educated here. The university was founded, in 1409, by a great number of the students from Prague, with their teachers, on which occasion the elector Frederick the Quarrelsome, and his brother William, took, as the models of the new institution, the universities of Prague and Paris. Many of the most famous scholars of Germany have taught in this institution, which now numbers 1300 students and upwards of twenty professors. Botanical gardens, hospitals, and other necessary establishments, are connected with the university.

LEIPSIK, BATTLES OF. Twice have the destinies of Germany been decided by arms on the plains of Leipzig—Sept. 7, 1631, and Oct. 18, 1813; and the battle of Nov. 2, 1642, was by no means unimportant in its consequences. In the battle of Sept. 7, 1631, the military talents of Gustavus Adolphus, and the superior tactics of the Swedes, prevailed over the Catholic German generals, Tilly and Pappenheim, and Tilly was shown not to be invincible. Of his army of 35,000 to 40,000 men, 8000 fell, 3000 were taken prisoners. The victory was decisive, and Protestant principles triumphed in North Germany. In this battle, the Swedes made good use of their leather cannons. Eleven years after, in 1642, Gustavus defeated, at the same place, the Imperial Saxon troops, under the arch-duke Leopold William and Piccolomini. But the battle of 1813 was most remarkable for its extent and duration, the magnitude of the contending armies, and the importance of its consequences. For the campaign of 1813, the allied powers had formed the plan of operating on the flanks of Napoleon, and uniting in his rear.

With this view, the movements of the Silesian army, under Blücher, and of the northern army, under the crown prince Charles John of Sweden (Bernadotte), were directed to the Lower Elbe, and the movements of the main army, under Schwartzburg, to the Upper Elbe. Circumstances finally determined the country around Leipsic, as the place where the junction should be formed, and Napoleon cut off from the Saal. In all probability, Napoleon was well aware of this project, but expected to frustrate it. A rapid march between the Mulda and Elbe, a quick passage over the latter river at Dessau, ostensibly with the view of advancing upon Berlin, were to deceive and retard the northern army, and give Napoleon time to turn against Schwartzburg, and drive him to the mountains of Saxony. If he was conquered, Blücher and John were to be defeated and destroyed. In conformity with the plan of the allies, the great Bohemian army, of 120,000 men, marched, on the 12th of October, in three columns, against Leipsic, over the Erzgebirge. Napoleon, meanwhile, assembled his troops in and around Leipsic. October 15, he mustered his army, and gave the generals their orders. His whole force amounted to 80,000 or 90,000 men, the corps of Ney and Regnier being still on the road, or employed, under Marmont, to cover the country to the northward. In case of an unfortunate issue, the corps of Bertrand was to secure the pass of Lindenau. Prince Schwartzburg commanded the allied forces, although the three monarchs of Austria, Prussia and Russia were present. His purpose was an attack, with three columns, on the position of the French. About seven o'clock in the morning of the 16th, the allied troops put themselves in motion, carried the French outposts, at the villages of Markleburg, Wachau, and Liebertwolkwitz, and evidently pressed on the enemy's position. The corps of Victor was obliged to relinquish Liebertwolkwitz to general Klenau. About nine o'clock, the battle had become general, and the thunder of innumerable pieces of artillery was scarcely ever heard so powerful and so uninterrupted by the oldest soldiers. Both parties displayed the most brilliant courage. The movement of the left wing of the allies suffered considerably from the firmness of the Poles, who resisted every attempt to cross the Pleisse, and, favoured by the ground, kept up an effective fire. Napoleon ordered, in person, the battle on the heights of Liebertwolkwitz. Macdonald carried the *Swedish camp*, as it was called, by storm, and thus secured to the left wing of the French an essential advantage; but Wachau was the scene of the most obstinate conflict. From this place Napoleon attacked, repeatedly, the centre of the allies. The corps of Ney, which arrived at this juncture from Delitzsch, might have decided the day, but Blücher's army also came in sight. It had pressed forward, from Halle o Saksudits, on the 16th of October, attacked the duke of Ragusa at Wahren, Lindenthal and Breitenfeldt, gained a decisive victory at Mockern, after a severe resistance, and now threatened Leipsic from his quarter. Ney had, consequently, to be detached against it, and the decisive moment was lost: the emperor Alexander even recovered a lost battery, by the attack of his regiment of Cossack guards; the Russian grenadiers restored the balance of power between the Pleisse and Wachau; and, notwithstanding Napoleon caused the bells of Leipsic to be rung in honour of his victory, he had acquired no advantage by it, with the exception of a small portion of ground, so that the two parties were very nearly in the same position, in the evening, before the battle. But the arrival of the northern army, which Napoleon had not in the least expected,

but of which he was aware before the allies, made him desirous to retreat. On the 17th of October, the arms of the contending forces were permitted to repose, by a tacit agreement; the allies waited for the arrival of their third main body, under Bennigsen, from Dresden, by way of Grimma, and Napoleon was meditating an honourable retreat, for which purpose he attempted to open negotiations with the allies, by means of the captive Austrian count Meerfeldt. He is said to have proposed an armistice, demanded permission to cross the Saal without opposition, proffered the cession of the fortresses of the Oder and Vistula, and manifested an inclination for peace. From these measures, the allies ascertained his weakness, and refused to listen to the proposals, particularly as they were now informed of the arrival of the northern army, before which Ney and the duke of Ragusa retreated, over the Parde, to Schonfeld. Napoleon was thus reduced, on the 18th, to the necessity of sustaining a defensive battle, and was compelled to retreat. He took a position more in the rear, between the Pleisse and Parde, protected by several villages. The northern suburbs of Leipsic were defended by a battery, and by Dombrowski and the duke of Padua (Arrighi). Bertrand still kept the pass of Lindenau open, by which all the unnecessary wagons were quickly conveyed to Lützen. Napoleon himself took his station in the midst of his guard, at Protheida, that he might send aid to every weak point, and be able to superintend the whole. According to their plan of the 16th, the allies aimed at a junction with Bennigsen and the northern army. They soon found themselves on a more favourable ground, which gave complete efficiency to their cannon and musketry. They gained various successes, and effected a union with Bennigsen. Notwithstanding his ill fortune, Napoleon was able to fill the chasms, and repair his disadvantages; his line was nowhere broken, nor was he ever assailed in the rear; the force of the allies was gradually exhausted, and a fair retreat seemed possible for the French; but it was difficult, on account of the want of a free passage for the columns, because all the ways leading to the western suburbs of Leipsic, and beyond, to the narrow pass of Lindenau, were covered with flying baggage wagons, and troops in great confusion, and no bridges over the Pleisse had been prepared for such an event, and no precautions had been taken. It was but a short time before, that Leipsic itself had been slightly fortified, and the garden walls of the suburb, and similar objects, had been transformed into means of defence. Poniatowsky and Macdonald were now appointed to cover the retreat, which took place at daybreak, 19th October. Hardly had the allies observed that the position of the French was abandoned, when they made preparations to assail Leipsic on all sides, and, after a severe struggle, obtained possession of two gates. To give a faithful picture of the cruel confusion of this retreat, through the city and environs, would be impossible. Every moment increased the disorder of the flying army, and, the only bridge over the Elster having been blown up too soon, the flight was changed into wild desperation. But a short time before, had Napoleon himself, after taking leave of the king of Saxony and his family, reached that important bridge, not without difficulty, and by a circuitous route: 15,000 or 20,000 men, in close array, more than 200 pieces of artillery, and an immense quantity of baggage, were left, and increased the trophies of the victors. Poniatowsky's and Macdonald's hands attempted to escape over the narrow bridge of the Pleisse, and then, hemmed in again by the

Elster, to construct a foot-bridge in the gardens of Reichenbach; but it was not sufficient for the mass which crowded over it. The greater part perished in the waters of the Pleisse or the Elster, in which Poniatowsky found a noble death. The rest fell by the hands of their pursuers. Macdonald escaped. By degrees the resistance slackened; the Baden troops were unable to hold the interior of the city, and the allied monarchs entered at the head of their soldiers. The loss of the French in prisoners, killed, and wounded, has been rated at 60,000 men. Among them, 3000 officers, 300 pieces of cannon, and an immense quantity of baggage, &c., fell into the hands of the allies. The battle of Leipsic is said to have cost the victors 45,000 men (viz. 8000 Austrians, 21,740 Russians, 14,960 Prussians, and 300 Swedes.) With Napoleon's defeat at Leipsic was connected a series of consequences of immense historical importance. See the articles *Saxony*, and *Russian-German War*.

LEISEWITZ, JOHN ANTHONY; a German writer, whose tragedy *Julius of Tarentum* (1776) is esteemed by the Germans one of their best productions, and is still performed. Leisewitz was born 1752, at Hanover, and, at the university, was a friend of Voss, Holty, Burger. He died in 1806, at Brunswick. He burnt the manuscript of his history of the thirty years' war. His works appeared at Vienna, in 1816.

LEISTENWEIN. See *Franconian Wines*.

LEITH; a town of Scotland, in the county of Edinburgh, formerly called *Inverleith*, is situated on the banks of the water of Leith, at its confluence with the frith of Forth, about a mile and a half north-east of Edinburgh, and constitutes the port or harbour of that city. It is divided into two districts, called *South* and *North Leith*, communicating by two draw-bridges across the harbour. The town is mostly situated on the south side of the river, and, with the exception of the modern and improved streets, is irregularly built, with narrow streets and lanes, and the houses mostly old-fashioned and inconvenient. In 1800, a magnificent suite of wet docks was planned, and two of these beautiful basins are now opened for shipping. These docks, comprehending nearly eight acres, together with three graving docks, have cost about £285,000. Fortifications were erected by Oliver Cromwell in North Leith, called the *citadel*, for the purpose of defending the harbour, which were afterwards demolished. There is a martello tower about a quarter of a mile from the pier. About 1783 a battery of nine guns was erected to the west of the site of the citadel, in consequence of an alarm from the American privateer officer, Paul Jones, who appeared before the town with three armed ships only, and threatened to destroy all the vessels in the road and harbour. The battery has been since enlarged, forming a kind of fort, garrisoned by the royal artillery. Leith carries on an extensive trade with the Baltic, and other places in Europe, such as Holland, France, Spain, Portugal, and the Mediterranean; also with the West Indies and America; besides a great coasting trade to the different parts of England and Scotland. A trade has also commenced with New South Wales, with which distant colony a regular intercourse is maintained. The Greenland fishery is also prosecuted with great activity. Vessels of very great burden cannot enter the port of Leith, the depth of water in the harbour at spring tides being but sixteen feet, and only nine feet at neap tides; but the roads, about a mile from the mouth of the harbour, afford excellent anchoring ground for ships of any size. The number of ships which entered this port and paid duties in 1824, was 222 British and 146 foreign; and the number of vessels belonging to the port in 1829 was 263, the

collective burden of which amounted to 26,302 tons. Leith has extensive rope-works, glass-works, and various other manufactories. Ship-building is carried on to a considerable extent; and there is a large distillery in the neighbourhood. Population in 1831: *North Leith* parish, 7,416; *South Leith* parish, 14,638.

LEKAIN, HENRY LOUIS; a French tragic actor was born at Paris, in 1728. It was the intention of his father, a goldsmith, to bring him up in the law avocation, in which the boy made such progress, that his work was in request even in his sixteenth year. He enjoyed, at the same time, the benefit of instruction in the *collège de Mazarin*, where the scholar performed a dramatic piece at the close of the academic year. The means of Lekain were inadequate to the expense required of the performers, and he therefore undertook the office of prompter. He rarely had occasion to make use of the book, as deeply were the plays impressed on his memory, as soon as he had heard them a few times. His great recreation consisted in attending the French theatre on Sundays. Social amusement having acquired life in Paris, after the peace in 1748, several private theatres were formed, and Lekain joined with a number of young persons in establishing one, which was surpassed all the others. Lekain was distinguished for his acting, and Armand Baculard's comedy *Le Mauvais Riche* was first performed by this company. Voltaire, Armand's patron, was present at the representation, and invited Lekain, who played the part of the lover, to his house. The young actor was embarrassed before this celebrated man, who encouraged him with the words, "Heaven be thanked, I have at last found a person who has moved me, who has touched me, even when reciting bad verses." Voltaire advised him, however, not to become an actor, but in order to induce him not to abandon the trade of his father, offered to advance him 10,000 francs, on order to place him in a more convenient situation. Lekain hesitated, but his propensity for the stage predominated. When Voltaire perceived that the resolution of the young man was irrevocable, he offered to spare him at least the expense of apprenticeship, and to build him a theatre in his own house, where Lekain could play with his young friends. Lekain now lived with Voltaire, whose two metres played with him, and the poet himself sometimes undertook a part. The most distinguished men aspired to the honour of attending these performances. The part of Cicero, in the *Rome Preserved*, was here represented by Voltaire, with an energy and warmth which tradition still preserves the memory, and inspired by such a model, Lekain shone in the character of Titus. During the six months which he spent in the society of Voltaire, his dramatic talent was vastly improved, and, in his *Mémoires de H. Lekain*, published by his son (Paris, 1822; new edition, *Précédés de Réflexions sur cet Artiste et sur l'Art théâtral*, par Talma, Paris, 1825), he says that, at that time, he studied most profoundly the principles of his art. Before departing for Berlin in 1758, Voltaire obtained for his protégé permission to appear on the *théâtre Français*. One of his most splendid parts was *Mahomet*, in Voltaire's play of the same name. Voltaire called him the only truly tragic actor. His last performance, in the character of *Vandamme*, in Voltaire's *Adélaïde*, was admired above all, and the exertions which he made, on this occasion, were the prime cause of his speedy death, in 1778. An inflammatory fever brought him to the grave after five days. On the day of his death, Voltaire returned to Paris, after an absence of thirty years, and the first news which he learned was the distressing information of the death of his protégé.

LELAND, JOHN; an English antiquary, born in

London, about the end of the reign of Henry VII. He was educated at St Paul's school, and Christ's college, Cambridge, whence he removed to Oxford, and then to Paris, for further improvement. Returning home, he took holy orders. Henry VIII. made him his chaplain and librarian, and gave him the title of royal antiquary. In 1533, he was empowered, by a commission under the great seal, to search for objects of antiquity in the archives and libraries of all cathedrals, abbeys, priories, &c.; in consequence of which, he spent six years in travelling over the kingdom, visiting the remains of ancient buildings and monuments, and collecting materials for the illustration of the history and archaeology of England and Wales. He retired to his house in London, to arrange and methodise the stores of intelligence which he had collected, but, after about two years, died insane, in 1552, without having completed his undertaking. The great bulk of his collections, after passing through various hands, was placed in the Bodleian library, in an indigested state. Hearne printed a considerable part, forming the *Itinerary of John Leland* (nine vols. 8vo), and *Lelandi Antiquarii de Rebus Britannicis Commentaria* (six vols. 8vo).

LELY, SIR PETER, a celebrated painter, was born at Soest, in Westphalia, in 1617. His father, a native of Holland, whose family name was Van der Vae, was a captain in the garrison of that town, but, having acquired the nickname of captain Le Lys, or Lely, his son retained it as a proper name. He was first instructed by Peter Grebber, at Haerlem, and, attracted by the encouragement afforded to the arts by Charles I., he went to England, in 1641, and commenced portrait-painter. He finished portraits both of that monarch and of Cromwell; but it was not until the restoration, that he rose to the height of his fame and prosperity. He fell in with the voluptuous taste of the new court, in his representation of the beauties who adorned it, and, by the delicacy and grace of his pencil, became the favourite ladies' painter. He has transmitted the features of most of the beauties of the court of Charles II., and is particularly admired for the grace of the heads and the elegance of the draperies. He was in great favour with Charles II., who knighted him. He died in 1680. The "beauties" at Windsor, by him, are much admired. He likewise excelled in crayon painting. His historical pictures are few. At Windsor, there is a Magdalen and a sleeping Venus. The duke of Devonshire has his Jupiter and Europa; lord Pomfret, his Cimon and Iphigenia. See Walpole's *Anecdotes of Painting*.

LEMAN, or LAC LEMAN; the name of the former French department, comprehending the republic of Geneva, from Lemanus, the ancient name of the lake of Geneva.

LEMBERG, or LEOPOLIS (in Polish, *Lwow*); capital of the kingdom of Galicia, with 47,500 inhabitants, of whom 18,249 are Jews; next to Brody, the most important commercial place in the circle of the same name. It is the seat of the Austrian provincial government. Lon. 24° 2' 53" E.; lat. 49° 51' 42" N. Lemberg is the see of a Roman Catholic, a Greek Catholic, and an Armenian archbishop, and the seat of the Lutheran superintendent, and of the chief rabbi. It has a university, which was transferred to Cracow, but, in 1817, was re-established (with twenty-six professors and 220 students). There are several high schools, two theological seminaries, &c. The Ossolinsky library is public. Lemberg is eighty-eight leagues east of Cracow, is fortified, and carries on considerable trade.

LEMIERRE, ANTOINE MARIN; a French dramatist, born in 1733, at Paris. He received a good education, but, being deprived of his parents while young,

he became assistant sacristan to the church of St Paul. At his leisure, he composed sermons for sale in manuscript—a circumstance which made him known to the abbé D'Olivet, who employed him to correct the proofs of his edition of Cicero. He was then made an under master of rhetoric at the college of Harcourt, in which situation he wrote a tragedy, rejected at the theatre. He afterwards gained six poetical prizes, offered by provincial academies. His tragedy of *Hypermetra* was acted with success in 1758. He subsequently obtained a place in the office of a farmer-general, who, perceiving that he was better qualified to make plays than to keep financial accounts, generously bestowed on him a pension, that he might be enabled to devote himself to literature. In 1781, he was chosen a member of the French academy; and he died in 1792. He produced several tragedies, among which the best and most successful were his *Widow of Malabar*, and *William Tell*: he also published *Les Fastes, ou les Usages de l'Année*, a poem in sixteen cantos; and a collection, entitled *Pièces fugitives* (1782, 8vo).

LEMMA, in mathematics, denotes a preliminary proposition, laid down in order to clear the way for some following demonstration, and prefixed either to theorems, in order to render their demonstration less perplexed and intricate, or to problems, to make their solution more easy and short.

LEMMING (*georychus*, Illig.). These quadrupeds, which are of the rat kind, are distinguished by the conformation of the fore feet, and the shortness of the tail. The fore feet are adapted for burrowing. The tail is shorter than the body. Among the species, the most interesting are the lemming rat (*G. lemmus*) and the Hudson's bay lemming (*G. Hudsonius*). The former of these inhabits the northern parts of Europe, is about the size of the common rat, of tawny colour variegated with black, the sides of the head and the under parts being white. The legs and tail are grayish, and the under parts of the body of a dull white. The head is large, short, and thick; the eyes small; the limbs stout. They feed entirely on vegetables. They form shallow burrows, in summer time, under the ground, and, in winter, make long passages under the snow in search of food. The most extraordinary characteristic of these animals is their migrations, which they undertake at irregular epochs, seeming to be guided by the severity of the approaching winter. In these migrations, they assemble in incredible numbers, and always march in a straight line, nothing seeming to turn them aside. If they are disturbed whilst swimming over a lake or river, they will not recede, but swim on, and soon re-assume their former order. They chiefly move at night, or early in the morning, and make such a destruction among the herbage, that the surface of the ground over which they have passed appears denuded. Exposed as they are to every attack, and destroyed in attempting to cross rivers and lakes, the diminution of their numbers is very great, so that few return to their native haunts. They never enter dwellings, but keep in the open air. When enraged, they raise themselves on their hind feet, and utter a barking sound. Sometimes they divide into two parties, and attack each other. They breed several times in the year, producing five or six at a birth. Their numbers are so great in particular years, that the common people, in Norway, believe that they descend from the clouds. From the devastations which they commit, they are often exorcised by the Roman Catholic clergy.\* Their flesh is not used as food, nor the skins for the fur.

The Hudson's bay lemming is of an ash colour,

\* The following is the form of the exorcism used:—"Ex-

with a tinge of tawny on the back, having a dusky stripe along its middle, and a pale line on each side. The hair is very fine, soft, and long. It is not certain that these animals migrate like the foregoing species, though, from the observations of captain Lyon, this appears probable. He says that he observed long ridges of mouse dung, several inches deep, extending for above two miles. This was in a situation in which none of these animals were then found, and in a kind of soil in which they do not live. Hearne thinks that, from appearances, they seldom stray from their habitations, even in summer, and in winter, are rarely seen on the surface of the snow. This writer, however, may have only had an opportunity of observing them during those years in which they are stationary. They were first described by Forster, from a mutilated specimen, and afterwards, in a fuller manner, by Pallas. Doctor Richardson (*Fauna Am. Borealis*) is of opinion that this lemming is only found in the vicinity of the sea. It occurs in Labrador, and all parts of Northern America bordering on the Polar sea. It is said to be very inoffensive, and so easily tamed that, if caught, even when full grown, it will become perfectly reconciled to its situation in a day or two, very fond of being handled, and will creep, of its own accord, into its master's bosom.

LEMNOS (now *Stalimene*), the most northerly island of the Grecian Archipelago (the Ægean sea), between the Hellespont and mount Athos (147 square miles, 8000 inhabitants), abounds in vines, wheat, &c. It formerly contained a volcano, Meschica, which was regarded as the workshop of Vulcan. Mythology assigns this island as the residence of Vulcan (whence he is called *Lemnius*), after Jupiter had hurled him from Olympus. Various atrocities, perpetrated on this island (see *Hypsipyle*), gave occasion, in antiquity, to the use of the epithet *Lemnian*, to designate such acts. Among its curiosities are a labyrinth, and the Lemnian earth (*terra sigillata*).

LEMOINE, FRANCIS, an historical painter, born at Paris, in 1688, was placed, in his thirteenth year, with the painter Galloche, with whom he remained twelve years, during which time he paid particular attention to the works of Carlo Maratti and Pietro di Cortona. In 1718, he became member of the academy. The war of the Spanish succession preventing the support of young artists at Rome, by the French government, he was obliged to defer the accomplishment of his wish to visit Italy till a rich amateur, of the name of Bergier, took him for his companion, in 1723; but a residence of six months in Italy, at a time when his talents were already developed, could not be so useful to him as the earlier study of the treasures of Roman art might have been. He finished, however, one of his best paintings, a female entering the bath, during his residence in Bologna, Venice, and Rome. On his return, he was appointed professor at the academy, and soon found an opportunity of displaying his talents in painting the chapel of the Holy Virgin in the church of Sulpice, the subject of which is the ascension. The composition of the picture, however, has some fundamental faults. It was restored by Callet in 1780, and cannot therefore be now considered as Lemoine's work. Lemoine subsequently painted the ceiling in

the hall of Hercules at Versailles, the largest painting in Europe, being sixty-four feet long and fifty-four broad, without being divided by any architectural interruptions. It contains 142 figures. He had almost finished the work, when he observed that the main group was placed a little too low, and he did not hesitate to raise it, although alterations were rendered necessary in almost all the other figures. His exertions in this work, which cost him the labor of seven years, weakened his health. His domestic misfortunes augmented the natural gloom of his disposition, and his chagrin at the marks of favor conferred on inferior artists combined with the circumstances to unsettle his reason. In a fit of insanity, he put an end to his life, in 1737. On an unprejudiced estimate of his labours, it cannot be denied, that the decline of the French school is principally owing to him. His drawing is accurate, his forms are disguised by mannerism, but his colouring is brilliant, though wanting in truth, and his grouping is skilful.

LEMON. The lemon-tree (*citrus limon*), was originally brought from the tropical parts of Asia, but is now cultivated very extensively in the west of Europe, especially in Sicily, and the fruit forms an important article of commerce. It is compared with the orange and citron, and belongs to the same family *aurantiaceae*. Its stature is that of a large shrub or small tree; the leaves are oval, pointed twice as long as broad, and like those of the other species, contain scattered glands which are filled with a volatile oil. The beauty of its smooth evergreen foliage, and the delightful fragrance of the flower and fruit, have made it a great favourite in all our green-houses. The shape of the fruit is oblong, but its internal structure does not differ from that of the orange. The juice is acid and agreeable, when mixed with water and sugar, it forms the well-known refreshing drink called *lemonade*, which is in general use throughout all parts of the civilized world. Lemon juice is also employed by calico printers to discharge colours. See *Citron*.

LEMONADE; a drink made of water, sugar, and the juice of lemons. Prepared in this simple way it is a very grateful beverage in warm weather, and for febrile patients. The taste is more agreeable, if the sugar is rubbed with the peel of the lemon, so as to imbibe the oil contained therein; but the lemonade is thus rendered stimulant rather than cooling, and many persons suffer from head-ache as a consequence. In public houses, cream of tartar is frequently used instead of lemon-juice, which persons can endure without feeling same head-ache. Lemonade was first sold publicly between 1630 and 1633, in Italy, and soon became very common. See *Limonade*.

LEMONTEY, PETER EDWARD, member of the French academy, jurist and poet, was born at Lyons in 1762, and died at Paris, June 27, 1825. He was convocation of the estates in 1787. He contributed to his essay—whether a Protestant can vote in the Election of the Members of the Estates, or he chose to Member himself—to the restoration of the Protestants, who formed a numerous class of citizens, their civil rights. Subsequently appointed deputy from the department of the Rhone, he joined the constitutional-monarchical party, and exerted himself to moderate the extravagant measures of the democratic demagogues. He succeeded in saving a great number of absent scholars, artists, and writers from being confounded, in the laws against emigrants, with those who had left their country with a purpose of introducing foreign arms on their native soil. In the deliberations on the fate of Louis XVI., he conducted himself with equal humanity and

orcinus vos prestiferos mures per Deum Patrem omnipotentem, et Jesum Christum filium ejus, et Spiritum Sanctum, et ab utroque procedentem, ut confestim recedatis ab his campis, seu vineis vel aquis, nec amplius in eis habitetis, sed ad ea loca transeatis, in quibus nemini nocere possitis, et ex parte omnipotentis Dei, et totius curie ecclesie, et ecclesie sanctae Dei, vos maledicemus, quocunque iteritis, sitis maledicti, deficietis de die in diem in vos ipsoe, et decreverunt quatenus reliquie de vobis nullo in loco inveniantur, nisi necessarium ad salutem et usum humanum, quod prout dignetur ille, qui venturus est judicare vivos et mortuos et seculum per ignem. Amen.

courage. During the reign of terror, Lemontey fled to Switzerland, whence he did not return till after the overthrow of the Mountain party. Deeply affected with the calamity which had involved his native city in ruin (see *Lyons*), he published his beautiful ode *Les Ruines de Lyons*. He afterwards travelled through Italy, published several poetical works in Paris, and wrote various operas and romances. In 1804, the government conferred on him, and two other literary men, the censorship of theatrical works—an ungrateful office, which he at first exercised with much discretion, but in which he subsequently exposed himself to the complaints of authors. After the restoration, he received the order of the legion of honour, and the office of the director-general of the book trade. He also succeeded Morellet in the academy. His romance *La Famille de Jura ou irons-nous à Paris ?* (written on occasion of Napoleon's accession to the throne), in four months passed through as many editions. His *Essai sur l'Etablissement monarchique de Louis XIV.* (his master-work, bold and true) was an introduction to his unfinished *Histoire de la France depuis la Mort de Louis XIV.* Of his operas, *Palma, ou le Voyage en Grèce*, was very successful during the revolution, because he boldly attacked in it the Vandalism of those times—the destruction of the French monuments of art, under the name of *civism*.

LEMPRIERE, JOHN, D. D., a native of Jersey, was graduated at Oxford as A. M., in 1792. In the same year, he became head-master of Abingdon grammar-school, and afterwards master of the free grammar-school at Exeter. In 1811, he was presented to the rectory of Meeth, Devonshire, which living, together with that of Newton Petrock, in the same county, he held till his death. Doctor Lempriere was an excellent classical scholar, and published a *Bibliotheca classica* as an assistant in the study of antiquities and mythology. His other writings are the first volume of a translation of Herodotus, with notes, which appeared in 1792: an entire and elegant translation of that historian being given to the world by Mr Beloe, doctor Lempriere desisted from prosecuting his design. A compilation of *Universal Biography*, first printed in quarto, with an abridgment of the same, in octavo, both in 1808, was his last work. He died of apoplexy, Feb. 1, 1824.

LEMUR. This genus of the monkey tribe (the *makis* of Cuvier) has been divided into several subgenera; as, *Lemur*, which is distinguished by having six projecting incisors in the lower jaw and four straight ones in the upper. These animals have long tails, and take the place of apes in the island of Madagascar, none of the latter being found there. *Indris*, having four incisors below and the same number above; no tail; only one species known, which the inhabitants of Madagascar tame and train to the chase, like dogs. *Loris*, four incisors below, and four above; no tail. Their molar teeth have sharp points instead of tubercles, and they sometimes feed on small birds and quadrupeds. *Galago*, having six incisors below and four above; tail long and tufted; elongated tarsi to the hind feet, which render them very disproportionate to the superior extremities. *Tarsius*, four incisors above, two below, and several canine teeth between the incisors and molars; tail long, tufted. All these animals have their thumbs strongly developed, and the first finger on the hinder feet furnished with a pointed and elevated nail, all those on the other fingers being flat. Their hair is woolly.

LEMURES (*manes*, *lamie*, ghosts, spectres), among the ancient Romans; the souls of the dead, which tormented men in the night, whence they were called *nocturnal* or *black*. In order to lay

them, a ceremony called *lemuria*, *lemuralia*, *remuria*, was observed on the nights of the 9th, 11th, and 13th May. About midnight, when every body was asleep, the head of the family rose, and went, barefooted, softly, and in silence, to a fountain. With a snap of the fingers, still keeping silent, he protected himself from the spectres. Having washed his hands at the fountain, he returned, took some black beans in his mouth, and, without looking around, threw them nine times over his head, repeating, each time, *Hæc ego mitto; his fabis me meosque redimo* (These I send; with these beans I redeem me and mine). He then washed his hands again, struck a hollow copper vessel, saying nine times during the operation, in a supplicating tone, *Manes, exite, paterni* (Ye souls of my ancestors, depart). He now looked around, and the ceremony was finished. It was believed that the spirits came and collected the beans.

LENA; a large river of Asiatic Russia, which rises in the mountains near lake Baikal, and empties, after a course of about 2000 miles, through four arms, into the Northern ocean, after having received the Wilime, Olekma, Aldane, and Wilhoul. It forms, at its mouth, a large bay, of the same name, containing many islands, called the *archipelago of the Lena*, which are cold and barren, but inhabited by many animals valuable for their furs.

LENCLOS, ANNE, called *Ninon de*, the French Aspasia, was born at Paris, in 1616, of noble parents. The early death of her parents having left her to follow her inclinations, her character was formed by the bent of her own feelings, and by the study of the works of Montaigne and Charron. Even at an early age, she was distinguished for her wit and acuteness. She played the harpsichord and several other instruments in a masterly style, sang with taste, and danced with grace. With such attractions she had no want of lovers and suitors; but her love of independence prevented her from forming a serious connexion. To render herself entirely free, she invested her property in an annuity, on which she lived frugally, but in good style. Her income amounted to 8000 or 10,000 livres. Without making a traffic of her charms, she attached herself to those who pleased her, as long as her inclination continued. Inconstant in love, but true in friendship, equable in her temper, charming in her conversation, capable of forming young men, but also of seducing them, sensible, without making a display of her powers, handsome even in old age, she wanted nothing but female virtue, yet she conducted herself with dignity. She never accepted presents in return for her favours, though she gave herself up, from blind sensuality, to transient passion, without concerning herself whether its object was worthy of her. Having extended her favours, in succession, to the most celebrated men of her time, she proved to all, that mere sensual desire, and not vanity, was the cause of her passion. Notwithstanding her reputation for gallantry, the most amiable and respectable ladies of the time, such as La Fayette, La Sablière, and Maintenon, cultivated her friendship. Of madame de Maintenon she used to say, that she wished to employ her to drive away the tedium of rank and age at Versailles. Even in her old age, her house was the rendezvous of the most agreeable personages of the city and court, and of the most distinguished men. Scarron consulted her on his romances, St Evremont on his poems, Molière on his comedies, Fontenelle on his dialogues, and La Rochefoucault on his maxims. Coligny, Condé, Sévigné, &c., were her lovers and friends. When the queen of Sweden was in Paris, she paid Ninon a visit. Voltaire speaks of her as having lost her charms of person in extreme old age. St Evremont maintains the contrary. At her death, Oct. 17, 1705, she

bequeathed to Voltaire, then a young man, whose renown she had foreseen, a considerable sum, which he was to expend in books. One of Ninon's sons, named La Boissière, died, in 1732, at Toulon, an officer in the navy. His birth was distinguished by a dispute between an officer and clergyman respecting the paternity. As the matter was doubtful, it was decided by lot, and the officer obtained the paternal title. Ninon's second son died a tragic death. He had fallen in love with his own mother, without knowing his relationship to her. She was obliged to reveal the secret to him, to escape his importunities, and he killed himself from despair. This terrible event has been introduced, by Le Sage, into his *Gil Blas*. Ninon, moreover, confessed herself, that she was not happy, and often said, that, if she had foreseen her course of life, she would rather have undergone a voluntary death, than have submitted to such a destiny. The *Lettres de N. de Lenclos au Marquis de Saligny* are the work of Damours, the author of the life prefixed to the collection. The *Correspondence secrète de, &c.*, edited by Ségur (1789), is also a supposititious work.

LENNI LENAPE. See *Indians*, and *Indian Languages*.

LENOTRE, ANDREW; a French architect and ornamental gardener. He was born at Paris, in 1613, and was the son of the superintendent of the gardens of the Tuileries, who, wishing to make him an artist, placed him, as a pupil, with Vouet, the painter. He showed a strong taste for design, particularly in laying out gardens, and arranging their scenery. He first displayed his talents at the chateau de Vaux; but his plans for the decoration of the park of Versailles contributed principally to establish his reputation. He afterwards embellished the gardens of Clugny, Chantilly, St Cloud, Sceaux, the Tuileries, &c. Louis XIV. richly rewarded the labours of Lenotre, and, in 1675, bestowed on him letters of nobility, and the cross of the order of St Michael. He took a journey to Italy in 1678; and, at Rome, he was honourably received by pope Innocent XI. He died, at Paris, in 1700. Delille has celebrated the talents of Lenotre, whose style of ornamental planting was fashionable, not only in France, but in Britain, till it was superseded by the designs of Kent, Brown, and the modern landscape gardeners.

LENS, in dioptrics, properly signifies a small, roundish glass, of the figure of a lentil, but is extended to any optic glass, not very thick, which either collects the rays of light into a point, in their passage through it, or makes them diverge, according to the laws of refraction. Lenses have various figures, that is, are terminated by various surfaces, from which they acquire various names. Some are plane on one side, and convex on the other; others convex on both sides, both of which are ordinarily called *convex lenses*, though, where we speak accurately, the former is called *plano-convex*. Again, some are plane on one side, and concave on the other; and others are concave on both sides; which are both usually ranked among the concave lenses; though, when distinguished, the former is called a *plano-concave*. Others, again, are concave on one side, and convex on the other, which have the name *meniscus*. In every lens, terminated in any of the fore-mentioned manners, a right line, perpendicular to the two surfaces, is called the *axis of the lens*, which axis, when both surfaces are spherical, passes through both their centres; but if one of them be plane, it falls perpendicularly upon that, and goes through the centre of the other. See *Optics*.

LENT, a Teutonic word; in German, *Lenz* (the spring); in Swiss, *Glens*; in Dutch, *Lent*. Several derivations of the word have been proposed. Adelung

thinks that it is probably connected with the German verb *leinen* (to thaw). In English, *Lent* means the quadragesimal fast in spring, which, in Italian, is called *quaresima*; in French, *carême*, from the Latin *quadragesima*. In the article *Fasts*, the subject of fasting, in general, and the fasts and days of abstinence observed by the Roman church have been treated of. Lent is a fast intended to prepare Christians for the Easter festival. Protestants generally consider Lent not to have been established before the second or third century; but the Catholic church maintains, with St Jerome, St Leo, St Augustine, &c. the majority of the fathers of the church of the fourth and fifth centuries, that it is of apostolic origin. They reason thus: that which we find universally established in the church, and of which we cannot, nevertheless, find the institution by a council, must have been established by the apostles; and the sixty-ninth apostolical canon, the council of Nice, 325, that of Laodicea in 365, and the fathers of the second and third centuries, speak of Lent as a fast generally observed by the church. In the Latin church, Lent formerly lasted but thirty-six days, & the fifth century, four days were added, in memory of the forty days' fast of the Saviour, and thus became general in the Western church, except in the church of Milan. (See *Dictionnaire de Theologie*, article *Carême*.) The Greeks began Lent one week sooner than the Roman Catholics, but they do not fast on Sundays, except in passion-week, though their fasts, generally speaking, are much more strict than those of the Roman Catholics. The Latin monks have formerly three fasts, of forty days each, and the Greeks observed four besides Lent; but they have reduced them to seven days each. Some Oriental sects had still other great fasts. The eighth canon of Toledo, in 653, orders that those who break the fast, without necessity, shall eat no meat during the whole year, and shall not partake of the Lent's supper at Easter. The bishop must give the sick an aged permission to eat animal food during Lent. Such permissions are, however, generally put into the hands of physicians, from whom it is not difficult to obtain them. Until the year 1800, but one meal a day was eaten during Lent. The close of Lent is celebrated in Catholic countries with great rejoicings. In Rome, the *pizzicorelli*, or shops in which hams, sausages, eggs, &c., are sold, are illuminated and ornamented, in the most picturesque manner, the night before, in order to attract buyers. The sale of a mint, made of butter, is often seen. Hams & eggs are multiplied endlessly by reflecting mirrors, and the whole scene is quite brilliant and amusing. Milk is allowed during Lent. The English church has retained Lent, and many other fasts, but gives directions respecting abstinence from food. See *Carnival*.\*

LENTIL; a species of *erum*. The common lentil comes from France and the Valais. The stem annual root brings forth weak, creeping, hairy, angular stalks, from one to two feet long, divided, from the bottom, into several branches, and clasping for support to other plants; the pinnate leaves stand alternately; from the axils of the leaves proceed the stalks, which each have two or three whitish flowers hanging down. The pods do not contain more than two sound seeds, flat upon both sides. Lentils are

\* Though Lent is established to subdue our carnal appetites, and to induce us to live more spiritually, the following remark is found in the Catholic work quoted above: "If the rich would add alms to the fast as the church prescribes, the poor would live better, and more comfortably during Lent, than in any other season of the year, and would bless God for this salutary institution." p. 216, in *L. Dic. de Th.-logie*, Toulouse, 1817.

cultivated for the seeds just mentioned. They require a rather sandy, yet strong soil; they are sown somewhat later than peas and vetches, because they cannot endure night frosts; they are to be sowed in drills, and well harrowed. Care is to be taken that the seed is not put too deep into the ground, and that the young plants are well hoed and well weeded. For the harvest, the time is to be chosen when the little pods begin to turn brown, though the plant may be still quite green; and, if possible, it is best to choose the afternoon of a dry, warm day; for if the pods are quite ripe, or are wet with rain at the time of gathering, they easily crack open, and a great loss of seed takes place. Two varieties are cultivated—the large *garden lentil*, and the common *field lentil*. The former is distinguished by its size, and the greater quantity of mealy substance which it will afford. The straw of lentils is good food for cattle and sheep, particularly for calves and lambs. Lentils are also mixed with vetches, and sowed as food, both green and dried, for milch kine. Lentils, when cooked, afford a nutritious food (this should be done in the pod, to preserve their flavour), but, like peas and beans, are not good for persons whose digestive powers are weak, particularly if they are not cooked quite soft. They ought to be boiled for two hours and a half. When they are browned, some butter, and a few onions roasted in butter, are added, also salt; they are then boiled half an hour more. A good soup may also be made of them. Some persons soften the lentils, before cooking, in cold water. Purified rain water is best to cook them in. In the Archipelago, they are one of the principal articles of food. To fatten pigs, lentils are excellent, and, given with other food, increase the milk of cows.

LENTO (*Italian*, slow); a term used in music.

LENTULUS; the name of one of the most illustrious families in Rome, several individuals of which distinguished themselves by their virtues and services; others were conspicuous in other ways. Publius Lentulus Sura, an accomplice of Catiline, was strangled in prison. Lentulus Spinther, one of the most luxurious and ostentatious men of his age, was a partisan of Pompey. Having been pardoned by Cæsar, who had made him prisoner, he again joined the former, and was present at the battle of Pharsalia. Cneius Lentulus was put to death, in the reign of Caligula, in consequence of being detected in forming a conspiracy against that monster.

LEO I. (THE GREAT, ST) was born, according to some writers, in Rome, and, according to others, in Tuscany. The popes Celestine I. and Sixtus III. employed him in important ecclesiastical affairs, while he was only deacon. On the death of Sixtus III., in 440, Leo was elevated to the papal chair. The Romans were gratified with this choice; but the beginning of his pontificate was marked by an intolerant and impolitic act. He caused processes to be instituted against the Manicheans, who were concealed in Rome, and gave up those who persisted in their heresy to the secular arm. In the same manner, he proceeded against the Pelagians, Priscillianists, and Eutychians, whom he exterminated. During the session of the council of Chalcedon, in 451, to which Leo had sent four legates, Attila laid waste the Western empire, and threatened Rome. The emperor Valentinian employed Leo to intercede with that formidable warrior, in order to obtain peace. Leo addressed the barbarian with mildness, and, at the same time, with impressiveness; and Attila, induced probably, however, by other motives, left Italy, and retired beyond the Danube; but, in the year 455, the Vandal Genseric took Rome, which was exposed to pillage for fourteen days. All the favour that Leo could obtain from him was, to forbid the murder of

the citizens, the burning of the city, and the plunder of the three principal churches in Rome, which contained the rich offerings of Constantine. Leo is the first pope whose writings have been preserved. These writings consist of 96 sermons, 141 letters, and some other works. A work on the Calling of the Gentiles, and the Epistle to Demetriades, have also been ascribed to him. His style is finished and rhetorical, and his periods have a measured rhythm, which is not unpleasant. There have been several editions of his works; one by Quesnel, at Paris (1675, two vols., 4to); another at Lyons (1700, fol.); a third at Rome, by Cacciari (three vols., fol.); and a fourth at Venice (1757). Father Maimbourg has written his life.

LEO X. (GIOVANNI DE' MEDICI), second son of Lorenzo the Magnificent, born at Florence, in 1475, received the tonsure in his seventh year, and was loaded with benefices. The election of Innocent VIII. to the papal chair, favoured the ambitious views of his father, and, in 1488, Giovanni, then only thirteen years old, was made a cardinal. Lorenzo intrusted his education to the Greek Chalcondylas and the learned Angelo Poliziano. Giovanni, naturally grave, took a greater interest in the writings of the ancient philosophers than in those of the fathers of the church; it was, therefore, made a condition of his nomination, that, before he should be invested with the purple, he should study theology three years at Pisa. In 1492, Giovanni took his seat in Rome, as a member of the holy college. His father died soon after, and was succeeded by his son Pietro, at Florence. As the young cardinal had opposed the election of Alexander VI. to the papal see, he exchanged Rome for Florence, where he lived in high estimation, until the banishment of his family forced him to fly to Bologna. In 1499, he went to Venice, Germany, and France, remained some time in Genoa, and then returned to Rome, where he lived in the enjoyment of a select society, and devoted to the arts, particularly music and literature. In 1505, he first took part in public affairs. Pope Julius II. made him governor of Perugia, and, in 1511, placed him, with the title of *legate of Bologna*, at the head of his forces, in the holy league against France. As his suggestions, however, were little regarded by the Spanish generals of the allied armies, his influence was limited to preserving order in his camp. He was made prisoner by the French, at the battle of Ravenna, in 1512, but soon after regained his freedom, on the dispersion of the victorious army, and returned to Bologna, where he conducted the government as legate, and, after contributing to the re-establishment of the Medici, remained at Florence until the death of Julius II. recalled him to Rome. The choice very unexpectedly fell upon him, and he ascended the papal chair in 1513, in the thirty-eighth year of his age, under the name of *Leo X*. He immediately appointed two of the principal writers of his time, Bembo and Sadoleto, his secretaries. In foreign politics, he followed the system of his predecessors, opposing the domination of foreigners in Italy as much as possible. He succeeded in driving out the French, put an end to the divisions in the church, and forced Louis XII. to a formal submission. Having thus restored the public tranquillity, in the first year of his government, he gave all his attention to the promotion of literature and the arts, which had been neglected by his predecessors. The university at Rome was restored and endowed, privileges were granted it, and the most distinguished men selected as instructors. He also established a particular society for the publication of Greek authors, under the supervision of John Lascaris. That scholar, whom he had invited from Venice, and Marcus Musurus,

brought over a number of young linguists, whose influence assisted in promoting a taste for classical literature. He requested the possessors of ancient manuscripts, in all countries, to make them known to him; and the publication of the five first books of the *Annals of Tacitus*, was one of the finest fruits of his efforts. Several private individuals followed the example of the pope; among whom, Chigi, a merchant, was distinguished, who established a collection of works of art, and published an edition of Pindar and Theocritus. To prevent a union of Spain, France, and Austria, Leo favoured a reconciliation between the kings of England and France, and even pretended to favour Louis's plans on Milan. His design of obtaining the kingdom of Naples for one branch of his family, and the duchies of Ferrara and Urbino for other branches, made the friendship of this monarch necessary, and produced a secret alliance between them; but, when a French army appeared on the frontiers, he was not satisfied with increasing his power, by a purchase of Modena from the emperor Maximilian, but also sent Bembo to Venice, to detach the republic from the French alliance; in which, however, he did not succeed. This artful, varying policy was, at that time, universal, and Leo cannot be especially blamed for it. After the death of Louis XII., Francis I. having ascended the throne, and war appearing unavoidable, Leo, joined the alliance of the emperor, the king of Arragon, the states of Florence, Milan, and Switzerland; but, after the battle of Marignano, he withdrew, and, in 1515, he had an interview with Francis at Bologna, and formed with him a concordate, advantageous to both, but warmly censured by the French nation. In order to increase the power and splendour of his family, after the death of his brother Giuliano, he deposed the duke of Urbino, in 1516, and gave the duchy to his nephew Lorenzo. Leo saw with regret the reconciliation of the belligerent powers, which was effected in the same year. In 1517, the duke of Urbino, who had been deprived of his estates, recovered them by force of arms. Leo, however, collected a powerful army against him, and forced him to renounce his claims on honourable terms. In the same year, a conspiracy against the pope was discovered, and cardinal Petrucci, who was suspected of being the principal, was hanged, notwithstanding the passport which had been given him. Others, whose guilt was not sufficiently proved, were tortured, deprived of their dignities, and banished. The conduct of the pope, in this instance, was neither magnanimous nor merciful. Leo's magnificence had exhausted his finances. To procure money, particularly for the completion of St Peter's, he put all Christendom under contribution, by the sale of letters of indulgence. (q. v.) This abuse roused the zeal of Luther, and produced the reformation. Leo, at first paid little regard to the attacks of Luther, and when he could no longer keep silence, was inclined to lenient measures. In compliance with the wishes of Maximilian, he assumed more rigour, and summoned Luther to appear in Rome, but finally agreed that he should defend himself at Augsburg, before the cardinal Caietan. Nothing being decided by that measure, he issued, in Nov. 1518, the well-known bull, in which he defended the papal authority of dispensing indulgences, and threatened all, who maintained contrary doctrines, with excommunication; on which Luther appealed to a general council. While open war had thus broken out in the church, Leo endeavoured to unite all Christian monarchs in a crusade against the Turkish emperor Selim, who had made himself master of Egypt; but their mutual jealousies prevented the execution of his plan. Besides these public chagrins, Leo had great domestic misfortunes

to suffer. Lorenzo, who had connected himself with the French court by marriage, having died, and left only a daughter, Leo therefore annexed Urbino to the States of the Church, and the cardinal Cotto *de Medici* was placed in the government of Florence. Though, in Germany, the reformation continued to gain ground, Italy was not disturbed by foreign wars. This state of things permitted Leo to indulge his taste for splendour, to promote the arts and sciences, and, at the same time, to increase the power of his family. Although in alliance with France, he did not give up his plan of preventing the aggrandisement of that power in Italy. With this view, he united with the emperor, in 1521, for the re-establishment of the family of Sforza, in Milan, and took 5000 troops into pay. The war was begun successfully. Parma and Piacenza were taken by the papal troops, and annexed to the States of the Church. The allies entered Milan without resistance, and occupied the territory of the duke of Ferrara, whom Leo had excommunicated as an ally of France. While engaged in celebrating his successes, Leo died suddenly, Dec. 1, 1521. The age of Leo is described in Roscoe's *Life and Pontificate of Leo X.* which has been translated into German, Italian, and French.

LEO XII., (ANNIBALE DELLA GREGGIA), born at Genoa, Aug. 2, 1760, became cardinal March 1. 1816, and succeeded Pius VII. in the papal chair, Sept. 28, 1823. He early served the interests of the Roman court as a nuncio in Switzerland, at Dresden, and at other German courts, went on an embassy to Louis XVIII. from pope Pius VII., and was finally created vicar-general of Rome. As pope, he made himself beloved by the people, by the remission of many taxes, by his benevolence, by personally inspecting the public institutions for the poor, the hospitals and the prisons. His firm maintenance of the rights of the court of Rome involved him in disputes with the French and Austrian governments in 1824. On Ascension-day, 1824, he announced the next year as the year of jubilee. His circular epistle to the nations of Christendom, on that occasion, contains a warm attack on Bible societies. May 1<sup>st</sup> 1824, he gave to the Jesuits and their general, Leon Fortis, the Roman college, which they had possessed until 1773, together with the church of the holy Ignatius, the *oratorium*, the museum, the library and the observatory, in order that they might devote themselves entirely to the education of the young. Leo XII. also strengthened the connection of the apostolic see with the Spanish American republics, particularly with Chile, and, in 1828, with Colombia, by recognising Bolivar's bishops. He endeavoured to free the States of the Church from robbers and banditti, as well as to suppress the remains of Carbonarism. In 1825, he restored the prisons of the inquisition. His attention was particularly directed to the remedy of numerous abuses in the departments of the Roman government, for instance, in the *sancta apostolica*. Leo died in Feb. 1829, and was succeeded by cardinal Castiglione, who took the name of Pius VIII. Pius died Dec. 1830, and was succeeded by cardinal Cappellari (Gregory XVI.)

LEO VI. emperor of the East, surnamed the *Philosopher*, was the son of Basil I., whom he succeeded in 886. He reigned weakly, and the ill success of his generals against the Bulgarians, obliged him to submit to such terms of peace as those barbarians pleased to propose. A total defeat of his fleet by the Saracens, also took place a short time before his death, which happened in 911, after a reign of twenty-five years. He gave his name to several works, the principal of which are, a *Treatise on Taxes*, *Novella Constitutiones*; and *Opus Basilianum*, a collection of laws, begun by his father. He also

addressed a letter to the caliph Omar on the truth of Christianity.

LEO, LEONARDO, chapel-master in the Conservatorio St Onofrio, and private composer to the royal chapel at Naples, born in 1694 (according to Piccini, 1701), at Naples, probably studied under Scarlatti. To him, to Pergolesi, and some other composers of that period, is to be attributed the reputation which the Neapolitan school acquired all over Europe. Among his scholars, Piccini, Sacchini, Pergolesi, Traetta, are distinguished. He surpassed all his predecessors, and, as he became equally perfect in all the departments of composition, he may be esteemed one of the greatest masters of Italy. All his works were studied with veneration by the Italian musicians. Although Leo was very successful in passionate, grand, and elevated compositions, he was not less so in simple, tender, and comic, as his comic opera *Il ciccio* proves. Leo is, besides, the first composer who availed himself of the form of *rondos* in his comic operas. He died in 1742. His best operas are *Sofonisba* (1718, according to Burney, his first opera); *Olimpiade*; *La Clemenza di Tito* (1735); *Achille in Sciro* (1740). He composed two oratorios—*Santa Elena al Calvario* (to the words of Metastasio), and *La Morte d'Abele*. Of his church-music, his *Ave Maria*, and a *Miserere alla Capella*, are the most remarkable.

LEO, JOHN (surnamed *Africanus*), a traveller and geographer of the sixteenth century, was born of Moorish parents, at Grenada, in Spain, and, when that city was taken by the Spaniards, in 1492, retired to Africa. He studied at Fez, and afterwards travelled through various parts of the north of Africa. Having been captured by pirates, he was taken to Italy, and presented to pope Leo X., who persuaded him to embrace Christianity, and gave him his own name on his being baptized. At Rome, he acquired a knowledge of the Italian language, into which he translated his Description of Africa, originally written in Arabic. This is a very curious and interesting work, comprising accounts of several countries rarely visited by Europeans. Leo also composed a treatise on the lives of the Arabian philosophers. He is supposed to have died soon after 1526.

LEOBEN; a town on the Mur, in the Austrian duchy of Styria, about 1600 feet above the sea, with 2400 inhabitants, famous as the place where the preliminaries of the treaty of Campo-Formio were concluded, between Austria, Naples, and the French republic, August 17, 1797, after Bonaparte's successful campaign of 1796 in Italy, against the archduke Charles. (See *Campo-Formio*, *Peace of*.) Here the young French general displayed great talents as a statesman, deriving little aid from the instructions of the directory. See *Napoleon*, and *Italy*.

LEON, PONCE DE. See *Ponce de Leon*.

LEON; one of the great divisions of Spain, usually styled the *kingdom of Leon*; bounded north by Asturia, east by Old Castile, south by Estremadura, and west by Portugal and Galicia. It was united to Castile in the beginning of the eleventh century. The soil is generally fertile, and produces all the necessities of life; and the wine is tolerably good. Population, 1,215,551; square miles, 21,000. It is divided into six provinces.

LEON (anciently *Legio Septima Gemina*); a city of Spain, capital of a province to which it gives name, at the conflux of two rivers, whose united stream runs into the Esla, ten miles south of the town; 150 miles north-west Madrid; lon. 5° 37' W.; lat. 42° 45' N.; population, 5900. It is a bishop's see. This city is very ancient, and was formerly much more rich and populous than it now is. It was the capital of a kingdom of the same

name, and the kings resided in a palace here till the year 1037. It now contains thirteen parish churches, nine convents, and four hospitals. The cathedral is handsome, and abounds in relics. In it are seen the tombs of thirty-seven kings and one emperor.

LEONARDO DA VINCI. See *Vinci*.

LEONIDAS, king of Sparta, son of king Anaxandrides, ascended the throne 491 years B.C. When Xerxes, king of Persia, invaded Greece with an immense army, Athens and Sparta were the only great cities which resolved to resist him. The Spartans gave the chief command of the military force to Leonidas, who marched to Thermopylæ, in the year 480 B.C., with 300 men. Small as his army was, amounting to but 7000 men, including the allies, he stationed it so skilfully, that the Persians, on coming to the narrow pass, became aware of the difficulty of carrying it by force. Xerxes, therefore, attempted to bribe Leonidas, offering him the dominion of all Greece. This proposal being rejected with scorn, the despot sent a herald to order the Greeks to surrender their arms: "Let him come and take them," was the reply of the Spartan king. Thrice did the Persians advance against the pass, in great force; thrice were they repelled, with great loss. Meanwhile, a traitorous Greek, named Ephialtes, led a select troop of 10,000 Persians, by a secret path, over the mountain, who, after compelling the few opposing Phocians to take to flight, appeared in the rear of Leonidas. He now saw that all was lost, but resolved to show, by a memorable example, what the Greeks could perform in the cause of their country. He is said, also, to have been influenced by an oracle, which declared that Sparta could be saved only by the death of one of its kings. To avoid useless bloodshed, Leonidas dismissed the greater part of his troops, and retained but 300 Spartans, 700 Thespians, and 400 Thebans; the last, in some measure, as pledges of the fidelity of their countrymen, and the Thespians, because they could not be induced to leave their Spartan allies. As soon as Xerxes had learned the successful passage of the troops led by Ephialtes, he threw himself, with his whole force, into the entrance of the pass. But Leonidas, before daybreak, penetrated into the Persian camp. After a long contest, the hero fell, surrounded by fallen enemies. His men defended his body, till they sank beneath countless assailants. This defence of Thermopylæ is one of the most remarkable exploits of antiquity. The Greeks erected a splendid monument to the fallen, and celebrated, annually, warlike games over their sepulchres.

LEONINE VERSE; a kind of Latin verse, in vogue in the middle ages, consisting of hexameters and pentameters, of which the final and middle syllables rhyme; so called from Leonius, a poet of the twelfth century, who made use of it, or, according to some, from pope Leo I. (A.D. 680). Poems of considerable length were written in this barbarous taste. The following distich may serve as an example:

Dæmon languebat, monachus tunc esse volebat;  
Ast ubi convaleuit, mansit ut ante fuit.

Leo versified a great part of the Old Testament in this manner. See *Rhyme*.

LEONTIUM (Leontia); a courtesan, the scholar and mistress of Epicurus. According to some, she was his lawful wife; according to others, the mistress of Metrodorus. She is said to have possessed distinguished talents, and to have composed an essay, replete with acuteness and learning, in a beautiful Attic style, in defence of the doctrines of Epicurus against Theophrastus.

LEONTODON TARAXACUM, or DANDELION; the name of a plant, indigenous to Europe,

but now also common in America. The leaves are all radical and runcinate, or jagged on the margin, and from this circumstance has been derived its French name—*dent de lion* or lion's tooth, of which the English appellation is a corruption. The stems are hollow, and bear single, large, yellow flowers, consisting of a congeries of florets, each of which is succeeded by a naked seed, bearing, on a long pedicle, a tuft of radiated down. By means of this tuft, the seed, when detached, is kept suspended in the air, and transported, by the winds, to a distance. In this respect, however, it does not differ from most of the *compositæ*. The whole plant is full of a milky and bitter juice; notwithstanding which, it is in common use as an early vegetable. The roots, when roasted, are said to form a good substitute for coffee, and are used for that purpose in some parts of Germany.

**LEOPARD** (*felis leopardus*). This beautiful but savage animal is spread as widely over the countries of the continent as the lion, and, throughout this extent, he varies but little, and that merely in magnitude, in the size and form of his markings, and the intensity of their colouring; but he is every where the same as to form and structure, as well as in character and disposition. His ground colour is a yellowish fawn, which becomes paler on the sides, and is lost in the pure white of the under part of the body. The back, head, neck, limbs, and under surface of the body, are marked with black spots, of different sizes, and placed in an irregular manner, whilst the sides are covered by numerous distinct roses, formed by the congregation of smaller spots, placed in a circular form. In general appearance, this animal is fierce, and is, in fact, equally savage and dastardly with the rest of the cat kind. His usual prey is antelopes, monkeys, and the smaller quadrupeds. He always avoids man, except when closely pursued, when he offers an obstinate resistance. Occasionally, however, the lone traveller has fallen a victim to these ferocious and sanguinary animals. When they attack a flock of sheep, the slaughter they commit is almost incredible. Kolbe states that two leopards, a male and female, and three young ones, entered a sheepfold at the cape of Good Hope; the old animals killed nearly a hundred sheep; when they were satiated, they fed their young, and, each seizing a whole carcass, attempted to move off, but they were waylaid, and killed. The Negroes take them in pitfalls, slightly covered over with hurdles, on which a piece of meat is placed as a bait. From the extraordinary flexibility of the limbs of this animal, he is enabled to ascend trees, in which he usually takes refuge when pursued. When taken young, he can be tamed to a certain degree. According to travellers in Africa, the flesh of the leopard is excellent, resembling veal. The skins are valuable, selling, in Europe, at from £5 to £10.

*Hunting-leopard* (*F. jubata*), or *cheetah*, as it is termed in India, is about the size of a greyhound, with a narrow chest and long legs, of a thin make in the body and limbs, apparently calculated rather for speed than strength. In fact, this animal forms a sort of connecting link between the feline and canine groups. He is of a pale yellow colour on the upper part, white underneath, and covered all over with very small irregular spots. He has a slight mane, extending along the back of the neck and upper part of the back. He is capable of being perfectly tamed, and is employed, in the East, for the chase of antelopes. He is carried to the field in a cart, in which he is kept chained and hoodwinked, till brought within view of a herd, when he is released, and the hoods removed. The animal steals gradually towards his prey, till he has attained a proper

distance, when, with five or six surprising bounds, he springs upon it. If, however, he is unsuccessful in his attack, he does not attempt to renew it, but returns with a mortified air, to his keeper.

**LEOPOLD I.**, German emperor, second son of the emperor Ferdinand III. and Mary Anne of Spain, born 1640, was chosen, in 1655, king of Hungary; in 1658, king of Bohemia; and, in 1689, emperor of Germany. On ascending the throne, he was obliged to promise to afford Spain no assistance against France. The Turks had then defeated the imperial army, and desolated Moravia, because the emperor had aided the prince of Transylvania, Ragotsky, who had ceased to pay an annual tribute to the Ottoman Porte. Montecuculi, Leopold's general, supported by 6000 select French troops, under Coligny and Feuilleade, defeated the Turks, August 1, at St Gothard; but, instead of improving this victory, the cabinet of Vienna concluded a truce for twenty years, and Ragotsky remained tributary to the Porte. Hungary was to be totally subjugated, but the nobles of this country attempted to throw off the Austrian supremacy, and to choose a king from their own nation. This undertaking cost Zriny, Frangepani, Nadasti, and other Hungarians, their lives. Tekeli (see *Tekeli*) now placed himself at the head of the malcontents, and was chosen king of Hungary by the Turks, for an annual tribute of 30,000 sechins. Tekeli called the Turks into the German empire; with an army of 200,000 men, they captured the island of Schutt, and laid siege to Vienna, in 1683. Just as the city was on the point of surrendering, John Sobiesky hastened to its relief. The Turks were attacked in their intrenchments, and suffered a total defeat. A panic terror seized the grand vizier, Kara Mustapha; he fled, and left the camp to the victor. This defeat was followed by others, and the imperialists recovered all the lost cities. Leopold caused the Hungarian empire, whom he looked upon as the cause of all the dangers which menaced Germany, to be severely punished. Hungary, which had been an elective monarchy, was declared, at the diet of Presburg, in 1687, hereditary in the Austrian male line, and Joseph, the eldest son of the emperor, was crowned as king of Hungary, without any previous election. Transylvania submitted, without reserve, to the Austrian house. Leopold waged three wars with France, which he declared wars of the empire. The first, in 1672, in connexion with Spain and Brandenburg, to assist the Dutch, attacked by the French and British, was unsuccessful on the part of the emperor and empire, and was terminated by the peace of Nimeguen, February 3, 1679. The second war had its origin in the league formed at Augsburg, in 1686, with Holland and Spain against France. In this war, the Palatinate was terribly devastated by the French. The German arms were generally successful, and, by the peace of Ryswick, October 30, 1697, France restored all that it had torn from Germany since 1680, besides relinquishing to Germany, Breuck, Friburg, Kehl, Philipsburg, and several smaller fortresses. The duke of Lorraine, a near relation of the king, recovered his territories, from which his family had been expelled, in 1670, by Louis XIV. The third war was undertaken by Leopold, in 1702, in order to procure the succession to the throne of Spain for his second son, Charles; but he died in the course of this war, May 5, 1705. His eldest son, Joseph, already crowned Roman king, in 1686, prosecuted the war with great vigour. (Respecting the great commotions in Hungary, in the beginning of the eighteenth century, see *Ragotsky*.) As the youngest son of Ferdinand III., Leopold had been educated for the church, and his reign was marked

by attachment to the clergy, irresolution, and indulgence towards his ministers, to whom he intrusted the whole management of the government. He was passionately fond of music, and was himself a composer. After he had uttered his last prayer, on his death-bed, he caused his musicians to enter, and departed to the sound of instruments. He was thrice married. Two sons survived him—Joseph I., born in 1678, his successor, and Charles, archduke of Austria, born 1685, who became emperor in 1711.

LEOPOLD II., emperor of Germany, born 1747, on the death of his father, the emperor Francis I. (1765), became grand duke of Tuscany, and, during a reign of twenty-five years, almost regenerated that country. He encouraged commerce, agriculture, and manufactures, improved the roads, established penitentiaries, abolished the inquisition, and proclaimed a new criminal code. His financial administration was admirable, and he was personally simple in his manner of living. He preceded his brother Joseph (q. v.), emperor of Germany, in measures of ecclesiastical reform, but conducted them with more prudence and caution, yet to the great displeasure of the Roman court. When the death of Joseph II. called him to the imperial throne, he found the hereditary states of Austria in a critical situation. In pursuance of the terms of the convention of Reichenbach with Prussia (July 27, 1790), he concluded an armistice with Turkey, which was followed by the peace of Sistova, in 1791, surrendering all the Austrian conquests to the Porte. After reducing the revolted Netherlands, by force of arms, he allowed them the enjoyment of their former privileges, and restored many of the ecclesiastical establishments, which had been abolished by Joseph. Quiet was restored in Hungary, the police and the administration of justice were reformed, and public education encouraged. In 1791, he had the celebrated interview with the king of Prussia, at Pillnitz, on which occasion the two monarchs declared the situation of the king of France to be a subject of general interest to all the sovereigns of Europe. After having restored many institutions and usages, which Joseph's ardent spirit had led him to abolish, Leopold died, March 1, 1792. Leopold was one of the best disposed monarchs who ever sat on a throne, and it is not to be denied that he effected much good; but it was his lot to reign at the time of a great struggle between old and new principles, which is always a difficult, and generally a deplorable situation for a prince, who is plunged into a whirlpool, where all power of self-direction is lost. This should be kept in mind, in judging of the convention of Reichenbach.

LEOPOLD I., prince of Dessau, a Prussian general, born in 1676, early showed a strong inclination for the military service, and, in his twelfth year, received from the emperor Leopold the command of a regiment. After having travelled two years, he made his first campaign on the Rhine, in 1696. In the war of the Spanish succession, he proved himself brave and skilful general. He had an honourable share in the victory at Blenheim, and fought with distinction in Italy. After having commanded the Russians in the Netherlands, he was made general-field-marshal in 1712, and Frederic William I., the new king, was so much attached to him, that he kept him constantly near his person. In a campaign against the Swedes, he was again victorious. Frederic the Great placed no less confidence in him, and in 1742, he received the chief command in Silesia. In 1745, he gained the bloody battle of Kesseldorf, the consequence of which Dresden was taken by the Russians, and peace was concluded. When not in the field, he paid great attention to agriculture. He

died of apoplexy, in 1747. At the time of his death, he was imperial and Prussian general-field-marshal, and governor of Magdeburg. His manners were rough, often coarse; but he was brave, sincere and honest, and very much beloved by the soldiers. A popular march, still often played in Germany, particularly in the North, is called the *Dessauer Marsch*, because it was prince Leopold's favourite.\*

LEPANTO, or AINABACHTI; formerly a sangiac, in Rumili (Turkey), with 80,000 inhabitants. The capital of the same name, a seaport, was anciently called *Naupactus*; lon. 22° 20' E.; lat. 38° 27' N.; population, 2000, according to Hassel. The town is situated in a bay, formerly called the *gulf of Corinth*, now the *gulf of Lepanto*, or *gulf of Patras*, which is seventy miles long. It is fortified and defended with a castle built on an eminence. Being ceded by the emperor to the Venetians, it was fortified by them, and, in the year 1475, stood a siege of four months against the Turks, who lost 30,000 men. Near this town, don John of Austria obtained a celebrated victory over the Turkish fleet, Oct. 7, 1571. Cervantes, the celebrated author of *Don Quixote*, fought as a soldier in this battle, and had his left hand shot off by an arquebuse. The Turkish fleet consisted of 210 galleys, 23 transports, and 6 galeasses, with heavy artillery. The Spanish fleet was increased by an auxiliary flotilla, sent by the Venetians, and by some papal galleys. Both the fleets sought to come to close quarters. The battle was fought with bows, javelins, grappnels, and with cannon, muskets, pikes, and the sword. John of Austria, the commander-in-chief, and Veniero, the commander of the Venetian squadron, attacked the Turkish admiral Ali, took his vessel, and made him prisoner. His head was immediately struck off, and placed above the top of his own flag. The Christians were victorious. The Turks lost 150 vessels; more than 15,000 men were killed, and 5000 Christian slaves liberated. The Christians also lost 5000 men slain and wounded. Nothing prevented their sailing to Constantinople, except a dispute in regard to the division of the booty. This battle put a stop at once to the progress of the Turkish power, which had attained a fearful magnitude in the Mediterranean. (See *Barbarossa*.) The Christians had almost lost the hope of effectually resisting it; and, for this victory, don John of Austria (q. v.) deserves the gratitude of the whole European world.

LEPER. See *Leprosy*.

LEPIDUS, M. EMILIUS, the Roman triumvir, having served the interests of Cæsar, was made by him his colleague in the consulship. After the assassination of Cæsar, although the republican party endeavoured to win him to their ranks, he joined Antony, and afterwards made the infamous partition of the empire with him and Octavius Cæsar. (See *Augustus*.) After the victory of Philippi, his two colleagues made a new division, leaving him, however, the command of Africa. Augustus having called him to render assistance against Sextus, Lepidus attempted to render himself master of Sicily, but was obliged to submit to the former, and to take his seat again in the senate. Montesquieu says that he was the worst citizen in the republic. Without firmness or talents, he seems to have been elevated by fortune to render his fall the more striking.

LEPROSY (Greek *λεπρος*); a name given to several

\* It is related of Prince Leopold, that he used to pray, before battle, to the following effect: "O God! assist our side; at least, avoid assisting the enemy, and leave the result to me." This, if not true, shows, at least, the opinion entertained of his simplicity and straight-forwardness, and must be allowed to agree entirely with his character.

different diseases. The elephantiasis is sometimes called *leprosy of the Arabs*. The *leprosy of the Jews* is distinguished by white, cutaneous spots, composed of smaller spots, which appear sometimes in one place and sometimes in another, and are covered with a rough scaly matter. It appears to have been the *λεπροσ* of the Greek writers. The *Greek leprosy* is characterised by hard, insensible tubercles, which appear upon the skin, and are accompanied by a progressive insensibility, and the loss of the voice. It is endemic in Egypt, Java, and some parts of Norway and Sweden. The use of unhealthy articles of food seems to be one of its causes. It is hereditary and contagious. It was introduced into Western Europe in the time of the crusades, but has gradually disappeared. The tubercles which characterise leprosy appear in different parts of the skin: they are hard, rough and numerous, and cause the loss of the hair at the places where they appear. They finally terminate in ulcers, which penetrate even to the bone, producing a caries. They also cause the separation of parts of the body, the toes and fingers, for example, dropping off. These symptoms are accompanied with a languor in the motions, a dulness of the senses, a change of the voice, offensive breath, and lethargy. There are three sorts of leprosy—the squamous, or scaly, the crustaceous, in which the skin is covered with crusts, and the tuberculous. The remedy recommended for this disgusting disease is light food, such as vegetables, soups, milk: sulphur baths, sudorific drinks, mercury, are sometimes prescribed. But all remedies are too frequently unavailing. In the middle ages, leprosy, under all the forms of disease to which this term has been applied, seems to have been very common and general. It should, however, be observed, that almost all cutaneous disorders were considered as of a leprosy nature, and treated as such. From the sixth to the fifteenth century, these loathsome disorders attracted the attention of lawgivers and of the benevolent, and we find numerous ordinances relating to lepers, affecting their civil rights, and great numbers of leprosy-houses in all the countries of Europe. In the historians of those times, therefore, we are to consider the word *leprosy* as used indiscriminately of all cutaneous diseases; and we may well be astonished and shocked to find that all such patients were treated somewhat after the manner prescribed in Leviticus for the Jewish leprosy. They were, in fact, treated as civilly dead: their funeral obsequies were performed, and masses said for the benefit of their souls. Their marriage ties were dissolved, but a leper might enter into a new connexion with a person who was also afflicted with the disease. They were allowed to enter the cities at certain seasons, but were required to give notice of their approach by sounding a rattle. The consequences of such a treatment may be easily imagined. The improved condition of the lower classes, in food, clothing, and manner of living in general, and the advancement of medical science, have contributed to eradicate this loathsome and disgusting malady.

LERMA, FRANCIS DE ROXAS DE SANDOVAL, duke de, first minister of Philip III. of Spain, was marquis of Denia, when he was appointed equerry to the Infant don Philip, over whom he acquired such influence, that, when the prince ascended the throne, in 1598, he made him his favourite and prime minister. He concluded peace with Britain and Holland, and endeavoured to relieve the embarrassed state of the finances, by encouraging agriculture; but his measures were ill-contrived. After the death of his wife, he took the ecclesiastical habit, and obtained a cardinal's hat, which he conceived would protect him in the possession of his power. But he was deceived; for

his own son, the duke D'Uzeda, contrived to supplant him in the king's favour, and succeeded to his post on his being dismissed, in 1618. He was accused, without any probability, of having employed as secretary, Roderic Calderon, to poison the queen. For this imaginary crime, Calderon was executed in the next reign. The duke of Lerma died in retirement, in 1625.

LESAGE, ALAIN RENE; a celebrated French novelist and dramatic writer. He was born May 6 1668, at Sarsau, a small town in Brittany, and was the son of a lawyer, who held an office in the court of Rhys. His father dying in 1682, he was placed under the guardianship of an uncle, who dissipated the fortune of his ward. He studied at the college of the Jesuits, at Vannes, after which he appears to have been employed in his native province for five or six years. In 1692, he went to Paris to study philosophy, and also to solicit some employment. His talents and manners procured him admission into the best society, where his wit and taste for elegant literature rendered his company very acceptable. His first literary undertaking was a translation from the Greek of the *Letters of Aristeus* (1695). Established as a resident in the capital, he was admitted an advocate of parliament; and the abbé De Lyonne gave him a pension of 600 livres. He studied the Spanish language, and produced a multitude of translations or imitations of Castilian dramas and romances. Two of his comedies were published in 1700, and a third was acted in 1702; but a war not till 1707, when his *Crispin, Royal de son Maître*, appeared, that he established his reputation as a theatrical writer. His success as a novelist has not contributed to make him known to foreigners. *Le Diable Boiteux*, the title of which has been lately translated "The Devil upon two Sticks," became extremely popular; and *Gil Blas de Santillane*, 1716, has furnished a model for numberless romances in various countries and languages. Lesage produced a translation of the Orlando of Ariosto, and published in 1717—21, *Roland l'Amoureux*, from Balaen, as an introduction to the former, which was never executed. In 1732, he published *Les Aventures de Guzman d'Alfarache* (two vols., 12mo; and the following year, *Les Aventures de Robert, dit le Chevalier de Beaulieu* (two vols., 12mo), containing the real history of a freebooter, from papers furnished by his widow. In 1734, appeared *L'Etrenne d'Estevanille Gonzales* (two vols., 12mo); and, in 1735, an amusing dialogue, entitled *L'air Journeux de Parques* (12mo). The last of his novels was *le Bachelier de Salamanque*, which La Harpe considered as inferior to all the preceding. He did not cease writing, but, in 1740, produced a collection of various letters, under the title of *La Lettre troussée*, and, in 1743, a volume of anecdotes. In the year last mentioned, he retired to Boulogne, where he died Nov. 17, 1747. Lesage produced a great number of comic pieces for the theatre, seven of which he published in his *Théâtre Français* (1729, two vols., 12mo), including *Crispin Royal de son Maître*, and *Toucarret*, intended as a satire on the *farces* of the French. Notwithstanding his talents, and the success of his numerous compositions, the author of *Gil Blas* was by no means rich, owing to a carelessness and liberality of disposition, which prevented him from soliciting the great for employments, or from steadily accumulating the products of his literary industry.

LESBOS (now *Mitelin*, from the former capital, Mitylene, once the residence of Ariston), is a Turkish fortress; a Greek island, 137 miles in circumference, containing 260 square miles, 10,000 inhabitants, for the most part Turks, in the southern corner of the Ægean sea (the Archipelago); on the

Asiatic coast. According to tradition, Lesbos, son of Lapithas, and grandson of Æolus, by the advice of an oracle, led a colony to this island, espoused Methymna, daughter of Macareus, and received with her the dominion of half of the island, to which he gave the name of *Lesbos*, it having been previously called *Iea*, and *Pelagias*, from the Pelasgians. The island contained forests of beech, cypress, and fir trees. It yielded marble of a common quality, and the plains abounded in grain. Warm springs were also found; agates and precious stones. The most profitable production was wine, which was preferred, in many countries, to all the other Greek wines. To the present day, the oil and figs of Lesbos are accounted the best in the Archipelago. The island formerly contained nine cities, for the most part in a flourishing condition; among them, Mitylene, Pyrrha, Methymna, Arisba, Eressus, and Antissa: at present, 120 villages are enumerated. Lesbos was originally inhabited by Æolians, who formed a powerful democracy from an insignificant monarchy. They afterwards made great conquests on the continent and former territory of Troy, and even resisted the Athenians themselves. Lesbos was next disturbed by the Samians, and, afterwards, by the Persians, to whom it was finally obliged to submit. After the battle of Mycale, it shook off the Persian yoke, and became the ally of Athens. During the Peloponnesian war, it separated, more than once, from Athens, but was always reduced to obedience. A distinguished citizen of Mitylene, exasperated that several rich inhabitants had refused his sons their daughters in marriage, publicly accused the city of an intention to conclude a league with the Lacedæmonians, by which false accusation he induced the Athenians to send a fleet against Lesbos. The nearest cities, Methymna excepted, armed in defence of their capital, but were overpowered, the walls of Mitylene demolished, and a thousand of the richest inhabitants put to death. The territory of Methymna alone was spared. The island itself was divided into 3000 parts, of which 300 were devoted to the service of the gods, and the rest divided among the Athenians, by whom they were rented to the ancient proprietors. The cities of Lesbos, nevertheless, soon rebelled again. The Lesbians were, moreover, notorious for their dissolute manners, and the whole island was regarded as the abode of leasure and licentiousness. At the same time, they had the reputation of the highest refinement, and of the most distinguished intellectual cultivation. Poetry and music made great progress there. The Lesbian school of music was celebrated, and said to have had the following origin: When Orpheus was torn to pieces by the Bacchantes, his head and lyre were thrown into the river Hebrus, and both were cast, by the waves, on the shore of Methymna. Meanwhile, harmonious sounds were emitted by the mouth of Orpheus, accompanied by the lyre, which was moved by the breath of the wind. The Methymnians therefore buried the head, and suspended the lyre in the temple of Apollo. In honour of this deity, the talent of music was conferred on them. In reality, Lesbos produced musicians superior to all the other musicians of Greece. Among these, the most distinguished were Arion, Methymna, and Terpander of Antissa. Alcæus and Sappho were esteemed the first in lyric poetry. Democritus (one of the seven wise men), the philosophers Theophrastus and Theophranes (the bosom friend of the great Pompey), and the historians Herodotus, Myrtillus, &c., were also natives of this island. It was often chosen as a place of residence for distinguished foreigners. Epicurus and Aristotle spent some time there.

LESLIE, SIR JOHN, professor of natural philosophy in the university of Edinburgh, and distinguished by his valuable writings and discoveries, was born at the kirk-town of Largo, in Fife, on the 16th of April, 1766. His father, Robert Leslie, by profession a joiner and cabinet-maker, was a much respected and worthy man, and seems, in point of education and general attainments, to have been superior to the majority of persons in his station at that period. When very young, he was sent to a woman's school in the village, but remained only a short time there. Afterwards he was placed under a Mr Thomson at Lundin Mill, with whom he learned to write; and lastly he went to Leven school, and began to learn Latin; but being a weakly boy, and unable to walk so far, he was obliged after about six weeks to give up attendance. He received, while at home, some lessons in mathematics from his elder brother Alexander, and soon began to show a surprising aptitude for that branch of science; but to Latin he took a strong dislike, and could not be induced to resume the study of it till after his first year at college. His extraordinary proficiency in geometrical exercises, joined to a consideration of the unfavourable circumstances under which he had acquired it, brought him at an early period under the notice of professors Robinson and Stewart, of the university of Edinburgh. He was sent to the university of St Andrews in 1779, and at the first distribution of prizes, attracted some attention by his proficiency, which was the means of introducing him to the patronage of the earl of Kinross. Being destined for the church, he went through the regular routine of instructions for six sessions at St Andrews, and then removed to Edinburgh, in company with James, (now Sir James) Ivory. At the university of Edinburgh Mr Leslie studied three years, during which time he was introduced to Dr Adam Smith, and employed by that eminent man in assisting the studies of his nephew, afterwards lord Reston.

In 1788, he went to Virginia, as tutor to two young college friends; and after spending more than a year in America, returned to Edinburgh. In January, 1790, he proceeded to London, carrying with him some recommendatory letters from Dr Smith. His first intention was to deliver lectures on natural philosophy; but being disappointed in his views, he found it expedient to commence writing for periodical works, as the readiest means of obtaining subsistence. About three months after his arrival in London, he made an agreement with Mr Murray, the bookseller, to translate Buffon's Natural History of Birds, which was published in 1793, in nine octavo volumes. The sum he received for it laid the foundation of that pecuniary independence which, unlike many other men of genius, his prudent habits fortunately enabled him early to attain. During the progress of the translation, he fulfilled an engagement with the Messrs Wedgewood of Etruria in Staffordshire, to superintend their studies; he left them in 1792. In 1794, Mr Leslie spent a short time in Holland; and, in 1796, he made the tour of Germany and Switzerland with Mr Thomas Wedgewood. About this period, he stood candidate for a chair at St Andrews, and subsequently, for that of natural philosophy at Glasgow, but without success. He invented that beautiful instrument the Differential Thermometer about the year 1800. The results of his inquiries into the nature and laws of heat, in which he was so much aided by this exquisite instrument, were published to the world in 1804, in his celebrated "Essay on the Nature and Propagation of Heat." The work was honoured, in the following year, by the council of



changed his intention. The little court of Brunswick was then almost the only one in Germany which fostered German literature: the others confined their attention to the French. In 1769, he left Hamburg. In the library of Wolfenbüttel, he discovered the MSS. of the *exubantior* Berengarius of Tours, in which he refutes the work of the *transubstantiator* Lanfrancus. He also published some theological treatises, under the title of Wolfenbüttel Fragments of an unknown Author, which involved him in a theological war. In 1775, he went to Vienna, having received an invitation to that city, and accompanied prince Leopold of Brunswick to Italy, which he had long desired to see. He left Germany in April, but returned the same year; and the theological disputes in which he was involved, now became so acrimonious, that it was proposed, at Wolfenbüttel, to subject his writings to a strict censorship. His Nathan the Wise, from its supposed irreligious tendency, added to the fierceness of the controversy. As a poem, it is, in our opinion, much the finest that he has written. The persecutions which he encountered destroyed his peace, and he died February 15, 1781. His complete works were published at Berlin (1771, et seq.); another edition (Berlin, 1796, et seq. 30 vols.); to which must be added his Correspondence, in 2 vols. (Berlin, 1798); a new edition appeared at Berlin (1824), in 34 vols.; a pocket edition has been published at the same place since 1825. Lessing's Thoughts and Opinions, collected and explained from his Writings, by F. Schlegel, appeared at Leipsic (1804, 3 vols.). His brother, K. G. Lessing, published an account of his life (Berlin, 1793, 2 vols.).

LESTOCQ, JOHN HERMANN; a favourite of the Russian empress Elizabeth, twice elevated by fortune to be twice precipitated from his high honours. Lestocq was born in Hanover, in 1692, of French parents, who had fled from the religious persecutions of Louis XIV. He studied surgery under his father, went to Russia, then a good field for men of talents, and entered the service of Peter the Great, as a surgeon, and enjoyed his entire confidence. A sudden change in the emperor's dispositions towards him took place, and Lestocq, without knowing the cause, was banished to Kasan. Catharine I. recalled him after the death of Peter, and gave him the place of surgeon at the court of her daughter Elizabeth. Entirely devoted to the interests of his mistress, he offered her his assistance in gaining possession of the crown, after the death of Peter II., but his daring plans were then rejected. Eleven years later (1740), when the youth of Ivan, and the regency of his mother Anne, again presented an opportunity, his advice was adopted. The active and politic Lestocq guided the daring enterprise, never, even in moments of the greatest danger, losing his presence of mind, and, November 21, 1741, Elizabeth ascended the throne. The new empress made him her privy counsellor, and chief physician, and director-general of medical institutions. The king of Poland created him count, and sent him his miniature to be worn in his button-hole, like an order. In compliance with the wishes of the empress, Lestocq was obliged to interfere in affairs foreign to his province. This circumstance, and the frankness of his character, increased the number of his enemies, who succeeded in exciting the suspicions of the empress. Lestocq was arrested in 1748, and confined in the fortress of St Petersburg for trial. At first, he bore this change of circumstances with cheerfulness and calmness; but when he was to be subjected to the rack, he confessed himself guilty. He was deprived of all his honours and estates, and banished to Uglitsch, where he remained three years, and then to Ustjug-Veliki, where he was in prison

nine years. His third wife, Maria Aurora, shared the fate of her husband with an exemplary firmness. When Peter III. ascended the throne, Lestocq was restored to his honours. Catharine II. continued his pension without his offices. He died in 1767.

LESTRANGE, SIR ROGER, a political partisan and controversialist, was the youngest son of Sir Hammond Lestrange, knight, of Hunstanton-hall, Norfolk, where he was born in 1616. His father, being a zealous royalist, brought up his son in the same principles. At the age of twenty-two, he attended Charles I. in his expedition into Scotland, and laid a plan for surprising Lynn, but being detected with the king's commission in his pocket, he was tried by a court martial, as a spy, and condemned. He was, however, respited from time to time, until he had lain in prison four years, when, by the connivance of his gaoler, he made his escape to the continent. On the dissolution of the long parliament, he returned home. On the restoration, he was made licenser of the press—a profitable post. In 1663, he set up the Public Intelligencer, which he discontinued on the design, then concerted, of publishing a London Gazette, the first number of which appeared February 4, 1665. In 1679, he set up a paper, called the Observer, in defence of the measures of the court. In 1687, he was obliged to give up the Observer, because he could not agree with James, who had knighted him, in the doctrine of toleration, although he had written in favour of the dispensing power. His death took place in 1704, at the age of eighty-eight, his faculties having become impaired some years before. He was the author of a great number of political tracts, full of coarse and virulent abuse, and in a style so rude and vulgar, that he was regarded by Granger as one of the great corrupters of the English language. Lestrange translated Josephus (his best work), Cicero's Offices, Seneca's Morals, Quevedo's Visions, &c.

LESUEUR, EUSTACHE, one of the most distinguished French painters, born at Paris, in 1617, was instructed in drawing by his father, a statuary, and was afterwards placed at the school of Simon Vouet, the true founder of the French school of painting. He soon distinguished himself by several pieces in the true Italian style; but his reputation was not completely established till he had executed his paintings for the Carthusian monastery in Paris. In twenty-two pictures, he delineated (1649—1651), the principal scenes in the life of St Bruno, the founder of the order. Lithographic sketches of this work were published at Paris, in 1822 and 23. In 1650, he painted, for the corporation of goldsmiths, the preaching of the apostle Paul at Ephesus. This painting was presented to the church of Notre-Dame, and was exhibited annually on the first of May. His next works were a Magdalen and a St Lawrence, and, in 1651, two scenes from the life of St Martin, &c. Among the most distinguished of his later works are some mythological scenes in the hotel Lambert relating to Cupid and the Muses with Apollo. After completing this work, he died, in the thirty-eighth year of his age. Incessant toil, and the jealousy of his companions in art, brought him to his grave. His countrymen call him the *French Raphael*, and it is not to be denied that he had great merit. His conceptions are noble and elevated; his composition is simple, careful, and well arranged; the drawing is correct, in good taste, and proves his diligent study of the antique and of the great Italian masters, particularly of Raphael; his drapery is artfully disposed, and executed with great truth. His figures are full of animation and character; the positions are various, and free from manner. He displays great boldness and freedom of pencil; his colouring is delicate and simple, but deficient in truth and

vigour, which sometimes renders his pictures too uniform, and occasionally they have too much ornament. That Lesueur should have reached so great excellence, is the more remarkable, as he had never been out of France, hardly even out of Paris, and had consequently formed himself after the few models of the ancient art and the Italian school to be found there. He had studied Raphael chiefly through the engravings of Mark Antony. Lesueur, from his education, may be considered as the true representative of the French school; for Poussin, who was a superior artist, belongs more to the Italians than to the French. His mild and ingenuous character made him generally esteemed, although the jealousy of his competitor Lebrun, who tyrannized over the taste and opinions of the day, prevented him from enjoying the reputation which was justly due him in his lifetime.

LESUEUR, JEAN BAPTISTE, a musical composer, a descendant of the great painter Lesueur, born in 1763, was placed in the musical school of the cathedral of Amiens, and, after completing his musical studies, was made director of music in the cathedrals at Sees and Dijon, and, in 1784, in the church of the Innocents, at Paris. In 1786, in opposition to several candidates, he received the place of master in the cathedral of Paris, and his elevated and impressive compositions, no less than the excellent manner in which he led the orchestra, made him a universal favourite. His own inclinations, and the advice of Sacchini, induced him to compose for the theatre. *Telemachus* was his first opera, which was brought forward with great success in the theatre Feydeau. In 1788, Lesueur resigned his place at Notre-Dame, that he might devote his time to theatrical music, and lived, till 1792, with his friend and patron Bochart de Champagny, in whose house he applied himself so laboriously, that his host, anxious for his health, would not allow him lights for more than half the night. Lesueur was at that time engaged in writing his opera *La Caverne*: one night, his light went out, and, unable to endure any interruption, he lay on the floor before the fire, and continued to write by the feeble light afforded by a few pieces of wood, until he was found in that situation the next morning, by Mr Champagny. After various disappointments, he finally succeeded, in 1793, in introducing this opera on the stage, which met with the most brilliant applause. On Chenier's proposition, he was made professor of music in the national institute, and wrote several pieces of music for festivals, during the time of the republic; was afterwards displaced by intrigue, but again restored by Bonaparte. In 1793, he composed *Paul et Virginie*, the Death of Adam, and the Bards. This last and finest work, in which the composer appears to have called up the very spirit of Ossian, delighted Napoleon to such a degree, that he made him chapel-master at the Tuileries, conferred on him the order of the legion of honour, and presented him a gold snuff-box, with the inscription—"The emperor of the French to the author of the Bards." Lesueur wrote, in connexion with Cherubini, Méhul, Langelé, and Rigal, the work published by Catel (1816), *Sur les Principes élémentaires de Musique*. He also wrote *Essai sur la Musique sacrée* (1787), and *Lettres et Réponse à Gaillard, sur l'Opéra de la Mort d'Adam, et sur plusieurs Points d'Utilité relatifs aux Arts et aux Lettres* (1801).

LETHARGY (*lethargus*, from *λεθα*, forgetfulness); a heavy and constant sleep, with scarcely any intervals of waking. When awakened, the person answers, hut, ignorant or forgetful of what he said, immediately sinks into the same state of sleep. It is considered as an imperfect apoplexy, and is mostly symptomatic.

LETHE; a river of the lower regions, celebrated

in ancient mythology, whose water had the power of making the souls of the departed, who drank of it, forget all their sufferings on earth. Those spirits, in particular, drank of it, who were destined to return to the upper world in new bodies, in order to forget the pleasures enjoyed in Elysium.

LETO. See *Latona*.

LETTER OF ATTORNEY. See *Attorney*.

LETTER OF MART, or of MARQUE; a commission granted to the commander of a merchant ship, or privateer, to cruise against and make prize of the enemy's ships and vessels, either at sea or in their harbours, under pretence of making reparation for injuries received. The ship so commissioned is also called a *letter of mart* or *marque*.

LETTERS. See *Types*, and *Writing*.

LETTER-WRITING. Among the letters celebrated in French literature are those of *Madame de Sevigné*, Ninon de Lenclos, Babet, Racine, Voltaire, and the collection of Richelet; in English literature, the letters of James Howell, Sir William Temple, Addison, Pope, Swift, Bolingbroke, Lady Montague, Chesterfield, Gray, and Cowper, are celebrated; in Italian, those of Manzoni, Ludovico Dolce, *condotto* Bembo, Bentivoglio, Bernardo Tasso, those collected by Lud. Dolce, and Annibal Caro, those of Pietro Aretino, Algarotti, and Gasparo Gombi; in German literature, the letters of Lessing, Winckelmann, Klopstock, Wieland, Gellert, Weiss, Jacobi, Goethe, Abbt, Sturm, Gleim, Burger, Lichtenberg, J. von Muller, Mathieson, &c. Bolingbroke made use of the epistolary form for treating philosophical subjects (for instance, the study of history), and Richardson applied it to novels. The Germans also have didactic letters by Mendelssohn, Jacobi, Herder, J. von Muller, and J. G. Muller. In the French as well as the Italian literature, letters form a very considerable branch, and large collections of them exist, among which are the following: *Lettres historiques* (14 vols., Hague, 1692—1698, 12mo); *Lettres historiques et galantes par Madame de Noyers* (6 vols., Utrecht, 1713, 12mo); *Lettres édifiantes et curieuses, écrites des Missions étrangères* (34 parts in 22 vols., Paris, 1717—1776, 12mo; new edition, 25 vols., Paris, 1780—1783, 12mo; also in 26 vols., Toulon, 1810—1812, 12mo, and an atlas); *Nouvelles Lettres édif.* (6 vols., Paris, 1819); *Lettres sermons et méditations* (12 vols., Hague, 1729—1740); *Lettres Juives* (6 vols., Amsterdam, 1736; new edition, 1742); *Lettres cabalistiques* (6 vols., Hague, 1781); *Lettres Chinoises* (5 vols., Hague, 1730); *Lettres Portugaises* (2 vols., Paris, 1796). Among the Italian collections, are *Lettre vulgari di diversi nobilissimi Italiani et eccellentissimi Ingegni* (3 vols., Venice, 1364, also 1567); *Lettre d'Uomini illustri, che furono nel Principio del Sec. XVI.* (Venice, 1744); *Lettre Sanesi sopra le Belle Arti* (3 vols., with engraving, Venice and Rome, 1762—1786, &c.).

LETTUCE (*lactuca sativa*); a smooth, herbaceous, annual plant, containing a milky juice, which has been cultivated from remote antiquity, and is a general use as a salad. The original locality is unknown. The stem grows to the height of about two feet, and bears small pale-yellow flowers. The inferior leaves are sessile, and undulate on the margin. The young plant only is eaten, as it is succulent and poisonous when in flower. Twenty species of *lactuca* are known, from various parts of the globe.

LEUCADIA (at present, Santa Maura, 112 square miles, 17,500 inhabitants); an island belonging to the republic of the Ionian Islands, on the western coast of Greece. The southern extremity (on which stood a temple of Apollo), at present cape Duronia, is the vicinity of the capital, Leucas (at present, Sta. Maura, was called by the Greeks the *Leucadian Head*. It

was famous for the festival annually celebrated there, and the (so called) *Leucadian leap*. At every festival, a criminal was thrown from the rock into the sea, as a sin-offering, loaded, as it were, with all the sins of the people. He wore a dress of feathers, and even living birds were fastened to him, so that he generally fell gently, without much injury, into the deep, whence he was taken out, but was obliged to leave the country for ever. No less remarkable was the leap, which many performed of their own accord, from this rock, to free themselves from the tortures of unhappy love. It is said that some tried it more than once; but the unhappy lovers generally met with death in the waves. Among the latter are mentioned two females—Artemisia, queen of Caria, and Sappho. See *Sappho*.

LEUCÆTHIOPS. See *Albino*.

LEUCHTENBERG; a lordship (before 1806 a landgraviate, with a princely title, and a seat and vote in the diet), situated in the ancient Nordgau, on the river Nab, in the Upper Palatinate, in the Bavarian circle of Regen. It comprises eighty-four square miles, with 5300 inhabitants. Pfeimlt is the chief place. The late king of Bavaria conferred the lordship, in 1817, on his son-in-law Eugene, ex-vice-roy of Italy, with the principality of Eichstadt, held immediately of the crown. Eugene took the title of duke of Leuchtenberg, and made over to the crown of Bavaria the 5,000,000 of francs, which the king of the Two Sicilies was bound to pay him for his Neapolitan dotations. His dotations in the Lombardo-Venetian kingdom were given up to Austria, for 7,000,000, and he retained possession of those in the Mark of Ancona, the income of which is estimated at 850,000 francs annually. The income of the duke (exclusive of the interests of his large capital) amounts to 1,600,000 francs. The present duke Augustus was born December 9, 1810. His sister Josephine, born March 14, 1807, is crown-princess of Sweden; Amelia, born July 31, 1812, ex-empress of the Brazils. There are several other children.

LEUCIPPUS; the founder of the atomic school in Greek philosophy, and teacher of Democritus. By some he is said to have been a native of Abdera; by others, of Elea; and by others, of the island Melos. He lived 500 years B. C. His instructor was Zeno the Eleatic. To settle a contest between reason and sensible experience, which had been mainly excited by the Eleatic school, he invented his system, which he opposed to that of the Eleatics. The more ancient Eleatics denied the reality of motion, vacuity of space, and plurality of matter, reducing all that exists to a single, eternal, and immutable substance. Leucippus, on the contrary, assumed the infinity of space. In this space, there are, according to his view, an infinite quantity of particles of matter, too minute to be perceptible to the senses. In themselves, they are indivisible (thence the name *atoms*); for, if an infinite divisibility were ascribed to them, they would at last disappear into nothing. Now, these atoms move from eternity in infinite space, and by their union and separation, form the origin and end of things, since unity can never become plurality, nor plurality become unity, the atoms cannot, by their connexion, produce a true unity, but mere aggregations. In substance, all the atoms are similar, but of an infinite variety of shapes, by which is explained the variety of bodies formed by them. Atoms are moreover distinguished by their local situation, and the order in which they are compounded. Situation and order are the fundamental properties of the atoms; from their union and separation arise properties of the second order (*qualitates secundariæ*), such as hardness, softness, colour, sound, smell, &c. As far as can be deduced from the imperfect notices which we

have, Leucippus explained the origin of the world by the motion of atoms, in the following manner:—From the infinity of atoms, some broke loose, and, becoming confused, produced a rotatory motion by means of which, similar particles were associated with similar particles, while the dissimilar were repelled. From the necessary inequality of the velocity of the bodies, the smaller were driven to the outside, and formed, as it were, an envelop around a kernel. The grosser bodies of this envelop sank downwards, and, by their mutual collisions, attenuated the envelop. The bodies that sank downwards compose the earth; the envelop itself was finally inflamed, and gave rise to the stars. To fire he ascribed round atoms. The atoms composing the other elements—water, air and earth—were distinguished merely by magnitude. Fire, as the most subtile, the lightest and most fluid element, he made the soul of the world, the principle of life, sensation and thought. These last modifications, however, according to Leucippus, were not always founded in the nature of atoms, but merely in the mode of their aggregation. The intellectual substance (consisting of particles of fire) is diffused through the whole body. Men and animals inhale it with the atmosphere, and hence life ceases with the end of respiration. There is nothing said in his system respecting the soul of the universe, a providence, or Deity.

LEUCITE, or AMPHIGENE, is a mineral which occurs in little masses, having the appearance of crystals rounded by attrition; also in crystals whose form is that of the trapezohedron, apparently with cleavages parallel to the rhombic dodecahedron and cube, the latter of which, being the most simple of the two, has been adopted as the form of the primary crystal. Colour grayish white; translucent; lustre vitreous; fracture conchoidal; specific gravity 2.37. Before the blow-pipe alone, it is infusible; with borax, it fuses into a transparent glass. It consists of 53.75 silice, 24.62 of alumine, and 21.35 of potash. It is found only in volcanic and trap rocks. The lavas of Vesuvius and basalts of Italy abound with it. It is especially abundant between Rome and Frascati.

LEUCO; two syllables found in many scientific terms or geographical names, derived from the Greek λευκος, white.

LEUCOTHEA. See *Ino*.

LEUCTRA; a village in Bœotia (at present, Livadia), famous for the great battle in the year 371 B. C., which the Theban Epaminondas won over the Spartan king Cleombrotus, thus putting an end to the great influence which Sparta had exerted for several centuries over all Greece.

LEUSDEN, JOHN; a celebrated biblical critic and theologian, born in 1624, at Utrecht, where he afterwards obtained the professorship of Hebrew, with the reputation of being one of the most erudite scholars and able divines of the age. He published a new edition of the books of the Old Testament, in the original Hebrew (in 2 vols., 8vo), and of those of the New, in Greek and Latin (one thick 12mo); a Hebrew and Latin Lexicon; an edition of Poole's Synopsis (5 vols., folio); *Versio Septuaginta Interpretum*; *Clavis Græca Novi Testamenti*; *Onomasticon Sacrum*; *Philologus Hebræus et Philologus Hebræomixtus*; *Clavis Hebræica et Philologica Vet. Test.*; a Hebrew Psalter, and Commentaries on the Books of the Prophets Joel, Hosea, and Jonah. Leusden died in his native city, about the close of the seventeenth century.

LEUTHEN; a village in Lower Saxony, west of Breslau, famous on account of a battle gained here by Frederic the Great, December 5, 1757, over prince Charles of Lorraine. See *Seven Years' War*.

LEUWENHOEK, ANTHONY; a celebrated natural philosopher, born at Delft, in Holland, in 1632. His skill in grinding optical glasses led the way to the making of microscopical observations, which procured him no small degree of fame. He began to publish an account of his discoveries in the English Philosophical Transactions, in 1673; and they are continued from No. 94 to No. 380 of that collection. In 1680, he was chosen a fellow of the royal society; and, in 1698, he entertained the emperor Peter the Great, then at Delft, with an exhibition of his experiments. He appears to have passed the whole of his life at his native place, devoting his time to microscopical researches, chiefly relating to anatomy. He died in 1723. A Latin translation of his works in the Dutch language was published between 1695 and 1719 (4 vols., 4to), under the title of *Arcana Naturæ detecta*, and reprinted at Leyden, in 1722. His industry was great, but preconceived opinions sometimes led him to erroneous conclusions.

LEVAILLANT, FRANCIS, a celebrated traveller, born at Paramaribo, in the Dutch colony of Guiana (Surinam), from childhood displayed a passion for the study of natural history, particularly of ornithology. His desire of extending his knowledge by travelling in the most distant lands was increased in Europe. In Amsterdam, he found a patron in the person of Temmink, the great ornithologist, who warmly encouraged his plans, in the hope of obtaining through him, great accessions to his excellent collections in natural history, particularly ornithology—a hope which was not disappointed. Levaillant first proceeded to the cape of Good Hope, whence he advanced into the interior of Africa. The specimens which he collected on this occasion were entirely lost. The ship in which they were embarked for Holland was attacked by the British, and burned in the course of the action. Supported by Temmink, Levaillant renewed his labours, and, with a tolerably large caravan, directed his course to the countries on the north of the colony. Insurmountable obstacles prevented him from pursuing his adventurous researches so far into the interior as he wished. The fruits of his labours were, however, important. He was not less fortunate in a second excursion. Levaillant died at Paris, November, 1824, aged seventy. It has been objected to his accounts, that they are not always accurate, and that they are often improbable, though this cannot be satisfactorily shown. His readers are interested by his lively descriptions, and by an attractive philosophical originality. His accounts of his first and second excursions were published in French, in 1789 and 1796. He also left some works on natural history, and some separate treatises. The most important of these works are *Histoire naturelle des Oiseaux d'Afrique* (1799—1807, in fifty numbers, folio), and the *Histoire naturelle des Perroquets* (1801—1805, 2 vols., folio).

LEVANT (Italian, *il Levante*; French, *le Levant*; the east). This term is applied, in a general sense, to the countries on the eastern coast of the Mediterranean sea, and, in a more contracted sense, to the Asiatic coasts of the Archipelago, from Constantinople to Alexandria, in Egypt. The most famous of the commercial cities of the Levant, taken in this narrow sense (among the French, *échelles du Levant*), besides Constantinople and Alexandria, are Smyrna, Scanderoun (Alexandretta), and Aleppo. Smyrna, with 100,000 inhabitants is the principal commercial place of the Levant, and the grand mart of the Asiatic trade. This Levant Proper is under the Turkish dominion, has a very warm climate, many mountains, and very fertile plains, and is inhabited by Turks, Armenians and Greeks. The staples are grain, rice,

tobacco, olives, cotton, silk, Angora goat's hair, safflower, and some minerals. The *Levant coffee*, as it is called, does not grow in the Levant, but in Arabia, and has this name because it is exported from the ports of the Levant. See Turner's *Travels in the Levant*, London, 1820, and count Forbin's *Travels in the East*.

LEVEE (from the French word *lever*, to rise, and the time of rising) is a word used in high life, or court language, for the ceremonial visits which great personages receive in the morning, as it were at their rising. The levee is distinguished from the dressing room, inasmuch as, at the levee of a gentleman, gentlemen only appear, and at the levee of a lady, only ladies, while, at the drawing-rooms, ladies and gentlemen both are admitted. At the levees and drawing-rooms of the sovereigns, persons of distinction, or young members of noble families, are introduced. On the first presentation of daughters of dukes, marquises and earls, it is customary for the queen of Britain to kiss them on the cheek. The word *levee* is also used in the United States of America, for the reception of company by the president.

LEVEE (French); an embankment on the margin of a river, to confine it within its natural channel. The lower part of Louisiana, which has been formed by encroachments upon the sea, is subject to be inundated by the Mississippi and its various branches, for a distance of more than 300 miles. In order to protect the rich lands on these rivers, mounds are thrown up of clay, cypress logs, and green turf, sometimes to the height of fifteen feet, with a breadth of thirty feet at the base. These, in the language of that part of the country, are called *levees*. They extend for hundreds of miles; and, when the rivers are full, cultivated fields, covered with rich crops, and stabled with tag-lages are seen lying far below the river course. The giving way of these *levees*, sometimes occasioned by a sudden and violent pressure of the water, and sometimes by accidental perforations, is called a *couvre* (French, a disruption).

LEVEE-EN-MASSÉ (universal rising): a military expression for the rising of a whole people, including all capable of bearing arms, who are not otherwise engaged in the regular service. When animated by patriotic feelings, it is the most formidable obstacle which an enemy can encounter: and it is unsurpassable, if favoured by the nature of the ground, because almost every advantage is on the side of the people. They fight on their own soil; they know the ground; they find support and assistance in every house, from every woman and child; they fight for their own hearths: they enclose the enemy on all sides, and can destroy whatever may be useful to him, cut off his communications, pursue, annoy, disturb, harass him incessantly, so that he can effect nothing except getting possession of the strong places. It is called *Landsturm* (landstorm), in German, in distinction from the *Landwehr* (militia). This doctrine was first made in 1796, when the peasants of Bavaria and Franconia, fell upon the rear of the French under Jourdan, with much success. The *Landsturm* was yet more effective in 1799, and in 1813, the governments of Northern Germany called a fourth of every part of the country. It consisted of every man person capable of bearing arms of any sort, whose age or other reasons exempted from the regular service. Orders were issued to turn every thing into weapons, to defend the country by every means, and to injure the enemy in all possible ways, by destroying provisions and wells, attacking stragglers, intercepting couriers, and escorting prisoners. The *Landsturm* was useful at the siege of several fortresses. Its organization was founded on municipal divisions.

Napoleon ordered the *levée en-masse*, when the allies entered France, and it threatened to become dangerous to them; but the capture of Paris put an end to the war. We all know how effectual a *levée en-masse* was in Spain, where even women took part in it, and in Tyrol, under Hofer. We lately witnessed a *levée en-masse*, in Poland. The French national guard, with its different classes, might be considered a *levée en-masse* organized on a gigantic plan. The chief difference between a *levée en-masse* and militia is, that, in the former, all persons are comprised not included in the latter; and they do not march far from home; and that their service is more irregular, and even owes its strength, in some measure, to this irregularity.

LEVEL; a mathematical instrument used for drawing a line parallel to the horizon, and continuing it at pleasure, and, by this means, for finding the true level, or the difference of ascent or descent between several places, for conveying water, draining fens, placing the surfaces of floors, &c., level, and for various other purposes in architecture, agriculture, hydraulics, surveying, &c. There is a great variety of instruments for this purpose, differently constructed, constituted of different metals, according to the particular purposes to which they are applied; as the carpenter's level, mason's level, balance level, mercurial levels, surveying and spiral levels; but, however their construction may vary, they may all be referred to the following three classes: 1. those in which the vertical line is determined by a suspended plumb-line or a balance-weight, and the horizontal position is shown by a line perpendicular to it; 2. those which determine a level line by the surface of a fluid; 3. spirit levels, which point out the horizontal direction by a bubble of air floating in a fluid contained in a glass tube. 1. Those of the first kind, depending upon the plumb-line, are very common, but not very accurate. The simplest form is that of two rulers united in the form of the letter L; they must be exactly perpendicular to each other; then, if a plumb-line is suspended from the top of the vertical ruler, and the edge thereof be made to coincide with the plumb-line, the other ruler must be horizontal. This, when applied to the top of a wall, a beam, or a floor, will show if they are horizontal. This is the kind of level used by artificers; sometimes it is formed like the letter A, of three rulers. The plumb-line being suspended from the vertex, and the two legs set on the surface to be levelled. The line hangs opposite to a mark made on the middle of the cross ruler, when the feet are on the same level. Sometimes the horizontal piece crosses the perpendicular at its foot, and the plumb, suspended from the top of the perpendicular, is received in an opening at their junction. 2. The *water level* shows the horizontal line by means of a surface of water or other fluid, founded on this principle, that water always places itself horizontally. The most simple kind, made of a long wooden trough, which is filled with water, shows on its surface the line of level. This is the ancient *chorobates*. The water level is also made with two cups fitted to the two ends of a straight pipe, an inch in diameter, and four feet long. The water communicates from one cup to the other; and this pipe being movable on its stand by a ball and socket, when the two cups are seen to be equally full of water, their two surfaces mark the line of level. This instrument, instead of cups, may also be made with two short cylinders of glass, three or four inches long, fastened to each extremity of the pipe with wax or mastich. The pipe, filled with coloured water, shows itself through the cylinders, by means of which the line of level is determined; the height of the water, with respect to the centre of the earth,

being always the same in both cylinders. This level, though very simple, is yet very commodious for levelling small distances. 3. The *spirit or air level* shows the exact level, by means of a bubble of air, enclosed, with some fluid, in a glass tube of an indeterminate length and thickness, and having its two ends hermetically sealed. When the bubble fixes itself at a mark in the middle of the tube, the case in which it is fixed is then level. When it is not level, the bubble will rise to one end. This glass tube may be set in another of brass, having an aperture in the middle, where the bubble may be observed. The liquor with which the tube is filled, is oil of tartar, or *aqua secunda*, those not being liable to freeze, as common water, nor to rarefaction and condensation, as spirit of wine is. These instances will explain the principle of the different kinds of levels. Their varieties are too numerous to be described here.

LEVEN; a river which flows from Loch Lomond, and, after a course of about nine miles, falls into the Clyde at Dumbarton. Smollett has celebrated it in a well-known little poem. Printfields and other public works are now established on its banks. *Leven* is also the name of a river in Fifeshire, which flows from Loch Leven.

LEVEN, LOCH; a lake of Scotland, about ten miles in circumference, in the county of Kinross. It contains four islands, on one of which was formerly a priory, and on another stand the remains of the castle of Loch Leven, once a royal residence, which was granted by Robert III. to Douglas. In this castle Mary Stuart was confined, after her separation from Bothwell, and her capture by the confederate lords, at the battle of Carberry Hill. After several unsuccessful attempts, she made her escape, by the aid of George Douglas, her keeper's brother.

LEVER, in mechanics; an inflexible right line, rod, or beam, supported, in a single point, on a fulcrum or prop, and used for the raising of weights, being either void of weight of itself, or at least, having such a weight as may be commodiously counterbalanced. The lever is the first of those called *mechanical powers*, or *simple machines*, as being, of all others, the most simple; and is chiefly applied for raising weights to small heights. See *Mechanics*.

LEVESQUE, PETER CHARLES; a French writer on history and general literature, was born at Paris, in 1736, and, when young, apprenticed to an engraver. Displaying a strong inclination for learning, he was removed to the *collège Mazarin*, where he studied with great success. His family having retired into the country, he, for some time, supported himself at Paris, by working as an engraver. In 1773, he went to St Petersburg, with a recommendation from Diderot to the empress of Russia, who appointed him professor of belles-lettres at the school of noble cadets. Here he formed the design of writing the history of Russia, and, having completed the work, in 1780 he returned to Paris to publish it. He was admitted into the academy of inscriptions, and, some years after was appointed professor at the royal college. He was subsequently made a member of the national institute; and, in 1812, closed a long life devoted to literary pursuits. Besides his Russian history (4th edition with notes by Malte-Brun and Depping, eight volumes, 1812, a standard work on Russia), he produced a translation of Thucydides; a History of France, under the five first Kings of the House of Valois; a Critical History of the Roman Republic (three volumes); Studies in ancient History, and in the History of Greece, and many other translations and valuable works.

LEVI; the third son of Jacob and Leah. The prince of the Schemites, having ravished his sister Dinah, he, with his brother Simeon, attacked their

city while they were suffering the consequences of circumcision, to which they had submitted, and murdered all the males. Jacob reproaches them with this act of cruelty, on his death-bed, and threatens them with the dispersion of their descendants. Moses and Aaron were of this tribe. The Levites were set apart, by Moses for the service of religion, thus forming a hereditary caste of priests, or religious ministers, who received territories scattered about in the lands of the other tribes. The third book of Moses is called *Leviticus*, as it relates principally to the organization of the ministry. The Mosaic law is sometimes also called the *Levitical law*. See *Moses*.

**LEVIATHAN** (*Hebrew*) is compounded of two words, meaning a *great fish*, and *fastened*; hence it probably means a huge fish covered with close scales. The Septuagint renders it *δράκων* (a dragon), and *καρχήδον* (a whale). From the description given of it in the book of Job (xli.), it is usually considered to mean the crocodile, though some have supposed it to be the whale. See Harris's *Natural History of the Bible*.

**LEVITES.** See *Levi*.

**LEVITICUS.** See *Levi*.

**LEWIS.** Harris and Lewis is the name bestowed on one of the largest and most northerly of the Hebrides, the southern part of which is called *Harris*, and the northern *Lewis*. Lewis extends south-west and north-east eighty-two miles, and it is from ten to twenty-three miles in breadth, containing an area of 902 square miles, or 451,000 Scots acres. It lies between 5° 40' and 7° 10' W. lon., and 57° 54' and 58° 28' N. lat. Lewis belongs to the county of Ross; Harris to Inverness-shire. Lewis is divided into four parishes: Barvas, Lochs, Stornaway, and Uig. Besides some hamlets, there is only one town, viz: Stornaway, which lies on the east side of the island, at the head of a bay. The surface of the country is less rugged than that of Harris; the east side of the district is principally pasture land, and the west side is arable. On the coasts are numerous bays and inlets, where great quantities of shellfish are found; and the fisheries of herrings and cod are prosecuted with success. The rivers abound with trout, and in the season with salmon. The land animals are horses, black-cattle, deer, sheep, goats, and hogs, all which are of small size. Population of Lewis, in 1831; Barvas, 3011; Lochs, 3067; Stornaway, 5422; Uig, 3041; total, 14,541. See *Harris*.

**LEWIS, MATTHEW GREGORY**, an English writer, whose attempts, both in the departments of the drama and of romance, obtained at one period, a very considerable share of popularity, though but too frequently disfigured by bad taste, and degraded by licentiousness, was the son of a gentleman of good property, who was under-secretary at war. The subject of this article was born in the metropolis, in 1773, and educated at Westminster; on quitting which he travelled for improvement, especially into Germany, the literature of which country produced a strong impression upon him, and gave that peculiar turn to his compositions, which placed him in the foremost rank among the delineators of the marvellous and terrific, and has since loaded the shelves of circulating libraries with hosts of imitators, most of whom exhibit all the extravagances without the genius of their model. Of his writings, the first and most celebrated was the *Monk*, a romance, in three vols., 12mo, which, although much decried for its licentiousness, ran through a great number of editions; *Feudal Tyrants*, ditto, 4 vols.; *Romantic Tales*, 4 vols.; *Tales of Wonder*, in verse, 1 vol., 8vo; *Tales of Terror*, 1 vol., 8vo; the *Castle Spectre*, a romantic drama; *Adelmont the Outlaw*, ditto; *Venom*, a tragedy; a volume of miscellaneous poetry, and the *Bravo of Venice* (a translation from

the German), 1 vol., 8vo. Mr Lewis had a seat in parliament, but seldom took part in the business of the house. His death took place in 1818, at sea, while on his voyage home from a visit to his West Indian possessions.

**LEWIS, MERIWETHER**, a celebrated explorer, was born near the town of Charlottesville, in Virginia, August 18, 1774. His father, a man of independent fortune, died when he was yet a child. He very early gave proofs of that bold and enterprising disposition for which he was subsequently so distinguished. At the age of eighteen, he relinquished academic studies, and engaged in the pursuit of a farmer, with which he continued to occupy himself until he was twenty. General Washington having called out a body of militia, in consequence of the disturbances in the western parts of the country, produced by discontent at the excise taxes, young Lewis enrolled himself in it as a volunteer, and soon that situation was removed to the regular service. In 1803, president Jefferson proposed to congress to send some competent person on an exploring expedition to the western part of the continent of North America, who might ascend the Missouri, cross the Stony mountains, and descend the nearest river to the Pacific. Congress having approved the proposition, and voted a sum of money for carrying it into execution, captain Lewis, who had then been nearly two years with Mr Jefferson as his private secretary, was chosen for that purpose. The following testimony of Mr Jefferson gives an idea of his fears for the task: "Of courage undaunted; possessing a firmness and perseverance of purpose which nothing but impossibilities could divert from its direction; careful as a father of those committed to his charge, yet steady in the maintenance of order and discipline; intimate with the Indian character, customs, and principles; habituated to the hunting life, guarded, by exact observation of the vegetables and animals of his own country, against losing time in the description of objects already possessed; honest, disinterested, liberal, of sound understanding, and a fidelity to truth so scrupulous, that whenever he should report would be as certain as if sworn by ourselves: with all these qualifications, as if created and implanted by nature, in one body, for the express purpose, I could have no hesitation in committing the enterprise to him." That there might be some person with him to assume the conduct of the expedition in case of accident to himself, William Clarke was appointed, at Lewis's request, to accompany him, and received a commission of captain. (For the particulars of this expedition, see the account which has been published of it—*Expedition &c.*—Philadelphia, 1814, 2 vols.). It was highly successful, and occupied three years, the party engaged in it having set out in the summer of 1804, and returned in the autumn of 1806. Lewis was soon afterwards made governor of the territory of Louisiana, and Clarke a general of its militia, and agent of the United States for Indian affairs. On the new governor's arrival at St Louis, the next of administration, he found the country torn by dissensions; but his moderation, impartiality, and firmness soon brought matters into a regular train. He was subject to constitutional hypochondria, and, while under the influence of a severe attack of this disorder, put an end to his life, in 1809, at the age of thirty-six.

**LEWIS'S RIVER**; a river of North America, which rises in the Rocky mountains, and runs north-west into the Columbia, 413 miles from its mouth. length, about 900 miles.

**LEXINGTON**; one of the principal towns of Kentucky, capital of Fayette county, on a branch of the Elkhorn, 22 miles S. E. of Frankfort, 33 S. of

Cincinnati; lon.  $84^{\circ} 18' W.$ ; lat.  $38^{\circ} 6' N.$  The place derived its name from the circumstance that some hunters were engaged on the spot in laying out a town (1775), when a messenger arrived with the news of the battle of Lexington, and they immediately decided to commemorate that event by giving the name to the place. Population, in 1830, 5690. The staple manufactures of the place are cordage and bagging. Transylvania university, at Lexington, was incorporated in 1798, and organized anew in 1818. In 1830, it had 143 under-graduates, 62 in the preparatory department, 200 medical students, and 19 law students.

LEXINGTON, a small town in Massachusetts, about twelve miles north-west of Boston, and six south-east of Concord, is remarkable, in the history of the American revolution, as the place where the first British blood was shed in armed resistance to the mother country. On the evening of April 18, 1775, a detachment of British troops was sent from Boston, by general Gage, for the purpose of seizing some provincial stores at Concord. Notice of this movement having been communicated to the inhabitants on the route, the militia of Lexington, about seventy men in number, were hastily drawn up on the common, by which the road to Concord passes. The British commander, colonel Smith, having commanded them to disperse without effect, ordered his men to fire. Seven Americans were killed, and three wounded, and the company dispersed, several of the militia discharging their muskets as they retreated. The British troops then pushed on to Concord, the Americans retiring beyond the river which flows by the village. One hundred men were detached to destroy the bridge, across which the colonists had retired; they were, however, repulsed by the latter, and, at noon, the whole detachment took up the march for Boston. The militia of the neighbouring towns had meanwhile been collected, and began to hang upon the rear of the British with an irregular but destructive fire from every favourable position. At Lexington, the British were relieved by a reinforcement of 1000 men, but were still pursued in the same galling manner till their arrival at Charlestown, in the evening. (See Phinney's *History of the Battle at Lexington*, Boston, United States, 1825.) A simple monument of granite, bearing the names of those who fell, was erected at Lexington, by the commonwealth of Massachusetts, in 1799.

#### LEX LOCI CONTRACTUS (*conflict of laws*).

It is a general doctrine, that every government has jurisdiction of persons within its territories, and also of acts done within them. It follows, that all contracts made, and obligations assumed, have an implied reference to the laws of the place of the transaction, unless it appear otherwise on the face of the contract. Some contracts, however, have reference to different places for their execution, as a bill of lading for a foreign voyage, a foreign bill of exchange and many others. Such contracts necessarily refer to the laws of other countries than that in which the contract is made, in respect to the acts contemplated to be done abroad. The manner of execution of the contract must, in this respect, be governed by the foreign laws. But, for the purpose of ascertaining the meaning of the parties, regard is necessarily had to the language, laws, and customs of the place where it is made. In neighbouring territories subject to different jurisdictions, where there is much business and intercourse between the inhabitants of the different territories, as is, or, at least, formerly was the case in the different provinces of Holland and the Netherlands, and the territories bordering upon them, questions frequently arise as to the code of laws which is applicable to particular acts of the

parties, or provisions of contracts. Many questions have arisen in those countries, for instance, respecting the obligations and rights arising on the marriage contract, where the parties were married in one province or country, and afterwards removed to another. As to rights of property, consequent immediately upon a marriage, the laws of the place of marriage prevail; but it will often happen that these laws clash with those of the quarter to which the parties remove, and, in such cases, the general rule is, to give the laws of the place of the contract the preference, as far as is practicable. But it will sometimes happen that it is quite impossible to give them entire effect. The French law, for instance, makes the law of marriage, to many purposes, a pecuniary copartnership, and its provisions and remedies are adapted to this construction, and there is no difficulty in enforcing the rights of the wife under it. But in Britain and the United States, it is quite otherwise, as the wife's personal property, and the use of her real estate, go to the husband, and her legal rights are in a great degree suspended during the marriage. If, therefore, parties, married in France, remove to Britain or the United States, whatever respect might be paid to the French law, and the rights and obligations, as to property, arising on the marriage contract under that law, the laws of Britain or the United States, supply no forms of proceeding, and remedies adapted to such a construction of the contract. As to the acts done and the management of their property after their removal, therefore, they must be governed by the laws of the country of their residence. This question, as to the code of laws which is applicable, arises in relation to the adjustment of general average losses on vessels and their cargoes, it being a rule that such losses are to be adjusted at the port of delivery of the goods; and, where this is a foreign port, the adjustment is necessarily made according to the laws there prevailing. The implied contract between the parties to a bill of lading, to contribute to such average, where the contribution accrues abroad, has reference to the laws of the foreign port as to the proportion of the contribution.

LEY, or LEES; a term usually applied to any alkaline solution made by levigating ashes that contain an alkali. Soapless is an alkali used by soap-boilers, or potash or soda in solution, and made caustic by lime. Lees of wine are the refuse, or sediment deposited from wine standing quiet.

LEYDEN (*Lugdunum Batavorum*); a large and beautiful city in the government of South Holland, situated on a branch of the Rhine, with 3000 houses and 28,600 inhabitants; lon.  $4^{\circ} 29' E.$ ; lat.  $52^{\circ} 9' N.$  It has wide streets (the one called *Broad Street* is among the finest in Europe), and numerous canals. The university of Leyden, formerly very celebrated, was founded in 1575, and is distinguished for its botanical garden, anatomical theatre, observatory, and valuable library with 60,000 volumes and 14,000 manuscripts. The number of students, in 1827, was 323. The *Annales Acad. Lugd. Bat.* are still continued. Cabinets of philosophical, surgical, chemical instruments, and one for natural history, belong to the university. Among the buildings, the principal are St Peter's church, with the tombs of Boerhaave, Peter Camper, and Meerman, and the stadthouse, which contains Luke of Leyden's excellent picture of the last judgment. A fine view of the whole city is enjoyed from the ancient castle, considered, traditionally, a Roman work. The printing establishments formerly constituted an important branch of the industry of Leyden, but are much less extensive at present. The city has woollen manufactures, and considerable inland

trade. The manufactures have much declined, but the salt-works are important. Leyden suffered much in January, 1807, from the explosion of a ship containing 40,000 pounds of gunpowder. The houses on the side of the canal were overturned, and many persons killed. Natives of Leyden are John of Leyden (q. v.), known as the leader of the Anabaptists, the celebrated Peter Muschenbroek, Rembrandt, Luke of Leyden, &c. It is connected with Haarlem, Hague, and Delft by canals. Leyden was called by the Romans *Lugdunum Batavorum* (see *Batavians*), from which the present name was formed in the middle ages. Even in Ptolemy's time, Leyden was a considerable city. It suffered much during the war with Spain (1574).

LEYDEN, JAN or JOHN OF. See *John of Leyden*.

LEYDEN, LUKE OF. See *Luke of Leyden*.

LEYDEN, JOHN; a poet, antiquary, and Orientalist, was born at Denholm, in Roxburghshire, Scotland, in 1775, of parents in humble circumstances, and bred up to such country labour as suited his condition. In his earliest youth, he displayed the greatest eagerness for the acquisition of knowledge, but enjoyed few opportunities of gratifying it. His predominant desire for learning, however, determined his parents to prepare him for the church, and he was entered at the college of Edinburgh, in 1790, for the purpose of commencing his professional studies. Here, besides attending to theology, he cultivated medical studies, and, in addition to the learned languages, acquired French, Spanish, Italian, German, the ancient Icelandic, Arabic, and Persian. After remaining five or six years in Edinburgh, he became private tutor to two young gentlemen, whom he accompanied to St Andrews, and, in 1799, published his *History of African Discoveries*, which has since been continued and enlarged by Hugh Murray (3 vols., 8vo, 1820). At this time, he was also the author of many poetical effusions in different departments, which appeared in the *Edinburgh Magazine*, and which, by rendering him known to the lovers of literature, introduced him into the best society in the Scottish capital. In company, he displayed the rudeness and independence, which his early life and education were fitted to produce in a man of strong feeling and vigorous genius, united with personal boldness, and much bodily power and activity. In 1800, he began to preach, and, although popular as a pulpit orator, he was not satisfied with his own discourses. In 1801 and 1802 he assisted Sir Walter Scott in procuring materials and illustrations for his *Minstrelsy of the Scottish Border*, and re-published the *Complaynt of Scotland*, with a learned preliminary Dissertation, Notes, and a Glossary. Having manifested a strong desire to set out on an expedition to explore the unknown regions of Africa, his friends, to prevent the execution of this project, procured him an appointment in India, which, however, could only be held by a person who had taken a surgical degree, and this he actually obtained, after six months' unremitting application. While in India, he devoted himself to the study of Oriental literature, but did not long survive the influence of the climate and his over-exertions in his studies. He died in 1806. His *Poetical Remains*, with a *Memoir of his Life*, were published in 1821, and, in 1826, the *Commentaries of Bâher*, translated by him from the Turkish language. An animated sketch of doctor Leyden's life is to be found among the *Miscellaneous prose Works of Sir W. Scott*.

LEYDEN PHIAL, in electricity, is a glass phial or jar, coated both within and without with tin-foil, or some other conducting substance, which may be charged, and employed in a variety of useful and

entertaining experiments. Glass of any other shape so coated and used, has also received the same denomination. A vacuum produced in such a phial, &c., has been named the *Leyden vacuum*. See *Electricity*.

LI, (called also *care*); the common copper coin, in China, with a square hole in the middle, and an inscription on one side. The copper is alloyed with lead, and the coin, which is cast, is very brittle. Ten li make one candareen, 100 a mass, 1,000 a liang or tale, about five shillings.

LIAS, in geology; the name of a peculiar formation, consisting of thick, argillaceous deposits, which constitutes the base on which the *Carboniferous* series reposes. The word *lias* is of English origin, and is said to be derived from a provincial pronunciation of the word *layers*. The upper portion of these deposits, including about two thirds of their total depth, consists of beds of a deep-blue marl, containing only a few irregular limestone beds. In the lower portion, the limestone beds increase in frequency, and assume the peculiar aspect which characterizes the *lias*, presenting a series of thin, stony beds, separated by narrow, argillaceous partings; so that the series of this rock, at a distance, assume a striped and riband-like appearance. These limestone beds, when purest, contain ninety per cent. of carbonate of lime, the residue consisting, apparently, of alumina, iron, and silex. In places where these beds are less pure, alumine of course abounds. The blue *lias*, which contains much iron, affords a strong lime, distinguished by its property of setting under water. The white *lias* takes a polish, and may be used for the purposes of lithography. The *lias* clay often occurs in the form of soft slate or shale, which divides into very thin *laminae*, and is frequently much impregnated with bitumen and iron pyrites; in consequence of which, when laid in heaps with *lignite*, and ignited, it will continue to burn slowly until the pyrites is wholly decomposed. When it falls in large masses from the cliffs upon the sea-shore, as it does in England, and becomes moistened by sea-water, it ignites spontaneously. The *lias* of Whitby, in England, is of this sort. The *lias* is impregnated with a large dose of common salt, sulphate of magnesia and soda; in consequence of which, springs of water, rising through it, contain these salts in solution. The *Cheltenham* and *Worcester* springs are in this clay. The *lias* is remarkable for the number and variety of its organic remains, among which are numerous *chamæna*, univalves, bivalves, certain species of fish and vertebral animals, allied to the order of *Ischiodon*, some of which are of enormous size. The *Archæopteryx*, one of these, has the orbit of its eye ten inches wide; and seven broad; and the *Plesiosaurus*, of which five species have been found, measures twenty feet in length. This rock also embraces, in some strata, bones of the turtle, fossil wood, and *yc.* The *lias* crosses England from near Whitby, in Yorkshire, to Lyme, in Dorsetshire. The same formation occurs also in France, and in the Alps and the *Jura*. The most valuable mineral substances obtained from *lias* are water-setting lime and alum shale.

LIBANUS, MOUNT. See *Lebanon*.

LIBATION (Latin, *libatio*, *libationem* from *libare*, to pour out); properly a drink-offering, is used also for other offerings to the gods, as a cake, or something similar placed on the altar, and a part of which was burned. *Libations* were also made at domestic meals, some of the food being thrown into the fire on the hearth, in honour of the *lares*. Of all fruits, a small portion was always placed on an altar, table, &c., in honour of the gods, or thrown into the sea in honour of the *Neptunes*.

The libations to the dead were not performed till the ninth day after the burning or interment, and consisted of milk, wine, or blood, and generally concluded the funeral solemnities. In sacrifices, the priest was first obliged to taste the wine with which he sprinkled the victims, and cause those to do the same who offered the sacrifice. This ceremony was called *libare*, (*delibare*), whence it also means to touch or taste something. Among the Greeks; the *εὐχὴ*, or *λαχὴ*, was similar to the *libatio* of the Romans.

LIBEL, in law, is defined to be the malicious defamation of any person, made public either by writing, printing, or pictures, in order to provoke him to anger, or to expose him to public hatred, contempt, or ridicule. When defamatory words are merely spoken in conversation, they exist no longer than during the act of giving them utterance, and are heard only by those in whose presence they are used; but, when they are committed to paper, they become permanent in their nature, and are capable of being disseminated far and wide. Words, again, may be spoken in haste, and without thought; but the act of writing necessarily requires time and deliberation. For these reasons, libelling is regarded, by our law, as a more heinous offence than slandering, which is the technical name for spoken defamation; and numberless expressions are libellous, if written and made public, which are not punishable, if they are merely spoken. Thus, unless the slanderous words be such as tend to cause it to be believed, that the person slandered is guilty of some crime punishable by law, as theft or perjury, or that he is infected with some disease which renders him unfit to mix in society; or unless they tend to injure him in the particular trade from which he derives his livelihood; or unless they have actually been productive of some damage to him, they are not actionable, though false. For instance, it is not legal slander to say of a private gentleman, that he is a swindler; if he has received no specific damage therefrom, beyond the mere annoyance of having been subjected to such an imputation. But such accusations as these, and all others which hold up individuals to public hatred, contempt, or ridicule, become libellous when the remembrance of them is deliberately perpetuated by their being committed to writing. Libellers may be brought to punishment by a prosecution on the part of the government, or be compelled to make reparation by a civil action. The civil action is grounded upon the injury which the libel is supposed to occasion to the individual; the public prosecution upon its tendency to provoke a breach of the peace. If the charges contained in the libel are true, a civil action cannot be maintained, because it is considered that every man must bear the consequences of his own act; and, therefore, if he has laid himself open to accusation, he must endure it as the natural result of his own crimes or folly. But, inasmuch as the malicious propagation even of that which is true, is calculated to disturb the public peace, the truth of the libellous matter is no defence, by the common law, upon a prosecution by the government, although, without doubt, it will, in many cases entitle the defendant to the merciful consideration of the court, when it decides upon the *quantum* of punishment to be awarded. In civil actions, again, it is necessary to prove that the publication of the libel was made to persons besides the person at whom it is aimed; for, however false and atrocious it may be, it is evident that the person libelled can derive no injury from it, so long as its very existence is known to none but himself. Therefore an abusive letter, written by one man to another, is not sufficiently published to support an action, unless the writer shows it to a third

person, because the person to whom it was addressed cannot be injured by it, unless he himself chooses to make it public; nevertheless, the author of such a letter may be prosecuted by indictment, for it equally tends to create a breach of the peace. With these distinctions, civil actions and prosecutions for libel stand very much on the same footing. In ordinary cases, it is not necessary to prove malice on the part of the libeller; for, even supposing that the libel was published without any malicious design, yet the injury to the individual, and the danger to the public peace, are not the less on that account. But, although the charges contained in a libel are false, yet under the particular circumstances of certain cases, the author is excused, unless express proof can be produced of his having been influenced by hatred or malice. These are called *privileged communications*. The master who gives a bad character of the servant who has left him, is privileged, if he acts *bona fide*, and not officiously; but if, without application being made to him to give a character, he volunteers officially to send one to the person who is about to hire the servant, he is not privileged, and must stand or fall with the truth or falsehood of his charges. So, if a father writes to his son, *bona fide*, warning him against a person whose character he has reason to suspect, that is a privileged communication. It is difficult to lay down any general definition, which shall comprise all the occasions when communications are privileged; but, perhaps, we shall not be far wrong in saying that, whenever a communication is made *bona fide*, unofficiously, and without malice, and either the person who makes it, or the person to whom it is made, has a real substantial interest in the subject to which it relates, it is a privileged communication, and the mere fact of its not being true will not render the person who makes it liable, either to a civil action, or to a criminal prosecution. A fair criticism on a public work, or print, &c.; a fair comment on a place of public entertainment; a fair and impartial account of the proceedings in a court of justice, and the like, are not considered libellous, unless the subjects to which they relate are in themselves of such an obscene, blasphemous, or scandalous nature, that a due regard to decency enjoins that they should not be publicly discussed, under which circumstances, even a correct statement becomes indictable. In a civil action, the plaintiff recovers damages, the amount of which is settled by the jury. But, upon an indictment, the jury has merely to acquit the defendant, or to find him guilty, after which the court passes judgment, and awards the punishment, which is generally fine or imprisonment, or both; but, by statute 1 George IV., c. 8, persons convicted a second time of a blasphemous or seditious libel, may be banished for such a term of years as the court thinks fit. The jury decide on the legal innocence or criminality of the alleged libel, without being bound by the direction of the judge. See *Jury*.

LIBEL, in the ecclesiastical and admiralty courts, is the name given to the formal written statement of the complainant's ground of complaint against the defendant.

LIBER; a surname of Bacchus among the Romans, referring to the idea of a deliverer, or liberator. Liber was originally an old Italian god of fertility, whose name was probably derived from the old word *libare* (to pour out, to water). He was worshipped in connexion with Libera (Proserpine) and Ceres.

LIBERAL. In the article *Arts*, the name of *liberal arts* is said to have been given, originally, to those which were considered suitable for freemen, in contradistinction to those which were left to slaves. In modern times, the word *liberal* has received a peculiar political meaning. The two great parties

throughout Europe, are composed of those who adhere to the ancient *régime*, and object to the principles of equal rights, and of those who, adhering to the latter, are thence called *liberals*. The struggle is between the feudal, or aristocratic, and the democratic principle. There exists, of course, a great variety of shades in both parties.

LIBERAL ARTS. See *Arts*.

LIBERIA; the name which, in 1824, on the motion of general Robert Goodloe Harper, was given to the territory purchased by the American colonization society, on the western coast of Africa. The origin and purposes of this association have been already described in the article *Colonization Society*, as well as the ill success of the first attempt to establish a settlement, in 1820. In the summer of 1821, cape Montserado, or Mesurado, with a large tract of adjoining country, was purchased of the native chiefs, or head-men. The emigrants first established themselves on cape Montserado, under the direction of doctor Ayres, Jan. 7, 1822. Almost immediately after taking possession of the cape, doctor Ayres was, in consequence of severe illness, obliged to return to the United States; but, happily for the colony, Mr Jebudi Ashmun arrived, and assumed the superintendence of affairs, Aug. 8. For more than six years, this able man devoted all his powers to the work of establishing, upon broad and sure foundations, this colony, so interesting to the United States, and so full of hope for Africa. His defence of the infant settlement, in December, 1822, against the united forces of the natives, showed great courage and talent. In 1824, the system of government now in operation was adopted, and the benefits which have resulted from it are great. The supreme power resides in the agent of the society, but all the civil and military officers of the colony are annually elected by the people. Through the negotiations of the late Mr Ashmun, great accessions were made to the original territory of Liberia. Full possession has been obtained of large tracts of country, and a jurisdiction (which excludes all foreign nations from making settlements) acquired over the coast, from cape Mount to Trade Town, a distance of 150 miles. The territory of Liberia is generally low upon the coast, but gradually rises towards the interior, and, at a distance of from twenty to thirty miles from the sea, hills are visible, of considerable elevation. About forty-eight miles due north-west from cape Montserado, is Grand Cape mount, which is elevated from a level country, on a base of about four miles in diameter, 900 feet above the sea, which washes it on three sides. This mount, the north-western extremity of Liberia bay, is covered with a deep and unfading foliage. Several springs of excellent water descend from it, and the Pissou river (a broad, but irregular and sluggish stream, which has been traced to about a hundred miles from its mouth) empties itself into the ocean on its northern side. The St Paul's river, which flows into Liberia bay, at the distance of from eight to nine miles north of cape Montserado, is of considerable magnitude, and supposed to admit, above its falls (about twenty miles from its mouth), of boat navigation for 200 or 300 miles. The Montserado river is forty miles long, and enters the sea on the northern side of the cape of the same name. In the Junk district, south-east of cape Montserado forty miles, are two considerable rivers, one descending from the north-north-west, and the other from east-north-east, and pouring their waters into the ocean at the distance of only two miles from each other. The river St John's, eighty-one miles south-east from cape Montserado, is larger than any we have mentioned and represented by Mr Ashmun as majestic, and navigable for vessels of 90 to 100 tons, abounding

with fish, and having its course through a fertile, delicious, and salubrious country, of a rich and low soil, fanned sixteen hours in every twenty-four, even in the dry season, by a sea breeze, tempered and sweetened, in its passage up the river, by the verdure which crowns its banks, rendering the scene one of the most delightful that can be imagined.

Cape Montserado, upon which is situated Monrovia (so called in honour of president Monroe, one of the earliest and most efficient friends of the colonization society), the earliest settlement made in Liberia, is about 6° 27' N. lat., and 10° 40' W. lon. from Greenwich. Cape Montserado is elevated about eighty feet above the ocean, is washed by the water on three sides, and connected with a level tract of land on the fourth. Its length, from north-west to south-east, is three and one third miles; its average width, from north-east to south-west directly across from the river to the ocean, three fourths of a mile. It comprehends about 1600 acres. From May to October, the wind, on this coast, is uniformly from south-south-west. In November and December, the sea breeze varies from south-south-west to north-north-west, the land breeze commonly from north-east and north. Masters of vessels should remember that the coast may, at all seasons, be descended with little difficulty; but, that the ascent, between January and May, is exceedingly slow, both the current and wind being in opposition. Vessels standing by cape Mount ought to give this cape a birth of two or three leagues. The anchorage ground, at the distance of one or two miles north-east of cape Montserado, is safe and good.

The American colonization society has transported to Liberia 1402 free persons of colour. Between 100 and 200 slaves, liberated from the grasp of pirates on the coast, have been placed under the protection of the colony. About 300 slaves, taken what about to be brought into the United States contrary to law, have been removed to Liberia by the government of the United States. There are four American settlements within the limits of the colony—Monrovia, Caldwell, the Half-way Farms (or New George) and Millsburg, situated twenty miles in the interior on the eastern bank of the St Paul's. One of the native tribes has voluntarily placed itself under the laws of the colony, and others have expressed a desire to follow its example. The natives, in the vicinity of Liberia, may be divided into three great classes—the Fey or Vey tribes occupying the country from Canias river to Grand Cape mount, a distance of 80 miles, and which are estimated by Mr Ashmun at 1500. Between cape Mount and cape Montserado is the Dey tribe, about half the number of the Fey. South-west of Montserado are the Bassa, remnants over various countries. Their number may be estimated at 150,000. The Feys are described as proud, selfish, deceitful race; the Dey is unwarlike, and inoffensive, and the Bassa is industrious and many of them laborious. It is not to be understood, however, that each of these classes is altogether and directed by a single government. They are all of them broken up into small and feeble and utterly incapable of conducting warlike operations in a united and powerful manner. The people that in the interior are of a more elevated mind and character, have some knowledge of the American language, and some acquaintance with the useful arts. The articles to be obtained by trade in Liberia are chiefly ivory, camwood, coral, tortoise shell, hides, the teeth of the sea-horse, and a great quantity of coffee. The country abounds in wild goats, swine, and fowls, and is most of the productions of other tropical climates. The efforts of the American colonization society have been

attended with great, if not unexampled, success. The men of colour, who have migrated to Liberia, have felt the influences of enterprise and freedom, and are improved alike in their condition and character. Those who were slaves have become masters; those who were once dependent have become independent: once the objects of charity they are now benefactors, and the very individuals who, a few years ago, felt their spirits depressed in America, and incapable of high efforts and great achievements, now stand forth conscious of their dignity and power, sharing in all the privileges and honours of a respected, a free, and a Christian people.

**LIBERTAS**, among the Romans, personified liberty; according to Hyginus, a daughter of Jupiter and Juno. When she is represented on coins, with her head uncovered, she is the Roman Liberty; but, with a diadem and veil, she is the goddess Liberty, in general. Gracchus built a temple to the latter on mount Aventine.

**LIBERTINES**, or **LIBERTINI**; a sect of fanatics, in the sixteenth century, in Holland and Brabant, who placed religion in a perfect union of the soul with God, which having once taken place, all difference between evil and good, sin and virtue, ceased; so that the individual might give himself up to his appetites and passions, as these were no longer bad.

**LIBERTY OF THE PRESS.** See *Press*.

**LIBERTY TREE.** At the time of the disturbances excited in the American colonies by the stamp act, a large American elm was used, in Boston, to hang obnoxious characters in effigy, and to make known the intentions of the *sons of liberty* (as the patriots were called), who also held their meetings under it. The following inscription was placed upon it—"This tree was planted in the year 1646, and pruned by order of the sons of liberty, February 14, 1766." It was thenceforward called the *liberty tree*, but, in 1774, was cut down by the British troops, by whom the town was occupied. The example was imitated in other parts of the country, most of the towns having their liberty tree; and on the breaking out of the French Revolution (1789), the same emblem was adopted. A liberty tree was planted by the Jacobins in Paris, and many other cities of France followed their example. The same ceremony was practised by the French troops, on their entrance into foreign countries. The Lombardy poplar was first used, but the French name of this tree (*peuplier*), affording matter of derision, oaks or fir-trees were afterwards used.

**LIBERTY, CAP OF.** The right of covering the head was, in early times, a mark of liberty. Slaves always went bare-headed, and one of the ceremonies of emancipation was the placing a cap on their head, by their former master. Thus the cap (or the hat) became the symbol of liberty, and has played a part in many revolutions. The Swiss owe their liberty to the hat which Gessler ordered to be saluted as a mark of submission. The arms of the united Swiss cantons have a round hat for a crest. In England, the cap (blue, with a white border, and the inscription *Liberty*, in letters of gold), is used as a symbol of the constitutional liberty of the nation, and Britannia sometimes bears it on the point of her spear; more commonly, however, she has the trident of Neptune, without the cap, in her left hand, whilst she offers the olive branch of peace to the world in her right hand. The cap was used in France, as the symbol of liberty, at the beginning of the revolution (1789); and its red colour was borrowed from that of the liberated galley-slaves of Marseilles, who went in great numbers to Paris. The Jacobin club, at Paris, afterwards made the red cap a badge of membership, and it was, therefore, afterwards called the *Jacobin cap*.

**LIBRA**; the Roman pound unit for weighing. (See *As*.) The ancient Romans reckoned money also by pounds, and a *libra* of silver was worth about thirteen dollars. This word passed over to the various nations of Latin descent or mixture. See *Libre*.

**LIBRARIES.** The most ancient library is fabulously ascribed to the Egyptian king Osymandyas of Memphis. Pisistratus first founded a library among the Greeks, at Athens; Xerxes carried it to Persia, but Seleucus Nicator caused it to be restored to Athens. The most celebrated library of antiquity was the Alexandrian. (See *Alexandria*.) Æmilius Paulus and Lucullus brought the first libraries, as the spoils of war, to Rome. Asinius Pollio founded the first public library, which was also taken in war. Julius Cæsar established a large library, and intrusted it to the care of the learned Varro. Augustus founded two libraries, one of which was called *Palatina*, because it was in the temple of Apollo, on mount Palatine; the other was in the portico of Octavia, and was called *Octaviana*. The conflagration of Nero destroyed several libraries, which Domitian restored. Trajan founded a very excellent library. Publius Victor mentions twenty-eight public libraries in Rome; there were, besides, extensive private libraries. These treasures were destroyed or dispersed, partly by the ravages of the barbarians, partly by the iconoclasts. In the ninth and eleventh centuries, Basil the Macedonian, emperor of the East, and the learned Comnenian imperial family, made several collections of books, principally in the convents of the Ægean islands and mount Athos. The Arabians had, in Alexandria, a considerable library of Arabian books. Al-Mamoun collected many Greek manuscripts in Bagdad. In the West, libraries were founded in the second half of the eighth century, by the encouragement of Charlemagne. In France, one of the most celebrated was that in the abbey St Germain des Près, near Paris. In Germany, the libraries of Fulda, Corvey, and, in the eleventh century, that of Hirschau, were valuable. In Spain, in the twelfth century, the Moors had seventy public libraries, of which that of Cordova contained 250,000 volumes. In Britain and Italy, libraries were also founded with great zeal, particularly, in the former country, by Richard Aungerville; in the latter, by Petrarch, Boccaccio, and others. After the invention of the art of printing, this was done more easily and at less expense. Nicholas V. founded the Vatican library. Cardinal Bessarion bequeathed his excellent library to the church of St Mark at Venice. See Petit-Radel's interesting *Recherches sur les Bibliothèques anciennes et modernes jusqu'à la Fondation de la Bibliothèque Mazarine* (Paris, 1819).

The principal libraries of modern times are, the royal library at Paris (more than 400,000 printed books, and 80,000 MSS.); the central court library at Munich (more than 400,000 books, and 9000 MSS.); the imperial library at Petersburg (300,000 books, and 11,000 MSS.); the imperial library at Vienna (300,000 books, and 12,000 MSS.); the university library at Gottingen (about 300,000 books); the royal library at Dresden (at least 220,000 printed books, 150,000 pamphlets, dissertations, and small works not included, and 2700 MSS.); the royal library at Copenhagen (stated variously at 130,000, 250,000, and 400,000 volumes; it has 3000 MSS.); the library in the Escorial (130,000 volumes, and excellent Arabian MSS.); the royal library at Berlin (200,000 volumes, and 7000 MSS.); the academical library at Prague (130,000 volumes, and 8000 MSS.); the royal library in Stuttgart (116,000 volumes); the Vatican library at Rome (360,000 books, and 40,000 MSS.). In Britain, the two largest libraries are the Bodleian in Oxford (stated by some at 500,000, by

others at 250,000 volumes, and 30,000 MSS.), and the library of the British museum at London (180,000 books, and about 60,000 MSS.). Besides the *Bibliothèque du roi*, there are, in Paris, those of the arsenal (150,000 printed books, 5000 MSS.), of St. Geneviève (110,000 printed books, 2000 MSS.); of the institute (50,000 volumes); of the chamber of deputies (40,000); the Mazarin library (90,000); making in all, 1,200,000 volumes in the public libraries in Paris. In the rest of France, there are 273 public libraries, the principal of which are those of Lyons (containing together 600,000 volumes); Bordeaux (105,000); Aix (73,000), &c. The total number of volumes, in these provincial libraries, is 3,000,000. Access to these great collections is easily obtained, both by natives and foreigners. In Italy, there are a great number of valuable libraries, of which that at Bologna, founded in 1650, contains 150,000 volumes, 9000 MSS.; the Magliabecchi library at Florence, 150,000 volumes, 9000 MSS.; the university library at Genoa, 70,000 volumes; the Ambrosian at Milan, 60,000 printed volumes, and, at least, 15,000 MSS.—according to others, 140,000 volumes, and 15,000 MSS.; that at Modena, 80,000 volumes, and that of Naples 130,000. The Vatican library is very large and famous, but in much disorder. The number of books in foreign libraries is very difficult to be ascertained with precision, and the statements differ so much, that the above estimates are, in many cases, little better than approximations. In the United States of America, the principal libraries are that of Harvard college (36,000 volumes); of the Boston Athenæum (26,000 volumes); of the Philadelphia library (27,000 volumes); of congress (16,000 volumes); of Charleston (13,000).

LIBRATION OF THE EARTH is sometimes used to denote the parallelism of the earth's axis in every part of its revolution round the sun.

LIBRATION OF THE MOON. Very nearly the same face of the moon is always turned towards the earth, it being subject to only a small change within certain limits, the spots near the edge appearing and disappearing by turns; this is called its *libration*. The moon turns about its axis in the same direction in which it revolves in its orbit. Now, the angular velocity about its axis is uniform, and it turns about its axis in the same time in which it makes a complete revolution in its orbit; if, therefore, the angular motion about the earth were also uniform, the same face of the moon would always be turned towards the earth; for, if the moon had no rotation on her axis, when she is on opposite sides of the earth, she would show different faces; but if, after she has made half a revolution in her orbit, she has also turned half round her axis, then the face, which would otherwise have been shown, will be turned behind, and the same face will appear; and thus, if the moon's angular velocity about her axis were always equal to her angular velocity in her orbit about the earth, the same side of the moon would be always towards the earth; but as the moon's angular velocity about her axis is uniform, and her angular velocity in her orbit is not uniform, these angular velocities cannot continue always equal, and therefore the moon will sometimes show a little more of her eastern parts, and sometimes a little more of her western parts. This is called a *libration in longitude*. Also the moon's axis is not perpendicular to the plane of her orbit, and, therefore, at opposite points of her orbit, her opposite poles are turned towards the earth; therefore her poles appear and disappear by turns. This is called a *libration in latitude*. Hence nearly one half of the moon is never visible at the earth, and therefore nearly one half of its inhabitants (if it have any) never see the earth, and nearly the

other half never lose sight of it. Also, the time of its rotation about its axis being a month, the length of the lunar days and nights will be about a fortnight each. It is a very extraordinary circumstance, that the time of the moon's revolution about her axis should be equal to that in her orbit.

LIBYA, with the ancient geographers, a large part of the north of Africa, west of Egypt, which was divided into Libya exterior and interior, sometimes also into Libya Proper, Lybia Marmarica and Lybia Cyrenaica. The Greek authors sometimes comprehended all Africa under this name.

LICENSES, or FREE LETTERS, were instruments used to diminish the effect of the British and Milan decrees of Napoleon, and the British order in council, which threatened the destruction of European commerce, if some exceptions had not been made by both nations. Britain decreed first, in November, 1808, that vessels of all nations, the French excepted, might be provided with licenses good for one year, upon condition of importing goods into Britain; but, after 1809, licenses were given under the condition of exporting British manufactures or colonial produce. Licenses were also sent by France, especially for the purpose of supplying her navy. False papers for ships were also in common use. At last, it was decided by Britain to grant licenses to all ships not French, even though they carried a French license, upon condition that one third part of the cargo should be British goods, the same portion of French cargo being also allowed. France also gave licenses (to American vessels) to export French goods, and, in return, to import colonial produce. Licenses were granted by Russia to trade with Britain, from 1811, and by Sweden, by the same trade, from 1812; but, at the fall of the famous continental system (see that article), the licenses became useless.

LICENTATE; an academical dignity between the baccalaureate and the doctorate, and the obtaining of which is a necessary step to taking the doctor's degree. *Licentiate* also signifies the person who has received the degree. A licentiate in theology has the right of delivering theological lectures, and a licentiate in medicine the right to practice.

LICHENS; a family of plants, belonging to the Linnean class *cryptogamia*, containing about 250 known species, which are now arranged under several genera. Their substance is powdery, crustaceous, membranous, coriaceous, or even coruscous; and the form that of a horizontal frond, sometimes lobed, divided, bearing scattered tubercles and capitate warts, or branching and coralloid. They are common every where, adhering to rocks, the trunks of trees, and barren soil. On ascending mountains they are found flourishing beyond the limit of other plants, even to the very verge of perpetual snow. Many of them, fixing upon the hardest rock by retaining moisture, facilitate their decomposition and promote the formation of soil. They are generally perennial, and grow by receiving moisture through all parts of their surface, and though frequently desiccated, the least rain restores their freshness. Many of the species appear to be universally distributed, occurring in all parts of the globe. In the lichens of the equatorial regions and southern hemisphere have not, hitherto, been much examined. Several of the species are used for subsistence in time of scarcity, by the inhabitants of the northern regions. The *tripe de roche* of the Canadians, so often resorted to by the fur traders, is a lichen, somewhat resembling the *subcetraria* to which the name is derived. The reindeer moss (*Lecanora rangiferina*) is common in several parts of the northern hemisphere, but is

arctic regions, it grows in the greatest profusion, often occupying, exclusively, extensive tracts of country, covering the ground to the depth of a foot or more, and having the appearance of snow. It is celebrated as being the chief resource of the reindeer in these desolate regions. The Iceland moss (*physcia islandica*) is also exceedingly abundant in the arctic regions, and often affords aliment to the inhabitants, either in the form of gruel or bread, which last, though not agreeable, is very nutritious. The taste is bitter, astringent, and extremely mucilaginous. It is an article of commerce, and is very frequently employed in pharmacy, in the composition of various pectoral lozenges and sirups, and is celebrated as an article of diet, in combination with milk, in coughs and pulmonary affections. The plant consists of a membranous frond, divided into lobes and *laciniae*, which are unattached, and either smooth or fringed on the margin. It is very abundant in the Alpine region of the White mountains of New Hampshire, America. Ordeal (*oreella tinctoria*) is still an important article of commerce, though much less used now than formerly, on account of the fugitiveness of the rich purple and rose-coloured dyes which it yields. Some of its tints, however, are capable of being fixed, and it is, besides, employed for staining marble, forming blue veins and spots. It grows on rocks, bordering on the sea, in the islands of the Mediterranean, the Azores, Canaries, Cape Verde and Bourbon. That from the Canaries is most esteemed, and is largely imported into Europe. Several other lichens afford dyes of various colours, some of which can be rendered permanent. Litmus is also obtained from a lichen. See *Litmus*.

LICHTENBERG, GEORGE CHRISTOPHER, one of the greatest natural philosophers, and wittiest writers, that Germany has produced, was born in 1742, at Ober-Ramstadt, near Darmstadt, and was the youngest of a family of eighteen children. He received from his father some instruction in physics, and went, after his death, to the academy at Darmstadt. He was strong and well formed till eight years of age; but, at this time, the effects of the carelessness of his nurse became visible, in a distortion of the spine. In 1763, he went to Göttingen, where he applied himself to astronomical observations. He made observations upon the earthquake of 1767, and observed, with Kästner, the transit of Venus over the sun's disk, June 19, 1769, as also the comets of 1770, 1771, and 1773, the orbit of which last he described, and resorted to the academy of sciences of Göttingen. He also constructed lunar charts, in which the spots are indicated in the order in which they are successively covered by the earth's shadow. In 1770, he was offered a professorship at Göttingen, which he entered upon in his twenty-eighth year. In this year he went to London. Lichtenberg ascertained by observation, in 1772 and 1773, the situations of anover, Osnabrück, and Stade. He afterwards undertook to publish, with illustrations, the papers by Tobias Mayer, and added a lunar chart, with description of lunar spots; but only one volume appeared. He visited England again in 1774, and resided upon Garrick and the English stage. He subsequently published an excellent commentary upon Hogarth's engravings. In 1778, he returned to Göttingen. From this period he lectured upon experimental philosophy. His lectures were of great value, and his apparatus was princely. He was regarded as a discoverer in physics, from his observations upon the figures developed upon electrified surfaces, which he learned to reproduce and exhibit, and which still retain his name. He also worked, with much wit, in several publications, the system of physiognomy to which Lavater had given

such currency; but he was subsequently reconciled to Lavater. Other productions, which he thought censurable, felt the lash of his wit. His taste for drawings illustrative of character, made him a great admirer of Hogarth. He, for a long time, supplied the Göttingen Souvenir with miniature drawings of the heads of Hogarth, accompanied by very witty and ingenious observations. The favourable reception of these led to the publication of a Minute Explanation of Hogarth's Plates, with perfect miniature Copies of them, by Riepenhausen, of which he published four numbers himself: the seven next to the eleventh were published by Bottiger, and the last by Bouterwek. In the last years of his life, Lichtenberg became hypochondriac and misanthropic, so that he shut himself up in his chamber, and would see no one. He died of a pulmonary inflammation, Feb. 24, 1799, aged 57. He was an original thinker, to whom no subject of a scientific character was uninteresting. Scientific spirit and poetic talent were united in him in a singular degree, and produced the most peculiar and striking results; but the highest principle of the human mind—faith in something divine—was, in his speculative moments, disregarded; and a superstitious belief in dreams, predictions and presentiments, was admitted in its stead.

LICHFIELD, or LITCHFIELD; an ancient city of England, in the county of Stafford, and a county of itself, with particular local jurisdiction, under the government of the bailiffs and magistrates. It stands on a small brook that runs into the Trent. The city is neat and well built, and consists of three or four principal streets, and some smaller ones; and is separated from the Close, which is in the county of Stafford, by a pool of running water. It is the residence of the dignitaries of the church. The cathedral is supposed to have been founded about 656, and was afterwards much enlarged and improved. It is one of the most elegant religious edifices in Great Britain, extending 400 feet in length, and 67 in breadth. In the centre rises an elegant steeple, to the height of 258 feet, and two smaller ones, at the west end, 183 feet. The interior is finished with corresponding elegance and splendour. The body of the church is spacious and lofty, supported by pillars formed of clusters of slender columns, with neat foliated capitals. It extends 213 feet in length, from the great west door to the choir, and 153 in breadth: the breadth of the side-aisles is 66 feet, and the height of the nave 60. Over the great west doors, that open into the nave, is placed a splendid circular window, constructed at the expense of James, duke of York, in the reign of Charles II. A number of interesting monuments are dispersed through the church, among them Chantrey's celebrated group of sleeping children. St Mary's chapel, now thrown open to the choir, is uncommonly beautiful and splendid. Besides the cathedral, the Close contains a variety of buildings, which, except a few houses, belong to the church. The bishop's palace is situated at the north-east corner. It is a spacious building of stone, with the date of 1687, and the arms of the bishopric, in front. Lichfield contains a free grammar school, at which were educated Addison, Wollaston, Ashmole, Garrick, and Johnson. Population, in 1831, 6499.

LICHTENSTEIN (properly, *Liechtenstein*), a sovereign principality, the smallest state of the German confederacy, is situated on the northern declivity of the Rhetian Alps (which here rise to the height of 5600 feet), and on the Rhine. It comprises an area of 53 square miles, with 5800 inhabitants, in 11 villages. Vadutz, a market-town, is the chief place. The prince has declared the Austrian code valid in

Lichtenstein. The courts of appeal are the Austrian courts. The prince furnishes a contingent of fifty-five men to the army of the confederacy. He has a voice in the sixteenth vote in the diet, and has the twenty-eighth vote in the general assembly (*plenum*). Nov. 9, 1818, he granted his principality a constitution, on the model of the constitution of the German states of Austria. We mention this, on account of the qualifying clauses of the fourth section of this instrument, which would make the electors of Lichtenstein an assembly of patriarchs. It gives the right of voting to every person who pays taxes on an estate valued at 2000 guilders, is thirty years old, of irreproachable and disinterested character, and of a peaceable disposition. The prince's income is 17,000 guilders, but he has large districts, with towns and villages, as an Austrian subject, which contain 350,000 inhabitants, and yield a revenue of 1,500,000 guilders. He has also considerable possessions in Bohemia.

LICK, or SALT LICK. A salt spring is called a *lick*, in the western parts of the United States of America, from the circumstance that the earth about it, which is impregnated with saline particles, is licked by the bison and deer.

LICTORS. Lictors, in Rome, were the public servants, who attended upon the magistrates, to fulfil their commands. Their name (*lictors*) was derived from their binding offenders hand and foot, previously to the punishment of scourging. The office was borrowed by Romulus from the Etruscans, whose chief magistrates were attended by servants, bearing axes tied up in bundles of rods, which were called *fusces*. He was himself always preceded by twelve of them. When the regal dignity was abolished at Rome, the royal pomp was retained; and, on this account, consuls, prætors, and other important officers (except the censors), were all attended by lictors. When a magistrate of high rank appeared in public, the lictors preceded him in a file, following each other. It was their duty to clear the road of the populace, that the consul, or other officer, might not be impeded in his progress; and this was effected by the cry, "The consul (or prætor, &c.) comes," "Make way for the consul." When he returned to his own house, or entered another, the lictors struck the door with their fasces. They also took care that proper respect should be shown to the person of the magistrate. A horseman who met the consul was obliged to dismount. Every one uncovered his head as he passed, left him free passage, &c. The lictors were the executioners of punishments. They were free men, but chosen from among the lowest classes, and were often freed-men of the magistrate whom they attended. The dictators were preceded by twenty-four lictors; the consuls, decemvirs and tribunes of the soldiers, by twelve; the prætors and master of the horse, by six, and the vestal virgins by one, only.

LIECHTENSTEIN. See *Lichtenstein*.

LIEGE (German, *Lüttich*; Dutch, *Luyk*), formerly a bishopric in the circle of Westphalia, was occupied by the French in 1794, ceded to them by the peace of Lunéville, and formed the department of the Ourthe. By a decree of the congress of Vienna, and a separate treaty of March 23, 1815, this country was given, as a sovereign principality, to the king of the Netherlands, and formed, until the Belgian revolution of 1830, a province of the kingdom, containing 2160 square miles, with 354,000 inhabitants, some portions of its territory having been added to other provinces. The Meuse and Ourthe water it. In the southern part, which is a continuation of the Ar-

dennes, the soil is rocky, hilly, and covered with woods. The western part is a fertile plain. Grass is not raised in quantities sufficient to supply the wants of the inhabitants, and has been partly supplanted by potatoes. Cattle and sheep are raised in great numbers. The Limburg cheeses, which are made in this province, are celebrated. It is rich in iron, calamine, alum, iron, lime, good marble, flints, stone, and building-stone. The cloth and woollen manufactories are considerable, and guns and cannons are exported in large quantities. The arms of Turkey have been chiefly armed from the war-shops of Liege.

Liege, the capital of the province, lies on a vale on the Meuse, at its confluence with the Ourthe. Liege was formerly fortified. There are several bridges across the river. The population is 67,000 houses, 8000. There are forty churches in the city. Lat. 50° 39' 22" N.; lon. 5° 31' 20" E. The inhabitants are chiefly Walloons who speak a corrupt French, mixed with Spanish and German. Muskets are made from the value of a crown to 500 louis d'or. There are also cannon-foundries, zinc-works, tanneries, &c. Nails are manufactured here in great quantity. A university was established at Liege (1817), which, previous to the troubles of 1830, had 350 students and several useful institutions connected with it.

LIEGNITZ, capital of the government of the same name, in Silesia, Prussia, at the confluence of the Schwarzwasser and Katsbach, the seat of a government, &c., has 9000 inhabitants, universities for education, linen-bleacheries, &c. Frederick the Great defeated general Laudon near Liegnitz, August 15, 1760. Not far from it lies the village of Wahlstatt, from which Blücher received his title of prince, on account of the battle of the Kottbus (q. v.). The former principality of Liegnitz had dukes of the Piast family. The second wife of the king of Prussia, to whom he was united by what is called a *left-handed*, or *morganatic marriage* (*see Morganatic Marriage*), November 11, 1828, bore the title of princess of Liegnitz. She was a countess von Harrach. May 26, 1826, she joined the Protestant church, having previously been a Catholic.

LIEN, in law, in its most usual acceptation, signifies "the right which one person, in certain cases, possesses of detaining property, placed in his possession, belonging to another, until some demand, which the former has, is satisfied." It is, however, an unfrequently used, whenever property, either real or personal, is charged with the payment of a debt or duty, every such charge being styled a *lien on the property*, although the latter be not in the possession of the person to whom the debt or duty is due. This second signification would open to wide a field of discussion. We shall therefore confine ourselves to the explanation of the right of detaining, which is the more technical meaning of the two. Liens are of two kinds: 1. *particular liens*, that is, where the person in possession of goods may detain them until a claim, which accrues to him from those identical goods, is satisfied; and 2. *general liens*, that is, where the person in possession may detain the goods, not only for the claim accruing from them, but also for the general balance of his account with the owners. Again, liens may be given by the common law, without any agreement between the parties; some are created by express agreement, and some by usage; which latter, indeed, implies an agreement, because, when a man enters into any business, where a particular usage is generally adopted, he is presumed to consent to be bound by that usage, unless he has dealings with others, he expressly protests against it.



I. The common law gives a lien to the person in possession of goods in three instances: 1. When the common law compels the members of any particular trade or business, without any option on their part, to accept employment from every person who is willing to pay a reasonable compensation, in recompense for the burden which it thus throws upon them, it allows them to detain such goods as are delivered to them in the course of their business, until the owner has satisfied any debt which may have arisen out of the transaction in which the goods were so delivered. Innkeepers, common carriers, and farriers are entitled to this species of lien; for instance, the proprietor of a coach need not give up a parcel until the carriage of it be paid for. 2. When goods are delivered to a tradesman, or any other, to expend his labour upon, he is entitled to detain those goods until he is remunerated for the labour which he so expends. Thus a tailor is not obliged to take a customer's cloth and make it into a coat, but, if he consents to make the coat, the customer cannot compel him to deliver it until he is paid for the making. The first kind seems to be included in the second, but they are kept distinct, because it is supposed that the first was, at one time, the only species of lien allowed by the common law, and that the second was a subsequent invention, adopted on equitable considerations in limitation of it. 3. When goods have been saved from the perils of the sea, the salvor may detain them until his claim for salvage is satisfied; but the finder of goods has in no other case a lien on the goods found, in respect of the trouble and expense to which the finding and preserving of them may have subjected him. All these are particular liens; and, therefore, the coach proprietor may not detain the parcel, nor may the tailor detain the coat, nor the salvor the property saved, until payment of the carriage of a former parcel, or of the price of another coat, or of salvage which accrued for saving other goods. Another rule with regard to particular liens is, that they exist only so long as the possession of the goods is retained by the person who has the lien. If he once deliver up the goods to the owner, he waives his lien, which is hereby so effectually annihilated, that it will not be revived, even if the same goods should afterwards return into his possession. Thus, if the tailor deliver the coat, and it is afterwards sent to him to be mended, he cannot then detain it as a security for the original price, but only for the cost of mending. His remedy to recover the price must be by a suit at law; and we may here remark, that a creditor can never prejudice his right of maintaining an action for his demand, by insisting on his right of detaining the goods, for the action and the lien are concurrent rights, and do not interfere with each other.

II. *General liens* are only created by express agreement, or by usage. It has been determined, at attorneys and solicitors, bankers, factors, and brokers, insurance-brokers, and some others, are, by the custom of their respective trades and professions, entitled to a lien on the property of their clients, customers and employers, for the general balance of their accounts. Thus an attorney may detain papers which have been delivered to him to assist in the conducting of one cause, as a security for the costs of other; and, if he return them to his client, and they re-again into his possession, his lien revives; for, in the case of a general lien, it matters not whether the same or different papers are delivered to the person employed, his right of detaining being the same in all instances.

LEOU-KIEOU. See *Loon-Choo*.

LEUTENANT. This word, like *captain*, and

many others, has received gradually a much narrower meaning than it had originally. Its true meaning is a *deputy*, a *substitute*, from the French *lieu* (place, post) and *tenant* (holder). A *lieutenant général du royaume* is a person invested with almost all the powers of the sovereign. Such was the count d'Artois (afterwards Charles X.) before Louis XVIII. entered France, in 1814. The duke of Orleans, before he accepted the crown as Louis-Philip, was appointed to the same office by the chamber of deputies. *Lieutenant-general* was formerly the title of a commanding general, but at present it signifies the degree above major-general. *Lieutenant-colonel* is the officer between the colonel and major. *Lieutenant*, in military language, signifies the officer next below a captain. There are first lieutenants, and second, or *sous-lieutenants*, with different pay. A lieutenant in the navy is the second officer next in command to the captain of a ship. According to the new organization of the French navy, of 1831, there are *lieutenants de vaisseau* and *lieutenants de frégate*, formerly called *enseignes de vaisseau*. The latter can command only in the absence of the former. In Britain, the *lord-lieutenant* of a county has the authority to call out the militia in case of invasion or rebellion. The governor of Ireland is also called *lord-lieutenant of Ireland*. In some British colonies, jointly under a *governor-general*, the chief magistrate of each separate colony is called *lieutenant-governor*.

LIFE. See *Physiology*.

LIFE-BUOY. The life-buoy, now commonly used in the British navy, is the invention of lieutenant Coots, of the royal navy. It consists of two hollow copper vessels connected together, each about as large as an ordinary sized pillow, and of buoyancy and capacity sufficient to support one man standing upon them. Should there be more than one person requiring support, they can lay hold of rope beackets, fitted to the buoy, and so sustain themselves. Between the two copper vessels, there stands up a hollow pole, or mast, into which is inserted, from below, an iron rod, whose lower extremity is loaded with lead, in such a manner that, when the buoy is let go, the iron slips down to a certain extent, lengthens the lever, and enables the lead at the end to act as ballast. By this means the mast is kept upright, and the buoy prevented from upsetting. The weight at the end of the rod is arranged so as to afford secure footing for two persons, should that number reach it; and there are, also, as was said before, large rope beackets, through which others can thrust their head and shoulders, till assistance is rendered. At the top of the mast is fixed a port-fire, calculated to burn about twenty minutes, or half an hour: this is ignited, most ingeniously, by the same process which lets the buoy fall into the water; so that a man, falling overboard at night, is directed to the buoy by the blaze on the top of its pole or mast, and the boat sent to rescue him also knows in what direction to pull. The method by which this excellent invention is attached to the ship, and dropped into the water in a single instant, is, perhaps, not the least ingenious part of the contrivance. The buoy is generally fixed amid-ships, over the stern, where it is held securely in its place by being strung, or threaded, as it were, on two strong perpendicular rods, fixed to the taffarel, and inserted in holes piercing the frame work of the buoy. The apparatus is kept in its place by what is called a *slip-stopper*, a sort of catch-bolt, or detent, which can be unlocked at pleasure by merely pulling a trigger; upon withdrawing the stopper, the whole machine slips along the rods, and falls at once into the ship's wake. The trigger, which unlocks the slip-stopper, is furnished with a lanyard, passing through a hole in the stern, and having at its inner

end, a large knob, marked "LIFE-BUOY:" this alone is used in the day-time. Close at hand is another wooden knob, marked "Lock," fastened to the end of a line fixed to the trigger of a gun-lock primed with powder, and so arranged that, when the line is pulled, the port-fire is instantly ignited; while, at the same moment, the life-buoy descends, and floats merrily away, blazing like a light-house. The gunner, who has charge of the life-buoy lock, sees it freshly and carefully primed every evening at quarters, of which he makes a report to the captain. In the morning, the priming is taken out, and the lock uncocked. During the night, a man is always stationed at this part of the ship; and every half hour, when the bell strikes, he calls out "Life-Buoy!" to show that he is awake and at his post, exactly in the same manner as the look-out men abaft, on the beam and forward, call out, "Starboard quarter!" "Starboard gangway!" "Starboard bow!" and so on, completely round the ship, to prove that they are not napping. Captain Basil Hall's *Fragments of Voyages*; second series.

**LIFE-PRESERVERS.** The human body is a little lighter than an equal bulk of water, so that it naturally floats in this fluid. The mouth, however, in the case of most men lying motionless in the water, would sink below the surface, if the head were not thrown back by a muscular effort. Many persons who fall into still water, and are unable to swim, might be saved, if they had any presence of mind sufficient to preserve a proper position. The specific levity of the body, in comparison with water, makes it easy to keep the upper part of it considerably elevated above the surface of the water by attaching to the chest some buoyant substance, even though its bulk be not great; and many contrivances, called *life-preservers*, have been invented with this view. A great portion of them, however, have been found, in practice, of little or no use. One of the latest is the invention of a Mr Scheffer, in England. It consists of a hollow cylinder, formed without a seam, and perfectly air-tight, bent when distended with air and ready for use; or it is what may be termed a *cylindrical ring*, without a seam, and without a break. Of this ring, the external diameter is generally about 22½ inches, the internal diameter about 12, and the diameter of the cylinder about 5½, the dimensions varying, of course, by being specially adapted to the size of the person by whom it is designed to be employed. It contains a small stop-cock, to which an ivory pipe is fixed. Through this pipe the air is injected by the mouth, and retained by the stop-cock; the adjustment and inflation only occupying the short space of one minute. When unexpanded, it folds up into a very small compass, so as to be conveyed in the pocket; and is also very portable, its weight being but twelve ounces. Another life-preserver, invented by a gentleman from Connecticut, America, does not differ essentially from this, except that it is a straight cylinder. It is made of cloth without a seam, and rendered impervious to water by a preparation of caoutchouc; is about two feet, or two and a half feet long, and eight or ten inches in diameter; is filled like the one first described, and secured to the body by means of straps passing over the shoulders. When empty, it occupies but little room, and may even be worn by a man labouring on the deck of a vessel in danger. He can inflate it in a few moments, when he finds it necessary to trust himself to the waves.

**LIGAMENT**, in anatomy; a strong, compact substance, serving to join two bones together. A ligament is more flexible than a cartilage, not easily ruptured or torn, and does not yield, or at least yields very little, when pulled.

**LIGATURE**, in surgery, is a cord, band, or string;

or the binding any part of the body with a cord, band, fillet, &c., whether of leather, linen, or any other matter. Ligatures are used to extend or repute bones that are broken or dislocated; to tie the patients down in lithotomy and amputations; to tie upon the veins in phlebotomy, on the arteries in amputations, or in large wounds; to secure the splints that are applied to fractures; to tie up the processes of the peritoneum, with the spermatic vessels, in castration; and, lastly, in taking off warts or other excrescences by ligature. *Ligature* is also used to signify a kind of bandage or fillet, tied round the neck, arm, leg, or other part of the bodies of men or beasts, to divert or drive off some disease, accident, &c.

**LIGATURES**, among printers, are types consisting of two letters or characters joined together, as *f, A, fi*. The old editions of Greek authors are extremely full of ligatures; the ligatures of Stephens are by much the most beautiful.

**LIGHT** is that which renders objects perceptible to our sense of seeing. It is one of the most interesting subjects that fall under the contemplation of the philosopher: at the same time it must be acknowledged to be one that is as little understood, and upon which opinions are as much divided, as any of the most abstruse subjects of philosophical inquiry. Some consider light as a fluid *per se*; while others consider it merely as a principle, and attribute to it a sort of pression, or vibration propagated from the luminous body through a subtile, ethereal medium. The ancients believed it to be propagated from the sun and other luminous bodies instantaneously, but the observations of the moderns have shown that this was an erroneous hypothesis, and that light, like any other projectile, employs a certain time in passing from one part of space to another, though the velocity of its motion is truly astonishing, as has been manifested in various ways. And first, from the eclipses of Jupiter's satellites; it was observed by Roemer, that the eclipses of those satellites happen sometimes earlier and sometimes later than the times given by the tables of them, and that the observation was before or after the computed times, according as the earth was nearer to or farther from Jupiter than the mean distance. Hence it was concluded that this circumstance depended on the distance of Jupiter from the earth and that, to account for it, we must suppose that the light is fourteen minutes in crossing the earth's orbit. The original observations have received some corrections, and it is now found that, when the earth is exactly between Jupiter and the sun, his satellites are seen eclipsed about eight minutes and a quarter sooner than they could be according to the tables; but when the earth is nearly in the opposite part of its orbit, these eclipses happen about eight minutes and a quarter later than the tables predict them. Hence, then, it is certain that the motion of light is not instantaneous, but that it takes up about 14½ minutes of time to pass over a space equal to the diameter of the earth's orbit, which is nearly 190,000,000 of miles in length, or at the rate of 200,000 miles per second—a conclusion which it may be added, is placed beyond doubt, by the observation of the stars discovered by the celebrated astronomer Bradley.

Upon the subject of the materiality of light, *Doctor Franklin* observes, in expressing his dissent from the doctrine that light consists of particles of matter continually driven off from the sun's surface, with such enormous swiftness—"Must not the smallest portion conceivable have, with such a motion, a force equivalent to that of a twenty-four pounder discharged from a cannon? Must not the sun diminish exceedingly by such a waste of matter, and the planets, instead of drawing nearer to him, as some have feared, recede

to greater distances, through the lessened attraction? Yet these particles, with this amazing motion, will not drive before them or remove the least and slightest dust they meet with, and the sun appears to continue of his ancient dimensions, and his attendants move in their ancient orbits." He therefore conjectures that all the phenomena of light may be more properly solved, by supposing all space filled with a subtle elastic fluid, not visible when at rest, but which, by its vibrations, affects that fine sense in the eye, as those of the air affect the grosser organs of the ear; and even that different degrees of vibration of this medium may cause the appearances of different colours. And the celebrated Euler has maintained the same hypothesis, urging some further objections to the materiality of light, besides those of doctor Franklin above alluded to.

Newton first discovered that certain bodies exercise on light a peculiar attractive force. When a ray passes obliquely from air into any transparent liquid or solid surface, it undergoes, at its entrance, an angular flexure, which is called *refraction*. The variation of this departure from the rectilinear path for any particular substance, depends on the obliquity of the ray to the refracting surface; so that the sine of the angle of refraction is to that of the angle of incidence in a constant ratio. Newton, having found that unctuous or inflammable bodies occasioned a greater deviation in the luminous rays than their attractive mass, or density, gave reason to expect, conjectured, that both the diamond and water contained combustible matter—a conjecture which was verified by subsequent discovery. Doctor Wollaston invented a very ingenious apparatus, in which, by means of a rectangular prism of flint glass, the index of refraction of each substance is read off at once by a vernier, the three sides of a movable triangle performing the operations of reduction in a very compendious manner. (*Phil. Trans.*, 1802.) But transparent media occasion not merely a certain flexure of the white sunbeam, called the *mean refraction*: they likewise decompose it into its constituent colours. This effect is called *dispersion*. Now, the mean refractive and dispersive powers of bodies are not proportional to each other. In some refracting media, the mean angle of refraction is smaller, whilst the angle of dispersion is larger. From the refractive power of bodies, we may, in many cases, infer their chemical constitution. For discovering the purity of essential oils, an examination with doctor Wollaston's instrument is of great utility, on account of the smallness of the quantity requisite for trial. This idea of doctor Wollaston has been happily prosecuted by M. Biot with regard to gaseous compounds; and we now have accurate tables of the refractive power of all transparent gaseous, liquid, and solid bodies. Carburet of sulphur exceeds all fluid substances in refractive power, surpassing even flint glass, topaz, and tourmalin; and in dispersive power, it exceeds every fluid substance, except oil of assia. Rays of light, in traversing the greater number of crystallized bodies, are commonly split into two pencils; one of which, called the *ordinary ray*, follows the common laws of refraction, agreeably to the tables alluded to, whilst the other, called the *extraordinary ray*, obeys very different laws. This phenomenon is produced in all transparent crystals, whose primitive form is neither a cube nor a regular octahedron. The division of the beam is greater or less, according to the nature of the crystal, and the direction in which it is cut; but, of all known substances, that which produces this phenomenon in the most striking manner, is the crystallized carbonate of lime, called *Iceland spar*. If the white sunbeam, admitted through a small hole of a window-

shutter into a darkened room, be made to pass through a triangular prism of glass, it will be divided into a number of splendid colours, which may be thrown upon a sheet of paper. Newton ascertained that if this coloured image, or *spectrum*, as it is called, be divided into 360 parts, the red will occupy forty-five, the orange twenty-seven, the yellow forty-eight, the green sixty, the blue sixty, the indigo forty, and the violet eighty. The red rays, being least bent by the prism from the direction of the white beam, are said to be least refracted, or the least refrangible, while the violet rays, being always at the other extremity of the spectrum, are called the most refrangible. If these differently coloured rays of light be now concentrated on one spot, by a lens, they will reproduce colourless light. Newton ascribes the different colours of bodies to their power of absorbing all the primitive colours, except the peculiar one which they reflect, and of which colour they therefore appear to our eye. The different coloured rays possess very different powers of illumination. The lightest green, or deepest yellow, which are near the centre, throw more light on a printed page than any of the rays towards either side of the spectrum. The rays of the prismatic spectrum differ from one another also in their heating power, as was first noticed by Herschel. In viewing the sun, by means of large telescopes, through differently coloured darkening glasses, he sometimes experienced a strong heat, attended with very little light, and, at other times, he had a strong light with a little heat. This observation led to his well known researches upon this subject, from which he concluded that the maximum heat is just without the spectrum, beyond the red ray. Others have found the greatest heat in the red ray itself; but the recent observations of M. Seebeck have shown that the point of greatest heat was variable, according to the kind of prism which was employed for refracting the rays. When a prism of fine flint glass is used, the greatest heat is constantly beyond the red; when a prism of crown glass, the greatest heat is in the red itself. It has long been known, that the solar light is capable of producing powerful chemical changes. One of the most striking instances of it is its power of darkening the white chloride of silver—an effect which takes place slowly in the diffused light of day, but in the course of two or three minutes by exposure to the sunbeam. This effect was formerly attributed to the influence of the luminous rays; but it appears, from the observations of Ritter and Wollaston, that it is owing to the presence of certain rays, that excite neither heat nor light, and which, from their peculiar agency, are termed *chemical rays*. It is found that the greatest chemical action is excited just beyond the violet ray of the prismatic spectrum, and that the spot next in energy is occupied by the violet ray itself, and that the property gradually diminishes as we advance to the green, beyond which it seems wholly wanting. The sunbeams, in traversing a coloured glass, produce similar effects to those caused by the differently coloured portions of the spectrum. Thus the chloride of silver acquires a black tint behind a blue or violet glass, but does not blacken behind a red or orange glass; on the other hand, it becomes red behind a red glass, and that much more quickly than even in the solar spectrum. Light produced by coal and oil gases, or by olefant gas, even when concentrated so as to produce a sensible degree of heat, was found, by Mr Brande, to occasion no change in the colour of muriate of silver, nor in mixtures of chlorine and hydrogen; while the light emitted by electrized charcoal speedily affected the muriate, and caused these gases to unite, and sometimes with explosion.

The concentrated light of the moon, like that of the gases, produced no change. The importance of light to plants is well known: deprived of it, they become white, and contain an excess of saccharine and aqueous particles: and flowers owe the variety and intensity of their hues to the influence of the solar beams. Even animals require the presence of the rays of the sun, and their colours seem materially to depend upon the chemical influence of these rays. A comparison between the polar and tropical animals, and between the parts of their bodies exposed, and those not exposed to light, shows the correctness of this opinion. (For an account of the physical affections, and other chemical effects of light, see *Optics, Phosphorescence, and Polarization of Light.*)

LIGHT, ABBERRATION OF. See *Aberration.*

LIGHT, DIFFUSION OF ITS PARTICLES. See *Divisibility.*

LIGHT CAVALRY, or HORSE. See *Cavalry.*

LIGHTER; a large, open, flat-bottomed vessel, employed to carry goods to or from a ship.

LIGHTFOOT, JOHN, a learned English divine, born in Staffordshire, in 1602, and received his education at Christ-church, Cambridge. He made extraordinary advances in the Greek and Latin languages, and became curate of Norton-under-Hales. Sir Rowland Cotton made Mr Lightfoot his chaplain, and took him into his house, where he applied himself to Hebrew with singular assiduity and success. In 1629, he printed his first work, entitled *Erubhim*, or Miscellanies, Christian and Judaical, which he dedicated to Sir Rowland Cotton, who presented him to the vicarage of Ashley, in Staffordshire. Here he resided until his appointment as one of the parliamentary assembly of divines rendered it necessary for him to remove to London. He warmly pressed the speedy settlement of the church, in the presbyterian form. In 1655, he became vice-chancellor of Cambridge, and zealously promoted the Polyglot Bible. After the restoration, he was appointed one of the assistants at the Savoy conference, where he, however, attended but once or twice, giving all his attention to the completion of his *Harmony*. He died Dec. 6, 1675. The works of Dr Lightfoot, who, for rabbinical learning, has had few equals, were printed in 1684, in 2 vols., folio; and again, with additions, at Amsterdam, in 1686; and by Leusden, at Utrecht, 1699, in 3 vols. An octavo volume of his remains was also published by Strype, which contains some curious particulars of his private life.

LIGHTHOUSES were in use with the ancients. The towers of Sestos and Abydos, the colossus of Rhodes, the well-known tower on the island of Pharos, off Alexandria, are examples. Suetonius also mentions a lofty tower at Ostia, and another on the coast of Batavia, erected for the purpose of guiding the mariner by their light. In lighting a great extent of coast, it becomes necessary to provide for the distribution of the lighthouses in such a manner that they may be readily distinguished from each other, and, at the same time, so disposed as not to leave vessels without some point by which to direct their course; and, in constructing each member of the series, care should be taken to provide for a sufficient brilliancy of light, and for means of distinguishing each lighthouse from every other, as well as from other lights on shore or in ships, or in the heavens. The best constructed lighthouses, in Great Britain, are fitted up with parabolic reflectors, consisting of a circular sheet of copper, plated with silver, in the proportion of six ounces to each pound of copper, and formed into a parabolic curve, by the assistance of a gauge, by a very nice process of hammering. The reflector, thus shaped, is then polished

with the hand. An Argand lamp is placed at the focus of the paraboloidal surface, and the oil is supplied by the lamp behind. But the disadvantages of this mode are acknowledged; such as the loss of light, partly from its absorption by the reflector and partly from the collision of the rays; the imperfection of increasing the intensity of the light in dark and hazy weather; the difficulty of forming distinguishing lights, &c. The important invention of the polysional lenses, in which refraction is employed instead of reflection, seems, therefore, likely to supersede the use of reflectors. This subject is treated by Brewster (*Transactions of the Royal Society of Edinburgh*, vol. xi.), and by M. Fresnel, in a memoir read before the academy of sciences at Paris—*Sur un nouveau Système d'Eclairage des Phares* (1822)—and the imperfections of the parabolic reflector, and the superiority of the polysional lenses over others, are explained. Another important problem in the construction of distinguishing lights, so that the mariner may not be deceived in taking one light-house for another. Single and double stationary lights, or lights disposed in different forms, were first employed; revolving lights were next adopted, which appeared and disappeared at intervals, and these are sometimes exhibited double or triple. The lights may be so disposed as only to illumine the safe channel. Difference of colour is sometimes made use of as a distinction. It sometimes becomes desirable, as in hazy weather, to produce a very intense light. A plan was proposed, to effect the object, by lieutenant Drummond (*Philosophical Trans.* 1826), by directing upon a ball of chalk a quantity of an inch in diameter, three alcoholic flames by means of a stream of oxygen. The employment of gas, a lighthouses, has also been recommended.

*Floating Light* differs from the preceding, by its being erected on board a vessel, which is always moored upon a sand or shallow, to warn ships against approaching it.

A select committee of the house of commons was appointed early in the year 1834 to inquire into the present state of British lighthouses; and the following are the views of the directors as stated in their petitions to parliament, and as recorded in the minutes of the committee:—1. That all private concerns in lighthouse property should cease. 2. The exclusive appropriation to lighthouse purposes of all fish collected in name of lightmoney. 3. Collection to be limited to the amount required for lights. 4. No exemptions from payment of dues by vessels using the lights; and that steamers, coasting and fishing vessels, be taxed at less rates than other vessels. 5. Collection of the dues in the hands of government. 6. A consolidation of the boards, and a uniform scale of rates applicable to the whole United Kingdom—and 7. A reduction of expenses and rates generally. In addition to the above suggestions, the directors recommended the trial of an experiment in the hands of government to prove the merits of the lens system of illuminating lighthouses, as now extensively practiced in France, in comparison with that of parabolic reflectors, and hitherto in this country. The experiments at Col-lane Point were not such as to put this long disputed matter fully at rest. On three occasions lights were applied to the foci of individual lenses only, without the assisting apparatus of subsidiary lenses and mirrors, as described in the work of M. Fresnel. From a correspondence entered into with scientific men in this country and France, and likewise from the obvious leaning of the directors to the old system, the directors were convinced of the expediency of conducting an experiment in the hands of neutral persons; and subsequent compe-

sons between the systems which have been carried on in France have fully justified this measure. Successful experiments have likewise been made on the application of the oxy-hydrogen gas light upon quicklime, as a substitute for that at present employed in lighthouses.

**LIGHT INFANTRY** ; a name given to all foot-soldiers not intended to fight in column, or, at least, to fight chiefly as sharpshooters. They are, in some armies, the opposite to *grenadiers*. However, *light-infantry* is not a distinguishing name, according to the present organisation of armies. See *Infantry*, *Tirailleurs*, and *Grenadier*.

**LIGHTNING**. See *Electricity*.

**LIGHTNING-ROD**. See *Conductor*.

**LIGHTWOOD** ; a name given, in America, to the knots and other resinous parts of pine trees.

**LIGNE, CHARLES JOSEPH**, prince de, a brave soldier and talented author, was born at Brussels, in 1735. The prince de Ligne devoted his early years to the study of the classics and the science of war. In 1755, he entered the Austrian service, and served as captain till 1758. In 1759, he was made colonel. At the end of the war, he was stationed in the Netherlands, with the rank of major-general, and the count d'Artois invited him to the French court, where his society was generally sought, and he was admitted into the privacy of the royal family. He visited England and Italy. In 1770, he was present at the meeting of Frederic the Great with Joseph II., in Silesia. On a visit to Petersburg, he received great honours from the empress. His conduct in the Netherlands had made him very popular. He accompanied the empress Catharine to Cherson. At the commencement of the war with the Turks, he was Austrian ambassador to the Russian army; afterwards, he commanded part of the army which besieged and took Belgrade. He died Dec. 13, 1814. He has given historical accounts of several battles in which he took an active part. His knowledge, experience, activity, and acute observation, appear in his numerous writings, of which thirty volumes were published, at different periods, on a variety of subjects, in verse and prose, in the French language. Madame de Staël edited a selection from them. He gives much information on the leading persons and events of his time, in an amusing and instructive manner.

**LIGNUMVITÆ**. See *Guaiacum*.

**LIGNY, BATTLE OF**, on June 16, 1815. See *Quatrebras*, and *Waterloo*.

**LIGUORI, ALPHONSO MARIA DE**, founder of the order called *Ligorists*, or *Redemptorists*, was born at Naples, Sept. 26, 1696. He was originally a lawyer; but some unpleasant circumstances in his profession induced him to become a priest, in 1722. He soon joined the Congregation for the Propagation of the Faith, which had been instituted in Naples, and occupied himself as a missionary in the instruction of the ignorant peasantry. In 1732, he founded a monastery in the hermitage of St Mary, at Villacala (in the Principato Citra), with the approbation of the pope, the members of which were called the *Order of the most holy Redeemer*, and were to be employed in the instruction of the people. This order soon extended over both Sicilies. The first houses belonging to it were at Salerno, Coma, Nocera, and Bovino. For a long time this order, so called like the Jesuits, was unknown beyond the limits of Italy, till, in 1811, they took possession of the suppressed Carthusian monastery at Val-Saint, in the diocese of Friburg, the occupants of which (some Jansenists) had been expelled. They subsequently appeared in the Austrian dominions, and even in the papal, where they now have a rich establishment.

**Liguori** was, in 1762, appointed bishop of Santa Agata de' Gotici (in the Principato Ultra), by Clement XIII., from which office he was released by Pius VI., in 1775, at his own request, being old, sickly, and so exhausted by fasting and penance, that he was no longer able to perform the duties of his office. He retired to the chief foundation of his order, at Nocera de' Pagani, and died there, Aug. 1, 1787, at the advanced age of ninety years. Since 1816, his name has been enrolled in the Romish calendar of saints. His writings, which are of an ascetic character, have appeared, partly at Naples, and partly at Venice.

**LIGURIA**, with the Romans, was that portion of the north of Italy, extending along the Mediterranean, from the borders of France to the city of Leghorn, and bounded, on the north, by the river Po. In 1797, the aristocratic republic of Genoa received from Bonaparte a democratic constitution, under the appellation of the *Ligurian republic*. This republic ceased to exist in 1805, when the emperor incorporated it with France. Since 1814, it has formed part of the kingdom of Sardinia.

**LILAC** (*syringa*). This beautiful and familiar shrub, the ornament of our gardens, is a native of Persia and the surrounding countries. It belongs to the *diandria monogynia* of Linneus, and to the natural family *jasminea*, in which are included the olive, the privet, and the jasmine. The corolla is funnel-shaped, and divided into four segments; the leaves are opposite; and the flowers are agreeably scented, and disposed in large pyramidal racemes, of a bluish or purplish colour. It is of easy culture. Three other species of *syringa* are known.

**LILBURNE, JOHN**, a republican, during the time of Charles I. and Cromwell, was born in 1618, and placed with a clothier in London. Of a bold, unquiet, and forward temper, one of his first exploits was to summon his master before the city chamberlain for ill usage. He employed his leisure in studying the religious systems and controversies of the time; and the Book of Martyrs, in particular, inspired him with an enthusiastic passion for encountering all sorts of danger in the cause of truth. Dr Bastwick, then under star-chamber prosecution, employed him to get anti-episcopal strictures printed in Holland. On his return, he employed himself in similar occupations, but, being betrayed by an associate, he was tried before the star-chamber, where his deportment was so firm that he acquired the appellation of *free born John*. He was doomed to receive 500 lashes, and stand in the pillory, which sentence was executed, in April, 1638, with great severity. On the meeting of the long parliament, a vote passed the house of commons, pronouncing the sentence against Mr Lilburne barbarous and illegal, and that reparation should be made to him for his sufferings and losses. He then served in the parliamentary army. Dislike to the measures of Fairfax and Cromwell, induced him soon after to lay down his sword, but it was only to take up the pen against all whose political conduct offended him. Being committed to Newgate for contempt, when brought before the house of lords for a libel on the earl of Manchester, he contrived, while thus immured, to publish pamphlets in rapid succession, in which he virulently assailed his enemies, and even made a charge of high treason against Cromwell and Ireton. For this he was ordered to be tried for seditious practices; but so active and numerous were his friends among the people, that, in 1648, the house of commons thought fit to discharge him, and make an order for reparation for his sufferings. At the time of the king's death, he busied himself in drawing up a new constitution, and boldly maintained the rights of the people against the army. So dangerous did he

appear to Cromwell and his council, that he was again committed for high treason, but, being tried before a special committee, the jury boldly acquitted him. A new offence which he gave the parliament, induced that body to pass a heavy fine on him, with an order to quit the country; on which he retired to Holland, until it was dissolved, when he used all his interest to gain a passport, but, not succeeding, he ventured home without one. Being apprehended, he was again committed to Newgate, and once more tried at the Old Bailey, where he defended himself so ably that he was once more acquitted. He then settled at Eltham, in Kent, became a Quaker, and preached at the meetings of that body at Woolwich, until his death in 1657, at the early age of thirty-nine.

LILLE, COMTE DE; the name which Monsieur (comte de Provence, afterwards Louis XVIII.) adopted when he emigrated, during the life of Louis XVI. He was styled thus also by the French imperial government, and in the *Moniteur*.

LILLO, GEORGE, an English tragic poet, born 1693, in London. He was by trade a jeweller, but, notwithstanding his attention to business, he dedicated a considerable portion of his time to the cultivation of the drama. Fielding, the author of Tom Jones, himself a dramatist, and the contemporary and personal friend of Lillo, bears strong testimony to the integrity of his heart, as well as to the excellence of his social qualities. An edition of his plays was published, in 1775, by Davies, in two volumes, 12mo. The principal are George Barnwell, or the London Prentice, a tragedy founded on an incident in domestic life, said to have taken place at Camberwell (this play, till within these few years, it was always customary to represent on lord mayor's day); Fatal Curiosity, also said to be founded in fact; Arden of Feversham, which was certainly so; and Elmeric.

LILLY, JOHN, a dramatic writer, born about 1553, studied at Oxford and Cambridge. He attempted to reform and purify the English language in two fantastic productions entitled Euphuës and his England (1580), and Euphuës and his Anatomy of Wit (1581), which met with great success. A specimen of Euphuism may be seen in the character of Sir Piercie Shafton, in the Monastery of Sir Walter Scott. Lilly was also the author of a famous pamphlet against Martin Marprelate and his party, entitled Pappes with a Hatchet, published about 1589, and attributed to Nashe. See Warton's *Hist. of English Poetry*; *Ellis's Specimens*.

LILLY, WILLIAM, a famous English astrologer, born at Diseworth, in Leicestershire, in 1602, went early to London, where his necessities obliged him to article himself as servant to a mantua-maker, in St Clement Danes. In 1624, he became book-keeper to a tradesman who could not write, on whose death he married his widow, with a fortune of £1000. In 1632, he turned his attention to astrology; and he gave the public a specimen of his skill, by an assurance, in 1633, that the king had chosen an unlucky horoscope for his coronation in Scotland. About this time, he procured a manuscript copy of a book by Cornelius Agrippa, entitled *Ars notoria*, from which he imbibed the doctrine of the magic circle, and invocation of demons. In the same year, 1634, he was allowed, by the dean of Westminster, to assist David Ramsay, the king's clock-maker, in search of a hidden treasure in Westminster abbey, another associate being found in one John Scot, who pretended to understand the mystery of migers' divining rods. These three worthies accordingly made the experiment on the night appointed, and, after digging up a coffin to no purpose, they were frightened from the place by a violent storm, which Lilly, in the sequel,

attributed to demons, whom he had found means to dismiss. In 1644, he published his *Mercurius Astronomicus*, which he continued, annually, until his death. Having acquired the friendship of Balduino V. a lock, he devoted himself to the interests of the parliament, although he occasionally varied his predictions, in order the more easily to impose on the credulity of the age. In the year 1648, Lilly and Booker, another astrologer, were sent to the camp at Colchester, to encourage the soldiers by their predictions; and such was his reputation, that he was rewarded for his various services (one of which was obtaining secret intelligence from France) with a pension of £100 per annum. About this time, he was public lectures on astrology, and succeeded so well, that he was enabled to lay out £2000 in betterments at Horsham. In 1650, such was the quest of the age, he received the present of a golden chain from the king of Sweden, whom he had met with great respect in his almanac. On the execution, Lilly was taken into custody by order of parliament, as one of the depositaries of the secrets of the republicans, and examined concerning the persons who beheaded the king, when he declared that he had been informed that cornet Joyce acted as the executioner. A short time after, he sued out his pardon under the great seal, and retired to Horsham. In 1666, some of the members, suspecting him to be hieroglyphic to his almanac, that he might have something of the causes of the great fire which followed its publication, had him sent for to a committee of inquiry, when he asserted that he had certainly foreseen the event, but could say nothing as to its cause. His life, lately republished, is a very entertaining production, steering, as he does, between truth and falsehood, and seldom indulging in more of the latter than is necessary to support his character as an astrologer.

LILY; a magnificent genus of plants belongs to the *hexandria monogynia* of Linnæus. The root is a scaly bulb; the leaves simple, scattered, or verticillate; the stem herbaceous, simple, and branched at the summit, very large and elegantly fringed flowers. The corolla is campanulate, and composed of six petals, which are often reflexed at the extremity. Among the most beautiful of the species, and several of all our garden plants, are the *Albino canadensis*, or common white lily; *L. martagon*, or Turk's cap; and *L. tigrinum*—all indigenous to Europe. The best American species is the *L. superbum*, which grows in marshes, to the height of six or eight feet, bears reflexed orange flowers spotted with black, which, when numerous on the same stem, make a splendid appearance.

The lily has always held a prominent place in emblematic language. In the middle ages, and in modern times, the white lily has been the emblem of chastity. Hence the Virgin Mary is often represented with a lily in her hand, or by her side. Garçon, the sixth king of Navarre established an order of the lily in 1048, in honour of the Virgin, because his picture had been found on a lily at Naxos, the same residence. In the beginning of the fifteenth century, Ferdinand I. of Arragon founded an order of the lily or flower-pots, the knights of which wore a double chain, consisting of flower-pots filled with white lilies. The lily, or, rather, the *flor-de-lis*, as it is known, is the emblem of the Bourbons, and of many other families. The form is well known, and there are various opinions respecting the origin of the emblem. Some think that the figures originally represented the heads of halberds, which they so truly much resemble. Some take them for the leaves of the iris, which grow on the river Lée. They have even been taken for bees, or for snakes. The

were adopted, in 1179, by Louis VII. Philip-Augustus first used them on the royal seals. The settled use of three *fleurs-de-lis* began with Charles VI. When the count d'Artois, afterwards Charles X., entered France, in 1814, the lily became a party emblem. The adherents of the Bourbons wore a lily in the button-hole, suspended by a white riband. The French government subsequently distributed them with much profusion, on various occasions; as to pupils who appeared well at public examinations. After the battle of Waterloo, Louis XVIII. offered *Blucher* to give the lily to every Prussian soldier; but he declined the honour. During the revolution of 1830, the lily was not attacked, as the memory of Louis the XVIII. was respected; but when the Carlists publicly celebrated the day of baptism of the duke of Bourdeaux, the people, indignant at such a scene, destroyed the lily wherever it could be found. The government (Casimir Perrier being prime minister) ordered all the crosses and the lilies to be removed from the public edifices, &c., though it had just before been in contemplation to introduce the *fleurs-de-lis* upon the tricoloured banners.

LIMA, the capital of the republic of Peru, formerly called *Ciudad de los Reyes* (city of kings), is situated on the river Rimac, from which its present name is derived by a corrupt pronunciation, about ten miles from the Pacific ocean; lon. 77° 7' W.; lat. 12° 2' S.; population, according to Caldcleugh (*Travels in South America*), in 1824, 70,000; according to Stewart, who visited it in 1829, 50,000. It is about 700 feet above the level of the sea, and presents a beautiful appearance from Callao, its port. The entrance is by a beautiful avenue, or public walk, called the *alameda*, at the end of which was a handsome gate, now in ruins. Pizarro, in laying out the city, distributed the spaces for the houses into quarters, of 150 *carras*, or Spanish yards. The streets are broad, and uniformly intersect each other at right angles, running either from north to south or from east to west. Small streams of water, conducted from the river above the town, and arched over, contribute to its cleanliness. On the opposite side of the river, connected with the city by a bridge, is the suburb of *St. Lamasus*. In consequence of the frequency of the earthquakes by which Lima has suffered, the houses are seldom raised more than two stories, and are commonly built of wood, with flat roofs, from which construction no inconvenience arises, in a country where rain is unknown. The houses of the rich are built in a Moorish style, introduced from Spain. They consist of a square pile, of the height above-mentioned, enclosing a quadrangular court, which is surrounded with *piazas*, and sometimes contains a second, or even third inner court. The Plaza, or great square, in the centre of the city, is surrounded early with shops, and partly with public buildings, among which are the cathedral, and the government, and the vice-regal palace, in which are shown the all of assassination, where Pizarro was assassinated, and the hall of independence. The riches which have been lavished on the cathedral are almost beyond belief, any where but in a city which once paved street with ingots of silver, in honour of a new ceremony. The *cabildo*, or city-house, built in the Chinese style, the archiepiscopal palace, the mint, the palace of the inquisition (part of which is now occupied as a national museum), and the convent of the Franciscans, said to cover an eighth of the whole city, and which Mr Stewart found almost deserted, are worthy of notice. Previously to the late changes, the number of monks in Lima was reckoned at 1200, and they are now very few. There are fourteen convents for women, and a number of *casas de exercicio*, into which ladies retire for two or three weeks,

to perform various acts of pious penance. A university was founded at Lima in 1551, which obtained from the crown of Spain, the same privileges as that of Salamanca. The higher classes of the inhabitants are generally well educated, and the women are celebrated for their vivacity and beauty. Both sexes smoke; and this practice is excused, under the pretence that it is rendered necessary by the mists and drizzle (called, by sailors, *Peruvian dew*), which prevail at certain seasons. The manners of the people are so loose as to be proverbial in that part of the world. Music, bull-fights, and cards are the principal amusements; dancing, which is a favourite in many of the southern republics, not being popular with the Limanians. The Spaniards of Lima are at present almost all Creoles, the Chapetones, or European Spaniards, having left the country during the troubles. In 1824, there were 15,000 slaves in the city; but the new Peruvian constitution of 1828 abolished slavery. Lima has been repeatedly laid in ruins by earthquakes, more than twenty of which it has experienced since 1582. The most destructive were those in 1586, 1630, 1665, 1678, when a great part of the city was totally destroyed; those in 1687, 1746, when not more than twenty houses out of 3000 were left standing, and of twenty-three ships in the harbour of Callao, nineteen were sunk; those in 1764, 1822, and 1828, the two latter of which were very destructive. For the political events of which Lima has recently been the theatre, see *La Mar*, and *Peru*.

LIMB; the outermost border, or graduated edge of a quadrant, astrolabe, or such like mathematical instrument. The word is also used for the arch of the primitive circle, in any projection of the sphere *in plano*. *Limb* also signifies the outermost border or edge of the sun and moon; as the upper limb or edge, the lower limb, the preceding limb, or side, the following limb.

LIMBO (from the Latin *limbus*, edge, border) signifies, in the Roman Catholic theology, the place on the borders of hell, where the patriarchs remained, until the advent of Christ, who, before his resurrection, appeared to them, and opened the doors of heaven for them. It is not a dogma of the church, but is universally adopted by the Roman Catholics. The word *limbus* is neither found in the Bible, nor in the ancient fathers of the church; yet, as St Paul says that Christ descended to the lower parts of the earth (*Ephes.*, c. 4, v. 9), it is concluded that good and bad were there; and as the parable of the rich man says, that, between Abraham and Lazarus and the rich man, a great gulf was fixed, it is concluded that the good in those regions were not only not tormented, but were separated from the wicked. This *limbo* is called *limbus patrum*. Some theologians adopt a *limbus infantum*, where those infants, who died without being baptized, go; but those who follow St Augustine do not allow this separation of them from the damned, though they do not believe that they are tormented like the latter. It is not known when the word *limbus* first came into use; but, as *inferi* (hell) seemed to convey the idea of eternal damnation as a punishment, a milder term was adopted. Dante, in his great poem, allows the virtuous heathens to dwell in the *limbus*: thus he finds Socrates there.

*Limbo*, figuratively, means any place of confinement or restraint. Milton's *limbo*—"large and round, since called the paradise of fools, to few unknown"—is borrowed from the *limbus* of the scholastic theologians, and Ariosto's receptacle of lost things.

LIMBURG; the name of several places and provinces, of which we shall only mention the province

of the Netherlands, containing 1,600 square miles, and 293,000 inhabitants, chiefly Catholics. The Walloon, Flemish, Dutch, and German languages are spoken. The principal river is the Meuse. Maastricht is the capital. The celebrated Limburg cheese is made at Limburg, a place in the circle of Verviers, province of Liege.

**LIME**, or **LINDEN** (*tilia*). The species of linden are large trees, with alternate, simple, and cordate leaves, and flowers disposed on a common peduncle, which is inserted in the middle of a foliaceous bract. The American lime, or bass-wood, is a large and beautiful tree, inhabiting Canada and the northern parts of the Union, and very abundant on the borders of lakes Erie and Ontario. The leaves are cordate, acuminate, serrate, and smooth. The flowers are yellowish, supported on long, pendulous peduncles, and add much to the beauty of the tree. The wood is white and soft, and is used for a few unimportant purposes. The wood of the European lime, though light and soft, is smooth, close-grained, and much used by carvers and turners. It is in great demand for the boards of leather-cutters, and makes excellent charcoal for gunpowder, and for painters. In some countries, the fibrous, inner bark is separated by soaking in water, and manufactured into fishing-nets, mats, shoes, and clothing; and the cordage made from it is said to be remarkably strong and elastic. The wood is sometimes cut into thin strips, and used in the manufacture of chip hats, which resemble those made of straw.

**LIME**. This earth, well known in its most important properties, from the remotest antiquity, exists in great abundance in nature. In treating of it in the present article, we shall first describe its chemical properties, and afterwards speak of its natural combinations with the acids, or of the minerals to which it gives rise. Lime is obtained with most facility from the native carbonate, from which, by a strong heat, the carbonic acid may be expelled. This process is conducted on a large scale with the different varieties of limestone, which are calcined or burned, in order to obtain the caustic earth, or *quicklime*, as it is called. The lime thus obtained, however, is rarely pure enough for chemical purposes. The chemist, therefore, when he would obtain a very perfect article, calcines transparent crystals of carbonate of lime, or prepares it from solution, in the following manner. Marble or chalk is dissolved in diluted muriatic acid, leaving an excess of lime undissolved; ammonia is added, which precipitates any alumine or magnesia. The filtered solution is then decomposed by carbonate of potash, and the carbonate of lime, being washed with water and dried, is decomposed by a strong heat. The lime thus obtained is a soft, white substance, of the specific gravity of 2.3. It requires an intense degree of heat for its fusion, which is effected only by the galvanic current, by the compound blowpipe, or by a stream of oxygen gas, directed through the flame of an alcohol lamp. The light it emits, during fusion, is the strongest the chemist can produce; and it has, accordingly, been employed for a signal light, and for facilitating the observation of distant stations, in geodetical operations. Its taste is caustic, astringent and alkaline. It is soluble in 450 parts of water, according to Sir H. Davy; and in 760 parts according to other chemists. The solubility is not increased by heat. If a little water only be sprinkled on new-burned lime, it is rapidly absorbed, with the evolution of much heat and vapour. This constitutes the phenomenon of slacking. The heat proceeds from the consolidation of the liquid water into the lime, forming a *hydrate*, as slacked lime is now called. It is a compound of 3.5 parts of lime with 1.25 of water,

or very nearly 3 to 1. The water may be expelled by a red heat.

Lime-water is astringent, and somewhat acid to the taste. It renders vegetable blues green; the yellow, brown; and restores to reddened limes its usual purple colour. When lime-water stands exposed to the air, it gradually attracts carbonic acid and becomes an insoluble carbonate, while the water remains pure. If lime-water be placed in a capsule under an exhausted receiver, which also contains a saucer of concentrated sulphuric acid, the water will be gradually withdrawn from the lime, which will concrete into small six-sided prisms. Lime, submitted to the action of galvanism, in high intensity, afforded Sir H. Davy satisfactory evidence of a compound nature. It was discovered, in common with the other earths, to consist of a metallic base, which he denominated *calcium*, and oxygen. The oxides was obtained, in these experiments, in the form of an amalgamation with mercury. On exposing the amalgam to the air or to water, oxygen was absorbed, and lime re-produced. In an experiment devised to obtain the base in an insulated state, by distilling quicksilver from it, the tube broke while warm, at the moment that the air entered, the metal which had the colour and lustre of silver, took fire, and burnt with an intense white light. Lime, as we have supposed, combined with sulphur and with phosphorus; but it rather appears that it is in lime or that unites with these inflammables. The substance of calcium is formed by heating sulphur with lime in a covered crucible. It is of a reddish-yellow colour. When thrown into water, mutual decomposition takes place, and a sulphureted hydro-sulphuret, of a green colour, with a fetid odour, is produced. Phosphuret of calcium, or phosphuret of lime, as it has usually been called, is obtained in the following manner: a few pieces of phosphorus are placed at the bottom of a glass tube, which is then filled with small pieces of lime. The part of the tube where the lime is heated red-hot; and the phosphores is then sublimed by heat. Its vapour, passing over the lime, decomposes it, and a reddish coloured phosphuret of calcium is formed. This substance is remarkable for decomposing water, whenever it is dropped into it, causing an immediate production of phosphureted hydrogen, which takes fire at the surface of the water. The lime is heated strongly in contact with chlorine, oxygen is expelled, and the chlorine is absorbed. For every two parts in volume of chlorine that disappear one of oxygen is obtained. When liquid water and lime is evaporated to dryness, and ignited, a firm, white substance, which is the chloride of calcium, is a semi-transparent, crystalline substance; fuses at a strong red heat; a non-conductor of electricity; has a very bitter taste; rapidly absorbs water from the atmosphere, and is hence often employed in chemical experiments, to deprive gases of any hygrometric vapour existing in them.

Chlorine also combines directly with lime, forming the very important substance used in bleaching, formerly under the name of *arymaria* of lime, but at present, and more correctly, called *chloride of lime*. It is formed by passing chlorine gas over slacked lime. A great variety of apparatus has been, at different times, contrived for favouring the combination of chlorine with slacked lime, for the purposes of commerce. In the opinion of Dr. Lavoisier, the following particular attention to this combination, is the best: It consists of a large chamber, eight or nine feet high, built of subversive masonry, having the joints of the masonry secured with a cement composed of pitch, resin and dry gypsum in equal parts. A door is fitted into it at one end,

which can be made air-tight by strips of cloth and clay lute. A window in each side enables the operator to judge how the impregnation goes on, by the colour of the air, and also gives light for making the arrangements within at the commencement of the process. As water lutes are incomparably superior to all others, where the pneumatic pressure is small, a large valve, or door, on this principle, is recommended to be made in the roof, and two tunnels, of considerable width, at the bottom of each side wall. The apartment would thus be ventilated, without the necessity of the workmen approaching the deleterious gas. A great number of wooden shelves, or rather trays, eight or ten feet long, two feet broad, and one inch deep, are provided to receive the sifted slacked lime, containing, generally, about two atoms of lime to three of water. These shelves are piled one over another in the chamber, to the height of five or six feet, cross-bars below each keeping them about an inch asunder, that the gas may have free room to circulate over the surface of the powder. The alembics for generating the chlorine, which are usually nearly spherical, are, in some cases, made entirely of lead; in others, of two hemispheres, joined together in the middle, the upper hemisphere being lead, the under one cast-iron. The first kind of alembic is enclosed, for two thirds from its bottom, in a leaden or iron case, the interval of two inches between the two being destined to receive steam from an adjoining boiler. Those which consist below of cast-iron have their bottom directly exposed to a very gentle fire. Round the outer edge of the iron hemisphere a groove is cast, into which the under edge of the leaden hemisphere fits, the joint being rendered air-tight by Roman or patent cement—a mixture of lime, clay and oxide of iron, separately calcined and reduced to a fine powder. It must be kept in close vessels, and mixed with the requisite water when used. In this leaden dome, there are four apertures, each secured by a water-lute. The first opening is about ten or twelve inches square, and is shut with a leaden valve, with incurved edges, that fit in the water channel, at the margin of the hole. It is destined for the admission of a workman to rectify any derangement in the apparatus of rotation, or to detach hard concretions of salt from the bottom. The second aperture is in the centre of the top. Here a tube of lead is fixed, which descends nearly to the bottom, and down through which the vertical axis passes, to whose lower end the cross-bars of iron or of wood, sheathed with lead, are attached; by whose revolution the materials receive the proper agitation for mixing the dense manganese with the sulphuric acid and salt. The motion is communicated either by the hand of a workman, applied from time to time to a winch at top, or it is given by connecting the axis with wheel-work, impelled by a stream of water or a steam-engine. The third opening admits the siphon-formed funnel, through which the sulphuric acid is introduced; and the fourth is the orifice of the education pipe. The proportion of the materials for generating the chlorine is as follows: 10 cwt. of salt are mixed with from 10 to 14 cwt. of manganese; to which mixture, after its introduction into the alembic, from 2 to 14 of sulphuric acid are added, in successive portions; that quantity of acid must, however, be previously diluted with water, till its specific gravity becomes about 1.65. The education pipes from all the alembics terminate in a leaden chest, or cylinder, with which they are connected by water-lutes, having a hydrostatic pressure of two or three inches. In this general *diversorium*, the chlorine is washed from adhering muriatic acid, by passing through a little water; and, from this reservoir, the gas is conducted off by one general pipe, and delivered into

the top of the chamber containing the lime, where, in consequence of its gravity, it diffuses itself equally over powder spread out upon the shelves. Four days are required for making good marketable bleaching-powder. The manufacturer generally expects from one ton of rock salt, employed as above, a ton and a half of good bleaching-powder. In using the chloride of lime for bleaching, the coloured cloth is first steeped in warm water, to clean it, and it is then repeatedly washed with a solution of caustic potash, so diluted that it cannot injure the texture of the cloth, and which solution is thrown upon it by a pump. The cloth is then washed and steeped in a very weak solution of the bleaching-powder; again washed, acted on by a boiling ley, as before, and again steeped in the solution; and these operations are performed alternately several times. The cloth is, lastly, immersed in very dilute sulphuric acid, which gives it a pure white colour; after which it is washed and dried. The chlorine is known to decompose water, whose hydrogen forms with it muriatic acid, which is always found in the solution (after the process) when liquid chlorine is used, and a muriate, when a chloride is employed. In a similar manner, it is believed to decompose the colouring matter, one of whose elements is always hydrogen; and, its composition being thus subverted, it disappears from the fabric with which it existed. Still more important is the use of the chloride of lime in counteracting contagion, and all noxious effluvia. MM. Orfila, Lescure, Gerdy, and Hennelle, having to examine the body of an individual who was supposed to have been poisoned, and who had been dead for nearly a month, found the smell so insupportable, that they were induced to try the application of the chloride of lime, as recommended by M. Labarraque. A solution of this substance was frequently sprinkled over the body, and produced the effect of destroying, after a few aspersions, every unpleasant odour. It was afterwards used in a still more desperate case, in clearing some offensive drains in Paris, with perfect success. It was also found to be the best and most durable means of disinfecting hospitals, &c. In such cases, the powder is so exposed to the infected region as to offer the greatest amount of surface, in order that the carbonic acid of the contagious atmosphere may expel the chlorine from the chloride of lime, which it does by combining with it to form carbonate of lime. A very convenient method of applying it to ordinary apartments, which we are desirous to free from unwholesome effluvia, is to diffuse about four ounces of the powder through five gallons of water, and sprinkle it over the floor by means of a water-pot.

Lime combines with the acids, neutralizing the acid properties. Its salts are, in general, decomposed by potash or soda, which precipitate the lime, but not by ammonia. Oxalic acid throws down lime from all the other acids; and, this compound being quite insoluble, oxalic acid forms the most delicate test of the presence of lime.

*Carbonate of lime* may be formed by adding carbonic acid to limewater, or by decomposing any of the soluble salts of lime by any of the alkaline carbonates. It is very sparingly soluble in water. Hence lime-water is an excellent test of the presence of carbonic acid. By an excess of carbonic acid, carbonate of lime is rendered soluble. When exposed to heat, it first loses what water it contains, and, if transparent and hard, becomes white, opaque, and friable. If the heat be augmented, the carbonic acid is expelled, and quick-lime remains. The experiments of Sir J. Hall have proved that if carbonate of lime be heated under

strong pressure, so as to prevent the escape of the carbonic acid, it may be melted at a temperature even not higher than  $220^{\circ}$  of Wedgwood's scale. By this fusion, it acquires considerable hardness and closeness of texture, approaching, in these qualities, as well as in fracture and specific gravity, to the finer kinds of marble. The acids expel the carbonic acid with effervescence; and this property of effervescing strongly, on the contact of an acid, affords a discriminating character of this salt. Carbonate of lime abounds in nature.

*Nitrate* of lime may be formed by dissolving lime, or its carbonate, in dilute nitric acid. The solution, on evaporation, affords deliquescent, prismatic crystals, soluble in less than an equal weight of water, at the temperature of  $60^{\circ}$ , and in still less of boiling water. On being heated, it becomes phosphorescent, and retains this property when cold, forming *Baldwin's solar phosphorus*. It forms naturally in the plaster of old buildings.

*Sulphate* of lime is formed by adding lime to dilute sulphuric acid. It requires about 500 times its weight of water, at  $60^{\circ}$ , for its solution. At the temperature of  $212^{\circ}$ , it is more soluble, and this latter solution, on cooling, deposits minute crystals. Exposed to heat, it appears to effervesce, or boil, owing to the expulsion of its water; and, at the same time, becomes opaque, and falls into a white powder which, on being diffused in water, speedily consolidates from a species of irregular crystallization. Sulphate of lime is one of the most abundant minerals in nature.

*Phosphate* of lime may be formed by decomposing the solution of an alkaline phosphate by muriate of lime. It is a white, insoluble powder, which is imperfectly vitrified by a very intense heat. It exists in the mineral kingdom, under different forms, and constitutes eighty-six per cent. of the bones of animals.

*Muriate* of lime is obtained by dissolving carbonate of lime in muriatic acid. It is extremely soluble in water, the water taking up so much of it as to become of a thick consistence.

*Lime in Agriculture.* Quicklime, in its pure state, whether in powder, or dissolved in water, is injurious to plants. Grass is killed by watering it with lime-water. But lime, in its state of combination with carbonic acid, is a useful ingredient in soils. When lime, whether freshly burned or slacked, is mixed with any moist, fibrous, vegetable matter, there is a strong action between the lime and the vegetable matter, and they form a kind of compost together, of which a part is usually soluble in water. By this means, matter which was, before, comparatively inert, becomes nutritive; and, as charcoal and oxygen abound in all vegetable matters, the lime becomes converted into a carbonate. Mild lime, powdered limestone, marls, or chalks, have no action of this kind upon vegetable matter; by their action they prevent the too rapid decomposition of substances already dissolved; but they have no tendency to form soluble matter. From these circumstances, it is obvious, that the operation of quicklime and marl or chalk, depends upon principles altogether different. Quicklime, in the act of becoming mild, prepares soluble out of insoluble matter. It is upon this circumstance that the operation of lime, in the preparation of wheat crops, depends, and its efficacy in fertilizing peats, and in bringing into a state of cultivation all soils abounding in hard roots, or dry fibres or inert vegetable matter. The solution of the question, whether quicklime ought to be applied to a soil, depends upon the quantity of inert vegetable matter it contains. The solution of the question, whether marl, mild lime, or powdered limestone, ought to be applied, depends upon the quantity of calcareous matter already in the soil. All soils are improved

by mild lime, and, ultimately, by quicklime, who do not effervesce with acids; and some are benefited by it than clays. When a soil, deficient in calcareous matter, contains much soluble, vegetable manure, the application of quicklime should also be avoided, as it either tends to decompose the soluble matters by uniting to their carbon and oxygen so as to become mild lime; or it combines with the soluble matters, and forms compounds having an attraction for water than the pure vegetable substance. The case is the same with respect to animal manures; but the operation of the lime is different, in different cases, and depends upon the nature of the animal matter. Lime forms a kind of insoluble soap with oily matters, and then gradually decomposes them by separating from them carbon and carbon. It combines, likewise, with the mineral acids, and probably assists their decomposition, abstracting carbonaceous matter from them, combined with oxygen; and consequently, it must even them less nutritive. It tends to diminish, however, the nutritive powers of albumen, from the causes, and always destroys, to a certain extent, the efficacy of animal manures, either by combining with certain of their elements, or by giving to them other arrangements. Lime should never be applied to animal manures, unless they are too rich, or for the purpose of preventing noxious effluvia. It is especially dangerous when mixed with any common dung, tending to render the extractive matter insoluble. In some cases in which fermentation is useful to produce nutriment from vegetable substances, lime is very efficacious, as with tanners' bark. For the use of lime in building, see *Mortar*. Lime is much used by tanners, skinnners, &c., in the preparation of leather; by soap-boilers, for dissolving the oils, facilitating its union with the alkaline matter; and by sugar-bakers, for refining their sugar. It is also of some medicinal use, being applied externally as a siccative and epulotic medicine.

*Native Salts of Lime, or Calcareous Minerals.* Of these, the first deserving of mention is the *nitrate of lime*, limestone, or *rhombohedral limestone*. This species, in mineralogy, is one which, from its distribution, and the immense masses in which it frequently occurs, constitutes an important part of geology. Its mineralogical character may be expressed as follows: Fundamental or primary; an oblique rhomboid of  $105^{\circ} 5'$  and  $74^{\circ} 55'$ ; seven crystals (of which above 600 are, at present, known) are some variety of the rhomboid, the six-sided pyramid, or of a double six-sided pyramid, all of which are the primitive rhomboid, by cleavage, with the perfect facility. No species in mineralogy is so interesting to the crystallographer as the *nitrate of lime*. To it we owe our first correct ideas of the structure of crystals, and the best theory of crystallization which has ever been suggested. It is vitreous; prevalent colour white, also different shades of gray, red, green, and yellow, and dark brown and black colours, from foreign admixtures. It is grayish-white; transparent to translucent; its refraction very considerable and easily observed; brittle; hardness such as to admit of being cut with the knife; specific gravity 2.2. The crystals occurring in distinct crystals, it exists in the titic, botryoidal, and fruticose shapes, with smooth, uneven, drusy, rough or smooth; and composed of columnar, more or less distinct, straight, divergent, and of various sizes. Stalactitic and botryoidal varieties are often composed, a second time, of small lamellar particles, conformably to the surface of imitative shape, the faces of composition being smooth and rough, or irregularly striated in a single direction. It also occurs massive, the crystals

being either columnar, in which the individuals are straight, parallel, or diverging, and often of remarkable delicacy; or the composition is granular, the individuals being of various sizes, and even impalpable. The individuals, in these varieties, cohere more or less firmly. If the composition be impalpable, the fracture becomes splintery, uneven, flat, conchoidal, or even; on a large scale, it is sometimes scaly. The fracture is earthy in those varieties in which the individuals cohere but slightly. The breaking up of this species into sub-species and varieties, which was practised by the older writers on mineralogy, and which has left us numerous particular denominations, and no little confusion, requires notice in this place. These distinctions, it will be seen, depended chiefly upon the mode of composition, and upon admixtures and impurities with which the individuals have been affected during their formation. Of these, *limestone* represents the greater part of the pure varieties of the species. The simple varieties, and those compound ones in which the individuals are of considerable size, and easily cleavable, have been called *calcareous spar*; compound varieties of granular, still discernible individuals, are *granular limestone*; both comprehended under the head of *foliated limestone*. If the granular composition disappear, *compact limestone* is formed, under which denomination the *oolite*, or *roestone*, was comprehended. The roundish grains, however, of the latter, consist of columnar individuals, disposed like the radii of a sphere, and frequently showing distinct traces of cleavage. *Common fibrous limestone* is produced by columnar composition, in massive varieties; the *fibrous calcisinter*, by the same, but appearing in various imitative shapes. *Peastone*, or *pisolite*, consists of diverging columnar individuals, collected into curved lamellar ones, forming globular masses, which are again agglutinated by a calcareous cement. Each of the globules, generally, contains a fragment of some heterogeneous matter, as quartz, granite, &c. Compact limestone passes into *chalk*, when the individuals are more loosely connected with each other, so that the whole assumes an earthy appearance; and *rock milk*, or *agaric mineral*, is formed, if the mass contains so many interstices that it seems to possess but a small degree of specific gravity. *Calcareous tufa*, a recent deposit, formed on the surface of the earth, is often cleavable, and thus possesses all the properties of calcareous spar. *Slate spar* is produced by a lamellar composition, in massive varieties, and often exhibits a pearly lustre. *Swinestone*, *anthracolite*, *marl*, and *bituminous marble* are impure and mixed varieties, partly of calcareous spar, partly of compact limestone. The pure varieties of rhomboidal limestone consist of lime, 56, and carbonic acid, 43. Very often, the varieties contain variable proportions of oxide of iron, silica, magnesia, alumine, carbon, or bitumen. If pure, it is entirely soluble in nitric acid, during which a brisk effervescence takes place. In the common fire, it is infusible, but loses its carbonic acid, and becomes burned, or quicklime. Limestone rarely enters into the composition of rocks: in most cases, the more considerable masses of it form particular beds in other rocks, or constitute rocks themselves; the latter consist chiefly, though not exclusively, of compact limestone; the former of granular limestone. The simple varieties occur in drusy cavities, more frequently in veins than in beds, accompanied with the varieties of different species. Calcareous tufa and rock-milk, being of a sintery formation, occur upon the surface, and in fissures of limestone rocks. Stalactitic and pisiform varieties are produced by calcareous springs and other waters. The mixed, or impure varieties occur in particular strata,

between those of compound varieties of other species. It very often occurs in petrifications, imbedded in compact varieties of the same species. Rhomboidal limestone, as has already been remarked, is a species very widely diffused in nature; several of its varieties have a considerable share in the constitution of mountains, in many countries. This is particularly true in Switzerland, Italy, Carniola, Carinthia, Salzburg, Stiria, Austria and Bavaria, and in several parts of America. Of crystallized varieties, the most remarkable occur in Derbyshire and Cumberland, in the mining districts of Saxony and Bohemia, in the Harz, in Carinthia, Stiria, Hungary and France, and, in the United States, at Lockport in New York, forming geodes in compact limestone. Iceland is the locality of the purest and most transparent varieties, from whence come the best pieces of the doubly-refracting spar. The crystallized sandstone of Fontainebleau, in France, is a variety of rhomboidal limestone, mechanically mixed with sand. Slate-spar occurs in Saxony, Norway and Cornwall. Pisolite is found in Carniola, and at Carlsbad in Bohemia. Most of the varieties are so common as to render the mention of their localities unnecessary. Several varieties of the present species are usefully employed for various purposes, partly depending upon their mechanical, partly upon their chemical composition. Those used in sculpture and in ornamental architecture, are called *marble*; the more common or coarse varieties are used for the common purpose of building; a peculiar variety of very fine-grained compact limestone is used for plates in lithography. The best sort is found near Pappenheim and Sohlenhofen, in Bavaria. Quicklime mixed with sand and water forms mortar. Carbonic acid, for chemical purposes, is often obtained from chalk or marble powder. It is also a valuable addition in several processes of melting ores, and in producing certain kinds of glass. There is another species, in mineralogy, called *Arragonite*, which was formerly confounded with that just described. In composition, it is scarcely distinguished from rhomboidal limestone, the most accurate analysis having been unable to make known more than from 5 to 4.1 of carbonate of strontites in its composition, besides carbonate of lime. Its crystallization, and other characters, however, sufficiently characterize it as distinct from limestone. It occurs in crystals, which, at first sight, appear to be regular six-sided prisms; but a close inspection will discover a longitudinal crevice down each lateral face, and somewhat similar appearances converging in the centre of the terminal planes. It also occurs in prismatic crystals, of four or six sides, terminated by planes; the prisms often being so short as to impart to the crystal the general form of an octahedron; these are rarely separate, but mostly cross each other at particular angles. Its crystals yield to mechanical division, parallel to the lateral planes of a right rhombic prism of  $116^{\circ} 5'$  and  $63^{\circ} 55'$ , by measurement taken with the reflective goniometer, on cleavage planes. Lustre vitreous, inclining to resinous, upon faces of fracture; colour white, sometimes passing into gray, yellow, or mountain green; transparent or translucent; brittle; hardness such as to scratch calcareous spar; specific gravity, 2.93. It is very liable to occur in globular, reniform, and coralloidal shapes, and massive, with a columnar composition. Imbedded crystals, generally twins, or consisting of a greater number of individuals, are found in compound varieties of gypsum, mixed and coloured with oxide of iron, accompanied with crystals of ferruginous quartz. Other varieties occur in the cavities of basalt and other trap rocks, in lavas, also in irregular beds and veins. It is found in beds of iron ores, in those coralloidal

varieties which have been called *floc-ferri*; also massive and crystallized. The first, though they occur in cavities and fissures, are not products of a stalactitic formation. The most beautiful crystals, well defined and transparent, occur near Bilin, in Bohemia, in a vein traversing basalt, and filled with a massive variety of the same species, consisting of large columnar particles of composition. The varieties imbedded in gypsum have been found in the kingdom of Arragon, in Spain, from whence the name *Arragonite* has been derived. Its chief localities are the iron mines of Stiria, Carinthia and Hungary, and the metallic veins of the Pyrenees and Great Britain.

*Sulphate of lime, or gypsum*, is a mineral little less extensively diffused than limestone, forming immense beds and veins, in numerous countries. It presents us with a very considerable diversity of crystals, which have, for their primary form, a right-oblique-angled prism, of which the bases are oblique-angled parallelograms of  $113^{\circ} 8'$  and  $65^{\circ} 52'$ . The crystals are either prismatic or lens-shaped, in their general aspect. Lustre vitreous, inclining to pearly; colour white, sometimes inclining and passing into small blue, flesh-red, ochre-yellow, honey-yellow, and several shades of gray. Impure varieties assume dark gray, brick-red, and brownish-red tinges. Transparent or translucent; sectile; specific gravity, 2.31. It occurs massive, in globular masses, in which the individuals are discernible; also granular, passing into impalpable. Those varieties of sulphate of lime which are pure, transparent, and perfectly formed, were formerly called *selenite*, while the more massive and impure varieties were denominated *gypsum*. The latter was again divided into several sub-species, comprehending, almost exclusively, compound varieties, which were easily distinguishable from each other, as their division depended upon the size of the grain, or composition in general. Thus *foliated gypsum* consists of discernible granular particles; *compact gypsum*, of impalpable particles of composition; *scaly foliated gypsum* consists of minute scaly particles; *earthy gypsum*, of a mealy powder; very thin columnar composition produces *fibrous gypsum*. Before the blowpipe, gypsum exfoliates and melts, though with difficulty, into a white enamel, which, after a short time, falls to powder. In a lower degree of heat, it loses its water, and becomes friable, so as to be easily reduced to an impalpable powder. If mixed with water, this powder becomes warm, and soon hardens into a solid mass. It is composed of lime, 33.0, sulphuric acid, 44.8, and water, 21.0. The massive varieties of this species occur in beds, of a considerable thickness, in secondary districts, in connexion with compact limestone, different kinds of sandstone and clay, in alternating layers, in the latter of which the gypsum sometimes exists in imbedded masses, or crystalline groups. It is not rare to find deposits of rock-salt in its vicinity; and brine springs very often issue from the contiguous rocks. Of the organic remains found in gypsum, those of extinct species of terrestrial quadrupeds, in the Montmartre, near Paris, are the most remarkable. It occurs in a great many countries, particularly in Germany, Switzerland, Austria, Poland, Britain, France and Spain; in North America, in the United States, at Niagara falls, Lockport, and particularly in the vicinity of Cayuga lake; and in New Brunswick and Nova Scotia. Gypsum is variously employed in manufacturing artificial marble, stucco-work, mortar, &c.; also for making casts of statues, medals, &c. It is added to the mass of certain kinds of porcelain and glass. In sculpture, it is used under the name of *ambuster*. But next to its use in the formation of

cements, is the use which is made of it in agriculture. It appears to have been first used as a manure in Germany, and afterwards in France. It was formerly calcined, but is now ground in mills, after the manner of grain. It is particularly adapted to sandy soils and grass lands. Another species of the same composition with the gypsum, except the water, is called *anhydrite* (q. v.). It is of comparatively rare occurrence.

*Phosphate of lime, or apatite*, is found crystallized in six-sided prisms, terminated by one or more planes, or the prism is terminated by a six-sided pyramid, and the lateral edges are sometimes replaced by numerous planes. It yields with difficulty to cleavage, parallel to the side of a regular six-sided prism, which is therefore considered as its primitive form. Lustre vitreous, inclining to resinous; colour white, passing into blue, green, yellow, red, and brown; transparent or translucent; brittle; hardness above that of fluor; specific gravity, 3.22. It also occurs massive. When in fine powder, it is easily dissolved in nitric acid, and without effervescence. Some varieties are phosphorescent upon ignited charcoal, and before the blowpipe; others even when rubbed with hard bodies. It does not melt alone, before the blowpipe. It is composed of lime, 56.4, and phosphoric acid, 45.0. It usually occurs in beds and veins of iron and tin ores. Its principal localities are Saxony, Bohemia, Salzburg and Cato de Gata, in Spain; from which latter place very beautifully crystallized specimens are obtained, and which have received, from their colour, the name of *apategus stone*. It is also found at St Gothard, and in Devonshire and Cornwall.

*Fluate of lime*. See *Fluor*.

*Tungstate of lime, or tungsten* occurs massive and crystallized in the form of an octahedron with a square base. Lustre vitreous, inclining to adamantine; colour generally white, inclining to yellowish-gray; translucent or transparent; brittle; hardness that of fluor; specific gravity, 6; infusible before the blowpipe. It consists of lime, 19.40, oxide of tungsten, 80.42. It is found in Bohemia, Saxony and Cornwall.

*Borate of lime*. See *Borac* Acid.

*Arseniate of lime, or pharmacolite*, is a very rare species in mineralogy, found in small quantity at Andreasburg, in the Harz, and at one or two other places in Europe. It occurs in minute fibrous, or acicular crystals, which are commonly aggregated into botryoidal or globular masses. Its colour is white, or grayish-white, though often tinged of a violet-red, by arseniate of cobalt, which accompanies it. Specific gravity, 2.6. It consists of lime, 28, arsenic acid, 50.54, and water, 24.46.

LIMERICK; one of the six counties included with in the province of Munster, Ireland. It is bounded on the north by the river Shannon; on the south by the county of Cork; on the east by Tipperary, and on the west by Kerry. It is 51 miles from north to south, and 32 from east to west. The county owes to a considerable extent wheat, barley, corn, rape, and hemp.

LIMERICK, the capital of the above county is situated on the Shannon, 119 miles S.W. of Dublin and 63 N.W. of Cork. The principal public buildings are the custom-house, the cathedral, and the bishop's palace. The cathedral is of great antiquity. There are several charitable establishments, also a good public library, and a theatre. It contains four Protestant churches, and eight chapels for the Roman Catholics. There is also an extensive hospital for twenty-two companies of foot and four troops of horse. Limerick carries on manufactures of linen, woollen and paper. It was taken by the English in 1702. In 1661, it was taken by Ireton. In 1690 it was

unsuccessfully besieged by king William in person. In 1691, it surrendered to general Ginkle, afterwards earl of Athlone. Population, from 50,000 to 60,000, in which are 5000 Protestants.

LIMIT, in a restrained sense, is used by mathematicians for a determinate quantity, to which a variable one continually approaches; in which sense, the circle may be said to be the *limit* of its circumscribed and inscribed polygons. In algebra, the term *limit* is applied to two quantities, one of which is greater, and the other less, than another quantity; and, in this sense, it is used in speaking of the limits of equations, whereby their solution is much facilitated.

LIMING (from *entluminer*, French, to adorn books with paintings). As these paintings or illuminations were always executed in water-colours, *liming* properly designates that species of art which is now known by the name of *miniature painting*, though it is sometimes used to signify the art of painting generally, and particularly portrait painting.

LIMOGES (*Augustoritum*, or *Lemovicum*); a city of France, capital of the department of the Haute-Vienne, and formerly of the province of Limousin; lat. 45° 50' N.; lon. 1° 16' E.; episcopal see; 25,612 inhabitants. It is an ancient place, and contains some Gaulish and Roman remains. The *hôtel de ville*, cathedral, and episcopal palace, are the principal public buildings. It is also the seat of several literary establishments, and has woollen, linen and cotton manufactures, with paper works, tanneries and iron forges. Several fairs are held here. Birth-place of the chancellor D'Aguesseau.

LIMONADE; a place and plantation in Hayti, very rich in sugar. It was elevated to a lordship by king Christophe, and bestowed upon his minister for foreign affairs, whom he made count de Limonade. With the death of Christophe, the count de Limonade returned to obscurity. Though ridiculed by whites, on account of his title, he showed talents in the conduct of his office. It is not true that Christophe killed him in 1817, as has been said.

LIMONADIÈRE; a very essential personage in a French *café*. See *Coffee-Houses*, under *Coffee*.

LIMOUSIN, or LIMOSIN; an ancient province in the centre of France. Limoges was the capital. It forms at present the chief part of the departments of Haute-Vienne and of Corrèze. See *Department*.

LINCOLN, (the *Lindum Colonia* of the Romans), an ancient and once distinguished city of England, situated 132 miles N. W. from London. It is the capital of the county to which it gives name, but under a separate jurisdiction, as forming with the surrounding district a distinct county, between the parts of Lindsey and Kesteven. It occupies the summit and side of a hill, at the base of which flows the river Witham, in three channels, crossed by several bridges; and from the level nature of the surrounding country, its buildings, and especially the cathedral church, are advantageously seen in several directions at a considerable distance. Lincoln was at one time a place of great ecclesiastical importance; but of its fifty churches, eleven only, besides the cathedral, remain. The cathedral, a magnificent structure, is still in good preservation; but of the castle, built by William I., only a few ruins remain. Lincoln has an extensive trade in corn and wool. Population in 1831, 11,892.

LINCOLNSHIRE, a county of England, which extends along the German ocean from the Humber, its northern boundary, to the arm of the sea, called the Wash, that runs up between the coasts of Lincoln and Norfolk. It is bounded on the south by the counties of Cambridge and Northampton, and on the west by those of Rutland, Leicester, Nottingham,

and York. It extends seventy-seven miles from north to south, and about forty-eight from east to west, being with the exception of Yorkshire, the largest county in England. It is divided into three districts—Lindsey, Kesteven, and Holland. The district of Lindsey is the most extensive, comprehending the whole of the county, north of the Fossdike and the river Witham. Towards the north-east is a large tract of heathy land, called the Wolds, extending from Barton-on-the-Humber to Spilsby, consisting principally of sandy loam and flint; and on the western side the substratum is a sandy rock. Throughout this tract are bred large flocks of sheep, of a kind distinguished for their long thick wool, much used in the manufacture of worsted stuffs and coarse woollens. Here also were formerly kept a great number of rabbits, their skins and fur being valuable articles of commerce; but the rabbit-warrens in many places have been destroyed of late years, and the ground broken up for tillage. The north-western part of Lindsey includes the river island of Axholme, formed by branches of the Trent, the Dun, and the Idle, a low fertile tract, in which flax is much cultivated, as also hemp, rape, and turnip-seed. The district of Kesteven contains the western part of the county, from near the centre to the southern extremity. Its soil exhibits considerable diversity; but though some tracts of heath occur, it is on the whole a fruitful country; the heaths, particularly those of Ancaster and Lincoln, having been enclosed and cultivated. The principal river of Kesteven is the Witham, which rises near Grantham, and flowing north-east to Lincoln, makes a semicircular sweep, and taking its course south-eastward, falls into the German Ocean, below Boston. It is in the former part of its channel a shallow stream, but becomes navigable at Lincoln, where it communicates with the Fossdike. The jack, or pike, is a fish said to be very abundant in this river. The fens, for which Lincolnshire is noted, are partly in the district of Kesteven, but by far the larger portion of them belongs to the district of Holland, so called from its characteristic feature, being hollow or low land, like the province of the Dutch Netherlands bearing a similar appellation. This part of the county is smaller than either of the two preceding, occupying the south-eastern quarter, bordered on one side by the shallow inlet of the sea, called the Wash. Holland consists of two divisions, upper and lower, both composed of fens and marshes, many of which have been reclaimed, and converted to the purposes of agriculture by the construction of numerous drains and canals, together with raised causeys. The lower, or southern division, is the most watery, and is only protected from the devastating effects of inundations by immense embankments on the sea-coasts and the borders of the rivers. Where the operations of draining have been carried into effect, the air though damp, is not unwholesome, and hence intermittent fevers, rheumatism, and other diseases of marshy countries, have become comparatively unusual. Among the undrained fens are bred vast flocks of geese, which form a considerable source of commerce, on account of their quills and feathers, and also as an article of provision. The principal decoys in England for wild ducks, teal, widgeon, and other water-fowl, are in this district; and hence the London markets are chiefly supplied. Wild geese, grebes, godwits, wimbrels, coots, and a numerous variety of other aquatic birds, breed here abundantly, and obtain a plentiful supply of food from the fishy pools and streams. Stares or starlings resort hither during the winter to roost in their reeds, and in such vast multitudes as to crush the stalks by their weight. Near Spalding is said to be the greatest heronry in

England, where the herons build their nests like rooks, in clusters, on the tops of lofty trees. The avoet or yelper, distinguished by its bill, which curves upwards, is found in considerable numbers in the neighbourhood of the Fossdike; as likewise are those delicacies for the table, knots and dottrels.

Among the agricultural products of Lincolnshire in general, are grain of all sorts in the higher grounds; and in the lower oats, hemp, flax, wood, &c. But its distinguishing character is that of a grazing county, and its pastures are noted for rearing different kinds of stock of the greatest size and weight. Lincolnshire oxen are proverbially remarkable for their immense bulk; and the horses bred here have long been held in high repute, both for the saddle and for harness, while those from the southern part of the county are especially valuable as draught horses. The mineral productions of Lincolnshire are of but little importance in commerce, the only articles deserving of notice being a kind of variegated marble, the ore called the sulphuret of iron, and the subphosphate of the same metal. This is not a manufacturing county, but in some towns canvass and sail-cloth are made in considerable quantities.

The boroughs of Lincolnshire, beside the city of Lincoln, are Boston, Grantham, Grimsby, and Stamford; and the market-towns, Alford, Barton-upon-Humber, Bourne, Burgh, Caistor, Corby, Crowland, Crowle, Donnington, Epworth, Falkingham, Gainsborough, Glandford Bridge, Holbeach, Horncastle, Kirtton, Louth, Market Deeping, Market Rasen, Saltfleet, Sleaford, Spalding, Spilsby, New Bolingbroke, Long Sutton, Swineshead, Tattershall, Wainfleet, and Wragby. Population in 1831, 317,244.

LINDSAY, or LYNDSEY, SIR DAVID, an ancient Scottish poet, descended from a noble family, was born about the year 1490. He entered the university of St Andrews in 1505, and, in 1509, became page of honour to James V., then an infant. In 1528, he produced his *Dreme*, and, in the following year, presented his *Complaynt* to the king. In 1530, he was inaugurated Lyon king-at-arms, and knighted, and, in 1531, sent on a mission to Charles V., on his return from which he married. He soon after occupied himself on a drama, of a singular kind, entitled a *Satyre of the Three Estates*, which was followed, in 1536, by his *Answer to the King's Flying*, and his *Complaynt of Bascha*. On the death of Magdalen of France, two months after her marriage with James V., Lindsay's muse produced his *Deploration of the Death of Quene Magdalene*. During the succeeding regency, he espoused the cause of the reformers, and, in 1548, was sent, in his capacity of Lyon herald, on a mission to Christiern, king of Denmark. On his return, he published the most pleasing of all his poems, entitled the *History and Testament of Squire Meldrum*. His last and greatest work, the *Monarchie*, was finished in 1553. The date of his death is unknown; but the latest authority seems inclined to place it in 1557. Lindsay entered with great zeal into religious disputes, and his satires powerfully assisted to expose the vices of the clergy. As a poet, he is inferior to Dunbar and Gavin Douglas. His *Dreme* is deemed his most poetical composition. An accurate edition of the works of Lindsay was published by Mr George Chalmers, in 1806.

LINDSEY, THEOPHILUS, a celebrated divine of the Unitarian persuasion, was born at Middlewich, in Cheshire, June 20, 1723. His father was an eminent salt proprietor; and Theophilus, the second of his three children, took that name from his godfather Theophilus, earl of Huntingdon. He received his grammar education at Middlewich and Leeds, and, at the age of eighteen, was admitted a scholar at St

John's college, Cambridge. Having taken orders, by the recommendation of the earl of Huntingdon, he was appointed domestic chaplain to the duke of Somerset, and, in 1754, accompanied earl Percy to the continent. On his return, he married the daughter of archdeacon Blackburne, and was presented to a living in Dorsetshire, which he exchanged, in 1764, for the vicarage of Catterick, in Yorkshire. In 1771, he zealously co-operated with archdeacon Blackburne, doctor John Jebb, Mr Wynn, and others, to obtain relief in matters of subscription to the thirty-nine articles. Having long entertained a doubt of the doctrine of the Trinity, in 1772, he honourably resigned his living, and went to London, where, in April, 1774, he performed divine service in a room in Essex-street, Strand, which was conducted according to the plan of a liturgy, altered from that of the establishment by the celebrated doctor Samuel Clarke. About the same time, he published his *Apology*, of which several editions were called for in a few years. This was followed by a larger volume, entitled a *Sequel to the Apology*, in which he replied to the various answers given to his first work. In 1778, he was enabled, by the assistance of friends, to build a regular chapel in Essex-street, the service of which he conducted, in conjunction with doctor Disney, until 1793, when he resigned the post, but continued as active as ever with the pen. In 1802, he published his last work, entitled *Considerations of the Divine Government*. He died Nov. 3, 1803, at his eightieth year. Besides the works already mentioned, he wrote on the *Preface to St John's Gospel*, on *Praying to Christ*, an *Historical View of the State of the Unitarian Doctrine and Worship from the Reformation*, and several other pieces. Ten volumes of his sermons have also been published since his death.

LINE, MATHEMATICAL, is extension in length without breadth and thickness; it is either straight or curved. In navigation, the equator is called *the line*; hence the expression "to pass the line." In decimal measures of length, it is the tenth; in the decimal measures of length, it is the twelfth part of an inch. In the art of war, a series of soldiers or ships, drawn up in order of battle, are called a *line*; hence the phrase "ships of the line." In grammar and jurisprudence, it signifies a series of persons, in the order of their descent from a certain ancestor.

LINE, TROOPS OF THE, are contradistinguished from the guards and light troops.

LINE, VESSELS OF THE. See *Navy*, and *Ship*.

LINEN; a cloth of very extensive use, made of flax, and differing from cloths made of hemp only in fineness. In common linen, the warp and weft cross each other at right angles; if figures are woven in, it is called *damask*. The species of goods which come under the denomination of linen, are table-cloth, plain and damasked, cambric, lawn, shirting, shirting, towels, Silesias, Osnaburghs, &c. The chief countries in which linens are manufactured are Russia, Germany, Switzerland, Flanders, Holland, Scotland and Ireland. Of these, Russia principally manufactures sheeting and sail-cloth; Germany, shirtings, shirting and bagging; Switzerland, both fine and coarse goods; Flanders, the finer articles, especially cambric and lawn; Holland, sheeting of the best description; Scotland and Ireland, shirting, damask table-cloth, and towelling, of superior quality. Immense quantities of linen are annually exported from Ireland to England, and several parts of Europe, and North and South America, the West Indies, and Africa. In several parts of Germany, Switzerland, Flanders, and France, linens are frequently embellished with painting; and in England, the produce of the Irish linen manufacture is beautifully printed in the manner of

culture. The beauty of linen consists in the evenness of the thread, its fineness, and density. The last of these qualities is sometimes produced by subjecting it to rollers; hence linen with a round thread is preferred to that with a flat thread. The warp of wool is not unfrequently made of cotton yarn, which renders the cloth less durable, and named union cloth.—In an historical view, linen is interesting, as forming the dress of the Egyptian priests, who wore it at all their religious ceremonies; hence they are styled by Ovid and Juvenal, “linen-wearing.” (See also *Lev. xvi. 4*, and Spencer *On the Laws and Rituals of the Jews*.) From Egypt, linen passed to the Romans, but not till the time of the emperors. The Roman priests also began to wear linen garments at that time. Linen was also used as a material for writing, though the expression *libri linte*, *cartasini*, was also applied to cotton and silk, as well as linen. The Sibylline books and the mummy bandages, covered with hieroglyphics, are proofs of this use of linen. In the middle ages, linen and woollen cloth formed the only materials for dress; and fine linen was held in very high estimation; even the writer of the *Nibelungenlied* mentions it. Germany and Brabant then carried linen manufactures to the greatest perfection. Linen is yet necessary for the manufacturing of good paper. Cotton lins, of late years, taken the place of linen for many purposes, on account of its greater cheapness. See *Cotton*, and *Byssus*.

The linen manufacture has been prosecuted in England for a very long period; but though its progress has been considerable, particularly of late years, it has not been so great as might have been anticipated.

In 1804, both houses of parliament addressed his Majesty (Wm. III.), representing that the progress of the woollen manufacture of Ireland was such as to prejudice that of this country; and that it would be for the public advantage, were the former discouraged, and the linen manufacture established in its stead; his majesty granted their request. It is but justice, however, to the parliament and government of England, to state that they have never discovered any backwardness to promote the linen trade of Ireland; which, from the reign of Wm. III. downwards, has been the object of regulation and encouragement. Yet it may be doubted whether the regulations have been always the most judicious that might have been devised, and whether Ireland has really gained any thing by the forced extension of the manufacture. Besides premiums and encouragements of various kinds, bounties were granted on the exportation of linen for a very long period down to 1830. In 1829, for example, the bounty amounted to about £300,000, or to nearly one seventh part of the entire real or declared value of the linen exported that year. These bounties generally had a very bad effect, toward the latter period of their existence, on linens produced for exportation. The pieces deteriorated in quality, in consequence of the manufacturer studying rather to secure the bounty than to produce a superior article. The result of such a mode of procedure was entirely unobtainable, so long as sales could be effected and the bounty obtained. No sooner was the bounty withdrawn, than the manufacturer perceived that the superiority of his cloth only could enable him successfully to compete in a foreign market. Hence, from that period the utmost attention has been bestowed to the strength of material and durability of texture in this staple branch of our manufacture. In fact, after all, the business never began to do any real good, or to take firm root, till the manufacture ceased to be a domestic one, and was carried on principally in mills, and by the aid of machinery,—a change which

the old forcing system tended to counteract. The only real and effectual legislative encouragement the manufacture has ever met with, has been the reduction of the duties on flax and hemp, and the relinquishing of the absurd attempts to force their growth at home.

Table of the Quantity and Value of the Linens exported from Ireland, from 1825 to 1829, both inclusive.

Years.	To Great Britain.	To Foreign Parts.	Amount of bounty paid in Ireland, on Linens exported to Foreign parts.
	Yards.	Yards.	£. s. d.
1825	21,772,39	2,345,29	16,543 8 11
1826	26,717,70	2,702,88	11,985 9 11
1827	41,772,10	4,011,530	1,215 19 12
1828	42,172,10	3,271,793	17,112 9 3
1829	48,064,711	3,771,096	17,65 8 3
1830	66,772,00	2,777,07	17,116 13 10
1831	72,172,00	2,777,07	14,915 17 9
1832	72,172,00	2,777,07	14,915 17 9
1833	72,172,00	2,777,07	14,915 17 9
1834	72,172,00	2,777,07	14,915 17 9
1835	72,172,00	2,777,07	14,915 17 9
1836	72,172,00	2,777,07	14,915 17 9
1837	72,172,00	2,777,07	14,915 17 9
1838	72,172,00	2,777,07	14,915 17 9
1839	72,172,00	2,777,07	14,915 17 9

Of these exports, more than 12-13ths have been to Great Britain. The total average export, during the three years ending with 1825, was 51,947,413 yards, of which 49,031,073 went to England; the exports to all other parts being only 2,916,340. Since 1825, the trade between Ireland and Great Britain has been placed on the footing of a coasting trade, so that linens are exported and imported without any specific entry at the custom-house.

*Scotch Linen Manufacture.*—In 1727, a board of trustees was established in Scotland for the superintendence and improvement of the linen manufacture. It is not easy to suppose that the institution of this board could of itself have been of any material service; but considerable bounties and premiums being at the same time given on the production and exportation of linen, the manufacture went on increasing. Still it did not increase so fast as cotton, so that it is very doubtful whether the influence of the bounty has been so great as it would at first sight appear to have been. The regulations as to the manufacture, after having been long objected to by those concerned, were abolished in 1822; and the bounties have now ceased.

Account of the Quantity of the Foreign Linens retained for Home Consumption in Great Britain, in the Year ended 5th of January, 1831.

Species of Linen.	Quantity retained for Home Consumption in Great Britain, in the Year ended 5th of January, 1831.
Linen, not French, plain, Linens and dupes, unmanufactured	square yards 2005
Linen, not French, plain, Linens and dupes, unmanufactured, and manufactures of linen, coloured or stained	declared value 11,362 17s. 4d.
Denmark, and Danish dupes	square yards 6,575
Drillings, ticks, and twisted linens	— 54
Sail cloth	— 1,234
Cambrics and French laces, plain	pieces 7
Sails	declared value 682 10s. 10d.

Dundee is the grand seat of the Scotch linen manufacture; and its progress there during the last few years has been extraordinary. The manufacture appears to have been introduced into Dundee some time about the beginning of last century. In 1745, only seventy-four tons of flax were imported, without any hemp; the shipments of linen cloth during the same year being estimated at about 1,000,000 yards, no mention being made either of sail-cloth or bagging. In 1791, the imports of flax amounted to 2,444 tons, and those of hemp to 299 tons; the exports that year being 7,842,000 yards linen, 280,000 yards sail-cloth, and 65,000 do. bagging. From this period the trade began to extend itself gradually, though not rapidly. About 1815, in consequence, partly and principally of the improvement of machinery, and its extensive introduction into the manufacture, and partly of the

greater regularity with which supplies of the raw material were obtained from the Northern powers, the trade began rapidly to increase, and the imports of flax have increased from about 3,000 tons in 1814, to 15,000 tons in 1830. The exports of manufactured goods have increased in a corresponding proportion. In the year ending the 31st of May, 1833, the imports of flax amounted to 18,777 tons, besides 3,380 tons of hemp. The shipments of linen, sail-cloth, &c., have increased in a corresponding ratio; and were valued, in the year now mentioned, at about £1,600,000, as much as is exported from all Ireland, and has increased at Dundee more rapidly than the cotton manufacture has increased at Manchester.

The entire produce of the manufacture in the United Kingdom may be valued at £7,500,000; and the total number of people employed about 172,000.

*An Account of the Quantity of Flax and Tow Imported into and Exported from the United Kingdom, the Quantities entered for Home Consumption, and the Net Produce thereof, in each Year, commencing 5th January, from 1820 to 1831, both inclusive.*

Years.	Imports.	Exports.	Consumption.	Net Revenue.
	Cwts.	Cwts.	Cwts.	£.
1820	322,380	17,566	376,170	7,912
1821	496,354	8,772	491,358	10,714
1822	610,106	7,288	607,340	14,031
1823	653,927	6,719	552,999	12,655
1824	742,531	11,677	739,631	16,499
1825	1,055,223	7,571	1,018,527	20,445
1826	886,822	8,966	677,485	9,736
1827	907,479	6,441	906,569	6,990
1828	676,140	6,729	835,279	5,134
1829	922,040	6,840	909,710	2,653
1830	944,176	3,643	955,112	2,991
1831	906,411	10,518	915,83	2,559

**Manufacture.**—The first process that the flax has to undergo, is that of heckling. This operation consists in drawing a handful of the flax, lengthways, over a sort of comb formed of iron or steel teeth, so as to separate the coarse part, or the tow, from the fine fibres, properly called flax. These combs or heckles are of various degrees of fineness, the flax being passed through them in succession, commencing with the coarsest. The heckling is performed either by the hand, or by machinery, according to the particular kind of yarn that is intended to be spun; but, it is probable, that ere long, such improvements will be made in the heckling machine, (which is extremely simple in construction), that heckling by the hand will be entirely done away.

The flax, thus prepared, is taken to the spreading machine, represented in plate 48. figs. 1 and 2. Fig. 1 being a side, and fig. 2, an end view. The process is somewhat similar to the spreading in the cotton manufacture, a description of which has been given under the article *Cotton manufacture*. The object of spreading the flax is, to form a sliver of uniform thickness, or such, that a foot in length taken at any one place will be equal to a foot in length, taken at any other place, or as nearly so as possible. A handful of the heckled flax is taken up by the attendant, and laid upon an endless cloth, A A fig. 1, the upper surface of which is kept continually moving towards the body of the machine, by means of the two rollers B B. The attendant, by practice, knows the proper quantity to spread on the cloth in a given time, in order to produce the sliver of the requisite girth. In cotton-spinning, the attendant is not intrusted with this, as the cotton is all weighed into proper parcels, before it comes to the spreading frame. The endless cloth, by moving forward, carries the spread flax to the rollers C C, which are called retaining rollers. The undermost of these rollers is put in motion by communication with the wheel-work, the spindle on which it revolves, being furnished with a pinion on the end, and the upper one receives motion, by being pressed upon the lower

one, by means of a lever, which is seen rising above it, the pressure being regulated by a screw at the top. So far the flax spreading resembles the cotton spreading, but at this point a new feature is exhibited in the process for flax. The flax having passed through the retaining rollers, is led over a series of heckles, seen at D. This heckling department is, perhaps, the most curious part of the machine. It is an endless chain of heckles moving in the same direction as the endless cloth. The chain is formed of brass links, fashioned so as to be caught by protrances, or flattened teeth; in the two wipers above it, the one further from the retaining rollers being put in motion by the wheel-work, as may be seen by inspecting fig. 1. The other is a sort of friction roller, and is put in motion by the chain passing over it. Each link of the chain carries a kind of fork, closed at the top, the space between the prongs being designed as a guide to the end of a rod stretching across the machine, so that the rod may rise or fall. The ends of these rods pass through these fork-formed guides, and pass into a groove cut in a side piece of the machine. In the centre of the ends of the cross rods, which are called the *gill bars*, are seen in the side view. The groove is somewhat irregular in form, or, to speak more properly, is not like any simple geometrical figure. In the under part, it passes in a direct line between the wheels, and then round their circumference, after which it takes a sudden rise up to the points *g g*, at a considerable height above, the wheels keeping the elevation from *g g*. By this arrangement, it will be seen, that as the endless chain moves along the gill bars or cross-rods will move with it, being carried along by the forked guides on the links, and at the same time, these gill bars will rise up or down according to the direction of the groove. Thus when the gill bars are under the wheels as *a*, they will be very near to the links of the chain, but when they turn round the wheel as *a'*, to move to the endless cloth, they will begin to rise, and being carried along, at the altitude *g g*, will fall, when they come near to the other wheel. Now, as these gill bars carry the gills, or heckle teeth, they will of course have a similar motion. Hence, the gills or heckle teeth, do not rise above the forked guides until they arrive at that part where they should come into contact with the flax. The flax having passed through the chain of heckles, is received by the drawing rollers E E, the lowermost of which is driven by the wheel-work of the machine, and the upper one put in motion by being pressed upon it. From the drawing rollers, the flax is led through the intermediate rollers F F, and from these, it passes through the delivering rollers G G, and thence into a cut (not shown in the plate, to save room), in the form of a sliver, or flat band of flax fibres. The machine is put in motion by a band led from a shaft connected with the first mover, the band being passed round the pulleys at H H, one of which is fast, and the other loose, so that by shifting the belt, the machine may be put either in or out of gear. Three powers are shown in fig. 2, which is a front elevation of the spreading machine.

The can containing the sliver is now taken from the spreading machine, and carried to the back of the preparing or drawing frame. This frame is represented in plate 49. figs. 3 and 4, fig. 3 being an end elevation, and fig. 4 a ground plan. The principal difference between this machine, and the cotton-drawing frame, consists in the introduction of heckles, fashioned in the same way as those in the flax-spreading frame. The chain, in this case, being horizontally, instead of obliquely, as may be seen at C, fig. 3. The can H, from the spreading frame, is

placed at the back of the machine, and the sliver A is led from it through the retaining rollers B B B, passing under the first, over the second, and under the third, from which last it is led over the gills at C. The sliver then passes through between the drawing rollers D D, which move quicker than the retaining rollers B B B, and the sliver receives a second drawing, the first having been given in the spreading machine. From these drawing rollers the sliver is passed through the delivering rollers, commonly called the delivering ball, and is seen at F, falling into the can G. The increase of the length of the sliver, or the quantity of draught, will, of course, depend on the comparative speed of the drawing and retaining rollers. On inspecting the plan, fig. 4, it will be seen that the drawing frame is put in motion by means of a belt and pulleys.

The drawn sliver is next taken to the roving frame. The use of this roving machine is to give the rove another drawing, also a slight twist, and likewise to wind it upon a bobbin. The machine is somewhat analogous to the fly frame used in the cotton manufacture, with the exception of the gills, or endless heckle, introduced in this machine as in the two former. The flax roving frame is represented, in end view, by fig. 3, and in front elevation by fig. 4, plate 48. The can G is taken from the drawing frame and placed at the back of the roving frame, as seen in the end view. The sliver A is led out of it and passed through the guide a, under the first retaining roller B, over the second B, and under the third H; from whence it is led through the gills in the endless heckle C, then through the drawing rollers D D, which move quicker than the retaining rollers, give another draught to the sliver. From the drawing rollers, which act also as delivering rollers, the flax passes into the flyer f through the top of the spindle E. The spindle and flyer are kept revolving by means of hands passed round the pulleys g, which hands are led over the revolving cylinder A. The revolution of the spindle and flyer causes the rove, which is now called rove, to be wound upon the bobbin F, which rests upon the cross rail K. The bobbin rail is moved up and down alternately by means of the lever H, which is raised and depressed by its connection with the heart wheel G, as may be seen in fig. 3. The train of wheel work is so obvious in the engraving that description is unnecessary. It is clear that in this, as in the cotton-roving frame, the rove, by passing through the top of the spindle, receives a slight twist ere it is wound upon the bobbin.

All the processes we have described are merely preparatory for the spinning of yarn, which last remains now to be considered. Fig. 1, plate 49, is a front elevation, and fig. 2 an end view of the flax spinning machine, which acts on similar principles with the cotton Throstle. A is the bobbin rail on the top of the machine: the rail is furnished with pins projecting from the side, on which the bobbins from the roving frame are placed, lying in a horizontal position, the ends being seen in the front elevation at F. The sliver B is led from these bobbins through between the retaining rollers C C, from whence it is passed over grooves formed in the rod D, and subsequently through between the delivering rollers E E, which move at a much quicker rate than the retaining rollers, by which means the rove receives the requisite degree of draught for the yarn intended to be spun. The drawn rove now passes through guides, and through the top of the spindles G, and thence through the flyer, then on to the bobbin: the revolution of the flyer giving the thread the proper degree of twist. The bobbins are seen hanging from the bobbin rail, which

are designed to increase the friction of the bottom of the bobbin on the rail, so that it may not be turned too rapidly round by the spindle. The bobbin rail and spindle are put in motion in the same way as they are in the roving frame. The connexion of the wheel work may be seen by inspecting fig. 2.

Such is the construction of the flax-spinning frame in use for yarns of the coarser kind; when fine yarns are to be spun, a modification of the spinning frame becomes necessary. The distance between the drawing and retaining rollers ought to be made much less than the proportion given in the engraving, and the rove, before it passes through the retaining rollers, is led through a trough of water, kept hot by steam. The trough is placed about the height B B in the front view, the rove being led through the water by passing under two smooth brass wires, one on the front, and another on the back of the trough. In wet spinning likewise, the bobbins on the rail A are set on upright spindles instead of horizontal pins.

We have now considered the machinery employed in the manufacture of linen yarn with as much minuteness as the nature of this work will admit; but before dismissing the subject, it is necessary that we should show in what manner the tow is treated, which, we stated, was separated from the flax during the first process, heckling.

The tow being taken from the heckles is carried to the carding engine. In plate 50, fig. 1, is an end view of the wheel gearing; fig. 2, a view of the beltting; and fig. 3, a front elevation of the tow carding engine. The tow is laid on the spreading table and made to pass between the feeding rollers A A, carried round the large cylinder O, below the back clearer B, over the top of the worker C, then between the top clearer D and the cylinder, then, being carried round the worker E, it passes between the finisher F and the cylinder. The tow is then carried off by the doffer G, received by the drawing rollers H H, from which it is passed through the delivering rollers I I into a can. The can is now carried to the finisher card, and passed through it, the two cards being exactly similar in construction. By the second carding, the tow is drawn into a much finer sliver than it is in the breaker, or first carding, and is thus prepared for the roving frame.

The tow-roving frame is similar in construction to the flax-roving machine, with this exception, that the gills, or heckles, are not connected in a chain, but in a cylinder, the gills rising and falling as it revolves, by means of guides at the ends of the cylinder. The tow-roving frame is shown in end elevation, fig. 4; and front elevation, fig. 5, plate 50.

The spinning of tow is performed in a machine constructed in the same way as the flax-spinning frame, but larger and stronger.

A steam engine of twenty horses' power will drive for the flax department,

- 3 Spreading machines,
- 14 Drawing frames,
- 22 Moving spindles,
- 340 Spindles for spinning.

#### In the tow department—

- 1 Tracer, } Machines for preparing the tow
- 1 Shaker, } for the carding.
- 2 Breaker cards,
- 4 Finisher cards,
- 10 Bobs of drawing,
- 20 Spindles of roving,
- 340 Spindles of spinning.

Each spindle will produce about half a spindle of yarn per day.

The drawings, from which the plates that accompany this article have been engraved, were kindly furnished to us by P. Herrie, Esq., Taylors, Dun-

— See the description of the Flyer in page 463, vol. II, of the Encyclopædia.

dee, and were taken from machines in actual preparation by him.

For an account of the formation of linen cloth, see *Weaving*.

LING; a species of marine fish, belonging to the great genus *gadus*. It is from three to four feet in length, and somewhat like the pike in shape. This fish abounds on the coasts of Great Britain, where it has long formed an important branch of trade. It is in perfection from the beginning of February to May; in June, the spawning season commences. When in season, its liver abounds with an oil of excellent quality and flavour; but when it becomes out of season, this organ assumes a red colour, and contains but little oil. This oil is procured by subjecting the liver to a slow fire, otherwise a very small quantity is obtained. According to the English law, such of these fish as are cured for exportation, must measure twenty-six inches from the shoulder to the tail; otherwise they are not entitled to the bounty granted for the encouragement of this trade. There is another species of ling, the eel-pout (*G. lota*), which is from one to two feet long, of a yellow colour, variegated with brown. This is the only species of the genus which is found in fresh water. It abounds in the lake of Geneva. It is amazingly prolific, 128,000 ova having been counted in a single female. It is much esteemed as an article of food, and its liver, which is very voluminous, is highly prized by epicures.

LINGAM; the symbol of the creating and producing power, sacred among the Indians and Egyptians. See *Indian Mythology*.

LINGUA FRANCA; a corrupt Italian, mixed with other words, the dialect spoken between the inhabitants of the coast of North Africa and the Levant and the Europeans. It is, in fact, the Creole of the Mediterranean, and is extremely useful for a traveller in those countries. It is easily learned by one who knows Italian, and still more easily understood.

LINGUA GERAL; a corrupted Portuguese, spoken on the coast of Senegambia.

LINGUET, SIMON NICHOLAS HENRY; a French historical and political writer, was born in 1736, at Rheims, where his father, who had been professor at the college of Beauvais, was living in a kind of exile, having been banished by a *lettre de cachet*, on account of his participation in the Jansenistic controversy. This circumstance was the origin of Linguet's saying "that he was born under the auspices of a *lettre de cachet*." Having studied law at Paris, in the same college where his father had been professor, and having obtained the three first prizes of the university in 1751, he attracted the notice of the duke of Deux-Ponts, who was at that time in Paris, whom he accompanied on a journey to Poland. Linguet soon returned to his own country, and, on the breaking out of the war between France and Portugal, went to Spain as secretary to the prince of Beauvais. He there made himself acquainted with the Spanish language and literature, and, during his stay at Madrid, he published translations of some of the works of Calderon and Lope de Vega. His first historical attempt, *Histoire du Siècle d'Alexandre*, which was dedicated to the king Stanislaus Leszcinski, was published immediately after his return to Paris. His brilliant oratorical powers, and his thorough acquaintance with the law, gave him a great reputation at the bar, but, at the same time, his severe remarks and bold ideas created him many enemies. His controversy with D'Alembert, who at that time had almost the entire control of the academy, prevented him from becoming a member of that body. His fame as an author and lawyer, however, increased, and several cases conducted with

great ability, such as that of the duke d'Angoulême against the government, and the criminal case of the count de Morangis, on which he wrote a brilliant treatise, raised him to high consideration, and at the same time excited the jealousy of his countrymen, whom he increased to such a degree, by one of his diatribes, that they formed a sort of conspiracy against him, binding themselves not to pass on him. Even the parliament became engaged in these disputes, and Linguet, whose reports and remarks increased in bitterness, was struck from the list of parliamentary advocates. As a politician, he succeeded no better. His *Journal patriotique*, commenced in 1777, offended the prime minister, M. de Breteuil, and was suppressed. Linguet, thinking his personal freedom endangered, went to Brussels, Holland, and England. He afterwards went to Brussels, until M. de Vergennes procured an admission to return to France; but, his advisers finding some new cause of complaint, he was thrown into the Bastille by means of a *lettre de cachet*, where he remained above two years, and was then removed to Rethel for a short time (1785). He went again to London, and there published a work against royal power, to which he had fallen a sacrifice, and which he had himself defended in an earlier work, *Des Lois*. He afterwards continued his *Journal politiques* at Brussels, and flattered with a new address, the emperor Joseph II., who was displeased with his memoir on the navigation of the Scheldt, that the emperor gave him 1000 ducats, with letters of nobility. But having taken the part of Van der Noot and of the Brabant insurgents, he was ordered by Joseph to leave the Netherlands. In 1791, he again appeared in Paris, and pushed for the negroes in St Domingo at the bar of the convention. At a later period, he became an object of suspicion to the terrorists, and his attempt to escape having failed, he was arrested, June 27, 1794, and condemned to death by the revolutionary tribunal, for having, according to the sentence, furnished the despots of Vienna and London. His writings are numerous. Of Linguet's works on history, politics, political economy, and the law, we mention only his *Histoire des Révolutions de l'Empire Romain*, from Augustus to Constantine; *Restitution des Philosophes*; *Théâtre Espagnol*; *Lettre sur la Théorie des Lois*; *Mémoire pour le Duc d'Aiguillon et le Comte de Morangis*; *De la Liberté du Gouvernement*; *Mémoires sur la Bastille*, and particularly his *Annales politiques, civiles, et littéraires du 18 Siècle*, which contain much important matter for the political and literary history of the time.

LINLITHGOW, an ancient royal burgh of Scotland, the capital of Linlithgowshire, is situated sixteen miles west from Edinburgh, and thirteen north-east from Glasgow. The town consists of a single street, half a mile in length, and broad and convenient, except that part immediately to the east of the cross. Many old houses have, of late years, been replaced by handsome new buildings. At the north side of the town is the site of the royal palace, a large quadrangular building, with towers at the corners, and a court in the interior, on the east side of which was a large hall, or the residence of the Scottish parliament. This monument of royal magnificence is now in ruins, having been burned by the English dragoons in 1746, on their accession to the battle of Falkirk. Among the public buildings are the town-house and prison, with a clock-tower, built in 1608; and a conduit or fountain, beautifully rebuilt in 1807. The chief manufactures are those of tanned leather and shoes, both on a small scale; in the vicinity are *crags and*

and grange at Linlithgow, whence the town originated; and it was the frequent residence of the court in the sixteenth century, when it became the scene of some remarkable events. In St Mary's aisle of the principal church occurred the supposed apparition of St John to James IV., to warn him of his approaching fate at the battle of Flodden Field, as related by the historian Lindsay, of Pitcottie, and introduced by Sir Walter Scott into his poem of "Marmion." Mary queen of Scots was born in the royal palace here, December 8, 1542. In one of the streets it still shows the gallery, whence the Regent Murray was shot at and killed, as he was passing through the town on horse-back, by Hamilton of Bothwellhaugh, in 1570; and at Linlithgow the "Solemn League and Covenant" was publicly burned in 1662. Several royal charters were granted to this town. Population of burgh and parish in 1831, 4,874.

**LINLITHGOWSHIRE, or WEST LOTHIAN,** a county of Scotland, lying on the south shore of the Firth of Forth, having Edinburghshire on the east and south-east, Lanarkshire on the south-west, and Warringtonshire on the west. It is about twenty miles in length, and twelve in breadth. The soil of this county is in general a rich and fertile loam. Coal and limestone abound; ironstone is also to be found in some parts of the shire. A vein of lead ore was discovered in the reign of James VI., so richly impregnated with silver, that it was sufficiently profitable to be worked for the sake of the silver which it furnished. Volcanic appearances occur in several places, or at least such an arrangement of rocky strata, as some geologists usually attribute to the action of volcanic heat; thus particularly at Dundas Hill, in the parish of Dalmeny, there is a bold mass of basaltic rocks, displaying occasionally in their structure regular basaltic columns. There are many handsome noblemen's and gentlemen's seats in various parts of Linlithgowshire, among which the more distinguished are Hopetoun House, the earl of Hopetoun's magnificent residence; Harbottle Castle, belonging to the earl of Roseberry; Calder House, the seat of Lord Turphichen; Craigie Hall, and Dundas Castle. The two royal burghs are Linlithgow and Rossmore; the other principal towns are Horncastle, Whitburn, Bathgate, and Kirkliston. Population of the county in 1831, 23,201.

**LINN, JOHN BLAIR,** an American poet, was born March 14, 1777, at Philippenburgh, Pennsylvania. His poetical talents displayed themselves while he was yet a youth at Columbia college, New York, and, before he had reached his seventeenth year, a volume of his effusions, both in prose and verse, was published. After finishing his collegiate course, he commenced the study of law, at the age of eighteen, with general Hamilton, but continued in his office very about a year, during which time, he brought a tragedy, called Hourie Castle, upon the stage, with success. Having removed to Schenectady, and received strong religious impressions, to which he had always been inclined, he entered upon the study of theology, and, in 1798, he was licensed to preach, and soon became distinguished for pulpit eloquence. He was installed pastor of the first Presbyterian church in Philadelphia, in June, 1799. The duties of this situation he discharged for the two subsequent years, in a manner consistent with the fervour of his piety and the excellence of his mind. He continued, however, to cultivate his poetical talents. His *Powers of Genius*, a didactic poem of considerable length, experienced flattering success, and in a few months reached a second edition. In the same volume which it were printed various minor pieces. A controversy in which he became engaged with doctor Bentley, was engendered by a publication of the

latter on the merits of Socrates, which were placed before those of Jesus Christ. The religious feelings of Mr Linn prompted him to answer the doctor's pamphlet, which he did in a manner worthy of his cause. The last work on which Mr Linn employed his leisure hours, was a narrative poem, published by his friends, under the title of *Valerian*, after his death, which took place August 30, 1804.

**LINNÆAN SOCIETY;** a society in London, instituted in 1788, by Sir J. E. Smith, and incorporated in 1802, for the promotion of the study of natural history.

**LINNE, CHARLES,** but more generally designated by his Latinised name, *Linnaeus*, the most celebrated naturalist of his age, was a native of Sweden. He was the son of a clergyman, and was born May 13, old style, 1707, at Roshult, in the province of Småland. His father was fond of gardening, and his little domain was stocked with plants not commonly cultivated—a circumstance to which the prevailing taste of the son may be fairly attributed. He was sent to the grammar school, and afterwards to the gymnasium of Wexio, to be educated for the ministry; but, as he disliked the studies of the school, and preferred to collect plants and catch butterflies, he remained behind his fellow-pupils in Latin and Greek, and the teachers declared to his father that he was only fit for a mechanic. The father sent him to a shoemaker; but the physician Rothmann, having discovered talents in the boy, induced his parents to let him study. As botany afforded him no prospect of a support, Linne was obliged to study medicine. In 1727, he entered at the university of Lund in Scania, whence he removed, the following year, to Upsal. During his early residence there, the narrowness of his father's circumstances exposed him to great difficulties, from which he was relieved by the patronage of Celsius, the theological professor, an eminent naturalist, who had become acquainted with him in the botanical garden at Upsal, and through whose recommendation he obtained some private pupils. He also formed a friendship with Artedi, a medical student like himself, devoted to the cultivation of natural history. He now, in his twenty-fourth year, conceived the idea of a new arrangement of plants, or the sexual system of botany, relative to which he wrote a memoir, which was shown to Rudbeck, the botanical professor, who was so struck with its ingenuity, that he received the author into his house, as tutor to his sons, and made him his assistant in the office of delivering lectures. Forty years before, Rudbeck had made a journey to Lapland, which excited the curiosity of the learned. A new journey was now concluded upon, and in 1732, Linne was sent by the academy of sciences at Upsal, to make a tour through Lapland, from which he returned towards the close of the year. Fifty Swedish dollars were thought sufficient by Linne to defray his expenses, and with this small sum he made a journey of more than 3500 miles, unaccompanied. In 1733, he visited the mining district around Fahlun, and gave lectures on mineralogy, having formed a system of that science, afterwards published in his *Systema Nature*. While he was thus adding to his reputation at Upsal, he became involved in a violent quarrel with the medical professor, Nicholas Rosen, who seems to have acted with a great deal of illiberality, and found means to prevent Linne from continuing his private lectures. He therefore engaged in a scientific tour through the province of Dalecarlia, and remained for some time at Fahlun, lecturing and practising medicine with considerable success. He again went to Lapland on a mineralogical tour, with seven young men; and, in 1735, published a complete *Flora* of this country—a classical work. In the

same year, he went to the university of Harderwyck, in Holland, and took the degree of M. D. He then visited Leyden, where the first sketch of his *Systema Naturæ* was printed in the form of tables, filling twelve folio pages. He became acquainted with John Frederic Gronovius, Boerhaave, and John Burman of Amsterdam; and he then published a work, entitled *Fundamenta Botanica*, exhibiting the basis of his botanical system. Mr Clifford, a rich merchant of Amsterdam, made him superintendent of his garden at Hartecamp, near Haerlem, rich in curious exotics, of which Linné drew up a systematic catalogue. In 1736, he made a visit to England. He returned to Holland with many new plants for Mr Clifford's garden, his description of which, entitled *Hortus Cliffortianus*, with thirty-seven plates, was now published in a most splendid form. He also published the first edition of his *Genera Plantarum*. In 1738, he made an excursion to Paris, and, towards the end of that year, returned to his native country, and settled as a physician at Stockholm. At first, he experienced neglect; but, through the influence of count Tessin, he was appointed physician to the navy, and had a salary for giving public lectures on botany in the summer, and on mineralogy in the winter. The establishment of the royal academy of Stockholm, of which he was one of the first members, contributed to the advancement of his reputation, by the opportunities which it afforded for the display of his abilities. In 1741, he succeeded Roberg in the professorship of medicine at Upsal, to which was added the superintendence of the botanic garden, to the new arrangement and augmentation of which he devoted much of his time and attention. In 1745, appeared his *Flora Suecica*, and the next year his catalogue of Swedish animals, entitled *Fauna Suecica*. He was elected to the post of secretary of the academy of sciences at Upsal. In 1746, an honorary medal of him was struck at the expense of some noblemen; and, in 1747, he was nominated royal archiater. Through his influence, many young naturalists were sent to explore various countries; and to his zeal in the cause of science we owe the discoveries in natural history made by Kalm, Osbeck, Hasselquist, and Loeffling. He was employed by the queen of Sweden to describe her museum at Drottningholm, when he made a new scientific arrangement of the shells contained in it. About 1751, he published his *Philosophia Botanica*, and, in 1753, his *Species Plantarum*, containing a description of every known plant, arranged according to the sexual system. This work of Linné, which Haller terms his *Maximum Opus et Æternum*, appeared originally in two volumes 8vo.; but the edition published by Willdenow at Berlin, 1799—1810, is extended to ten volumes. In 1753, this great naturalist was created a knight of the polar star—an honour never before bestowed on a literary man. In 1761, he was elevated to the rank of nobility. Literary honours were also conferred on him by scientific societies in foreign countries. In 1768, he completed the plan of his *Systema Naturæ*, which, through successive editions, had been enlarged to three octavo volumes. Linné acquired a moderate degree of opulence, sufficient to enable him to purchase an estate and mansion at Hammarby, near Upsal, where he chiefly resided during the last fifteen years of his life. There he had a museum of natural history, on which he gave lectures, and to which he was constantly making additions, from the contributions of travellers and men of science in various parts of the world. His health, during a great part of his life, enabled him to pursue his researches with vigour and activity; but in May, 1774, he had an apoplectic attack, which obliged him to relinquish the most laborious part of his professorial duties, and

close his literary labours. A second attack occurred in 1776, and he afterwards experienced a third: his death did not take place till January 11, 1778. Besides his works on natural history, he published a classified *Materia Medica*, and a systematic treatise on nosology, entitled *Genera Morborum*. Few men in the history of science have shown such boldness, seal, activity, and sagacity as Linné: natural science is under unspeakable obligations to him, though the different systems established by him may be superseded by more perfect ones. Charles XIV., king of Sweden, in 1819, ordered a monument to be erected to him in his native place. By his wife, the daughter of a physician at Fahlun, he had a son and four daughters. The former, *Charles von Linné*, was joint-professor of botany, and afterwards of medicine at Upsal. He was well acquainted with science, but distinguished himself by no discoveries of importance. On his death, without issue, in 1783, the family became extinct.—*Elizabeth Christina von Linné*, one of the daughters of the great naturalist, studied botany, and became known by her discovery of the luminous property of the flower of the *tropeolum*, of which an account was communicated to the academy of Stockholm.

LINSEED OIL. See *Flax*.

LINT, in surgery, is the scrapings of fine linen, used by surgeons in dressing wounds. It is made into various forms, which have different uses, according to the difference of the figures. Lint, made up in an oval or orbicular form, is called a *plaster*; if in a cylindrical form, or in shape of a disk or oval stone, it is called a *dosetil*. These different forms of lint are required for many purposes; as, 1. to stop blood in fresh wounds, by filling them up before the application of a bandage; though, if scraped lint is not at hand, a piece of fine linen may be torn into small rags, and applied in the same manner; in very large hemorrhages, the lint or rags should be first dipped in some styptic liquor, as alcohol, or oil of turpentine, or sprinkled with some styptic powder. 2. to agglutinate or heal wounds; to which end lint is very serviceable, if spread with some digestive ointment, balsam, or vulnerary liquor: 3. in drying up wounds and ulcers, and forwarding the formation of a cicatrix: 4. in keeping the lips of wounds at a proper distance, that they may not hastily unite before the bottom is well digested and healed: 5. they are highly necessary to preserve wounds from the action of the air.—Surgeons of former ages used compresses of sponge, wool, feathers, or cotton, linen being as plentiful than in later times; but lint is far preferable to all these, and is, at present, universally used.

LINTZ, the capital of Upper Austria, on the Danube, at the influx of the Traun, is well built, with a bridge 400 paces long, and has, exclusive of the garrison, a population of 18,700 inhabitants, 1000 houses. Here is the largest woollen manufactory in Austria, in which fine carpets are made. Much gunpowder is also manufactured here. In 1784, Lintz was made a bishop's see. In 1674, the lyceum was founded by Leopold, and, in 1834, institutions for the deaf and dumb, and one for the blind, were erected. The Northern Institute is a chapel for the Catholics of the north of Germany. Lon. 16° 16' 45" E.; lat. 48° 18' 54" N.

LINUS; the name of a celebrated musician of antiquity, to whom Diodorus Siculus, quoting Dinsius of Mitylene, attributes the introduction of verse and music into Greece. He was a native of Chios, and to him are ascribed a poem on the exploits of Bacchus in India, a treatise on mythology, the addition of a string to the lyre then in use, and the invention of melody and rhythm. Siculus also joins in giving him credit for the last-mentioned improvements, and calls him the first lyric poet. A few

fragments of poetry, under his name, are to be found in Slobæus.

LION (*felis leo*). The lion, like all other cats, is armed, in each jaw, with six strong and exceedingly sharp cutting teeth, two formidable canine, and six others, occupying the usual place of the molars, but differing from these by terminating in sharp protuberances. Besides these, there is a small tooth, or tubercle, on each side of the upper jaw, immediately posterior to all the others. The tongue is covered with rough and elevated *papillæ*, with their points directed backwards. The claws, which are five in number on the fore feet, and four on the hinder, are of great length, extremely powerful, and much curved; like those of the other cats, they are retractile within a sheath enclosed in the skin covering the paws. The lion is distinguished from his kindred species by the uniformity of his colour, which is pale tawny above, becoming somewhat lighter beneath, and never, except while very young, exhibiting any markings; and also by the long and flowing mane of the old male, which, covering the whole head, extends backwards over his shoulders. Notwithstanding the praises that have, from time immemorial, been bestowed on this animal, for grateful affection, dauntless courage, and merciful forbearance, he is nothing more, in moral and intellectual faculties, than a cat of immense size and strength, and endowed with all the guileful and treacherous qualities of that treacherous tribe. His dauntless courage is a mere consciousness of superiority over the animals by which he is surrounded, and wholly disappears in the neighbourhood of man; his merciful forbearance is nothing more than that he never destroys more than satiates his hunger or revenge, and that, when under the dominion of man, he suffers his keeper to approach him without injury.

The lion is only met with in the warmer regions of the old world, and more particularly of Africa, in whose vast forests and arid deserts he reigns supreme and uncontrolled. He is met with, but rarely, in parts of India, Arabia, and Persia, but his range in these countries is becoming very limited. From Libya, whence the Romans obtained so many, he has almost disappeared; and in classic Greece, where, we are informed by Aristotle, he once occurred, none are to be found. In America, this species never occurred, its place being supplied by the puma. Naturalists have differed greatly as to the longevity of this animal. Buffon stated it to be from twenty to twenty-two years; but it far exceeds this, as the one in the Tower of London, which died in 1760, lived in captivity above seventy years; and another died in the same place, at the age of sixty-three. The lioness brings forth from three to four at a birth. The cubs, when first born, are about the size of a small pug dog, and continue to suck the mother for about a year. At this time, their colour is a mixture of reddish and gray, with a number of brown bands. The mane of the male begins to make its appearance when the animal is about three to three years and a half old. The male attains maturity in seven, and the female in six years. The strength of the lion is prodigious, a single stroke with his paw being sufficient to destroy most animals. The bone of the fore leg is remarkably fitted to sustain the great muscular strain so powerful an exertion occasions. Its texture is so compact, that it will strike fire with steel. The lurking-place of the lion is generally chosen near a spring, or by the side of a river, where he has an opportunity of surprising such animals as resort to the water to quench their thirst. Here he lies in wait, crouched in someicket, till his prey approaches, and then, with a prodigious leap, seizes it at the first bound: if, how-

ever, unsuccessful in this, he immediately retires to wait another opportunity. In the night, more particularly, the lion prowls abroad in search of his prey, the conformation of his eyes being, like those of the common cat, well fitted for seeing in a dim light. The roar of the lion is loud and terrific, especially when heard in the solitary wilds he inhabits; this roar is his natural voice; for, when enraged, he utters a short and suddenly repeated cry, whilst the roar is a prolonged effort, a kind of deep-toned grumbling, mixed with a sharp, vibrating noise. It has been usually stated, that the lion had constant and stated times for roaring, especially when in captivity; but this has been shown to be erroneous in some degree. It appears, however, that, in summer time, and especially before atmospheric changes, he uniformly commences about dawn; at no other time is there any regularity in his roar. When enraged, his cry is still more appalling than his roar; he then beats his sides with his tail, agitates his mane, moves the skin of his face and his shaggy eyebrows, thrusts out his tongue, and protrudes his dreadful claws. The lion requires about fifteen pounds of raw flesh a day; he drinks often, lapping like a dog; but in this process his tongue is bent downward: his breath is very offensive, and the odour of his urine insupportable.

There is some variation, in the lions of different countries in external appearance, though, in essential particulars, their habits are identical. The Asiatic variety seldom attains an equal size with the Cape lion; its colour is a more uniform and pale yellow, and its mane fuller and more complete, and being, moreover, furnished with a peculiar appendage of long hairs, which, commencing beneath the neck, occupy the whole of the middle line of the body beneath. Even the Cape lion presents two varieties, known as the *pale* and the *black*, distinguished, as their appellations imply, by the lighter or darker colour of their coats. The latter of these is the larger and more ferocious of the two. The Barbary lion has the same full mane as the Asiatic, but exceeds him in size.

The number of lions, as has been observed, has greatly diminished, judging from the multitudes spoken of by ancient writers, and those carried to Rome. Thus Sylla the dictator exhibited, during his prætorship, 100 of these animals; and Pompey presented 600 in the circus. Lion fights were common under the consulate, and during the empire. Adrian, it is said, often caused 100 to be destroyed at one exhibition; and Antoninus Pius and Marcus Aurelius were equally prodigal in gratifying the people. At the Cape of Good Hope, lions are hunted, not only for the purpose of extermination, but also for their skins. In the daytime, and in an open country, from ten to sixteen dogs will easily overcome a lion of the largest size; nor does there appear to be any necessity that the dogs should be very large; as he is less swift than these animals, they readily overtake him, on which the lion turns round, and waits for the attack, shaking his mane, and roaring in a short and sharp tone, or sits down on his haunches to face them. The dogs then surround him, and, simultaneously rushing upon him, subdue him by their united efforts, though not before he has destroyed several of them. But the mode of destroying them, usual among the Bushmen, is by shooting them, either with fire-arms or poisoned arrows. The inhabitants know that the lion generally kills and devours his prey at sunrise and sunset. On this account, therefore, when they intend to hunt them, they notice where the antelopes are feeding at daybreak: if they perceive that these animals are alarmed, they conclude that they have been attacked

by a lion. Marking the spot whence the alarm took place, about mid-day, when the sun is very powerful, and the object of their attack asleep, they carefully examine the ground, and, if they find him, they lodge a bullet or poisoned arrow in him. Sometimes, however, he is fairly brought to bay in the daytime, by the hunter, as the following account from Pringle testifies. After his retreat is found, "the approved plan is to torment him with dogs till he abandons his covert, and stands at bay in the open plain. The whole band of hunters then march forward together, and fire deliberately, one by one. If he does not speedily fall, but grows angry and turns upon his enemies, they must then stand close in a circle, and turn their horses' rear outward, some holding them fast by the bridles, while the others kneel to take a steady aim at the lion as he approaches, sometimes up to the very horses' heels, crouching every now and then, as if to measure the distance and strength of his enemies. This is the moment to shoot him fairly in the forehead, or some other mortal part. If they continue to wound him ineffectually, till he becomes furious and desperate, or if the horses, startled by his terrific roar, grow frantic with terror, and burst loose, the business becomes rather serious, and may end in mischief, especially if all the party are not men of courage, coolness, and experience." Very full accounts of the lion and his habits are to be found in the travels of Sparmann, Barlow, Levaillant, Burchell, &c., in Southern Africa, and also in the Library of Entertaining Knowledge, and the Tower Menagerie, from which the above account has been condensed.

**LION'S GULF.** This is the proper spelling of the gulf generally called *Gulf of Lyons*. The name is derived from *lion*, on account of the fierceness of the gales, at some seasons, in this gulf. The proper mode of writing it in French is *Golfe du Lion*. See *Lyons, Gulf of*.

**LION'S SHARE**; the whole, or a disproportionate share of the advantages of a contract, claimed by one of the parties, and supported by the right of the strongest. The phrase is derived from a fable of Æsop.

**LIPARI**; a cluster of volcanic islands in the Mediterranean, which take their name from the principal one of the group, about twenty-four miles from the north coast of Sicily. Lon. 15° 12' E.; lat. 38° 34' N.; population, about 20,000. These islands were called, by the ancients, *Æolia*, *Vulcania*, and *Insula Liparæorum*, and feigned to be the residence of Æolus and Vulcan. *Lipari*, the largest, is populous and well cultivated, producing great quantities of corn and fruit, especially figs and raisins; it likewise produces alum, sulphur, nitre, and cinnabar. It is about fifteen miles in circumference; the air is healthy, and the inhabitants industrious and good seamen. On the eastern coast is situated a town of the same name. In this island were formerly pits, which emitted fire and smoke, but have long ceased to do either. Population, 15,000; square miles, 100. The other islands are Stromboli, Panaria, Vulcano, Salini, Alicudi, and Felicudi, with two or three smaller ones. The volcanic eruptions, formerly frequent in the island of Lipari, ceased in the sixth century, but the whole island is composed of pumice-stone, lava, volcanic glass, and black sand; and the warm baths, and heated vapours of the Stoves (excavations which emit hot, sulphureous exhalations), prove the activity of the subterranean fires. The celebrated crater of Vulcano was visited by general Cockburn in 1812 (*Voyage to Cadix*); the volcano is probably only slumbering, and not extinct. Stromboli is at present the most remarkable of the islands; its fires are in unremitting activity, the eruptions taking place

at regular intervals, varying from three to eight minutes. See the works of Dolomieu, Spallanzani, Brydone, &c.

**LIPOGRAMMATIC COMPOSITIONS**; those in which certain letters are purposely left out. Thus Lope de Vega wrote a *novella* without *l* or *e*. Katschub wrote one without *r*. The word is derived from the Greek *λυπος* (signifying to omit, and thus a many compound words), and *γραμμη* (letter).

**LIPPE.** The ancient principality of Lippe is at present, divided between two reigning houses: 1. *Lippe-Deimold* contains about 490 square miles, with 71,200 inhabitants. Deimold, with 2700 inhabitants, is the capital. Public revenue, 490,000 guilders. The prince furnishes a contingent of 600 men to the German confederacy. The constitution granted by the mother of the present prince to the country is still suspended, because the nobility will not allow the peasants to be represented. 2. *Schaumburg-Lippe*. The dominions of the prince of Lippe-Schaumburg contain 212 square miles, with 25,538 inhabitants; revenue, 215,000 guilders; contingent to the German confederation, 240 men. Bückeburg, the capital, is on the river Au. In 1840, the prince abolished the last traces of bondage, and Jan. 15, 1816, established a constitution.

**LIPPI.** There were three Florentine artists of this name. Of these, the eldest, *Francesco Lippi*, born in 1421, and surnamed the *Old*, had taken the vows as a Carmelite monk, but afterwards abandoned the church, and underwent many vicissitudes of fortune. On one occasion, he fell into the hands of a Barbary corsair, who sold him to slavery in Africa. The successful exertion of his talents, upon the portrait of his purchaser, was rewarded by his restoration to liberty. On his return to Italy, he was received into the service of the grand duke of Florence. His death took place in 1488; and, although he was then sixty-seven, it is said to have been the result of an intrigue with a female of a respectable family, poison being employed by her relatives in his destruction.

He left one son, *Filippo*, also a painter of considerable reputation, born in 1460. Many of his works are yet to be found in the city of which he was a native. He died in 1505.

*Lorenzo*, the third of the name, descended of the same family, united to considerable skill as an historical and portrait painter the arts of poetry and music. He was born in 1606, and is advantageously known as the author of a burlesque poem, entitled *Mascherate Racquistato*. Of this work there have been three editions; two printed at Florence, in 1688 and 1713, the other, in 1768, at Paris. It appeared originally under the fictitious name of *Zipoli*. His death took place in 1664.

**LIPSIUS, JUSTUS**; an acute critic and erudite scholar of the sixteenth century, was born at Weversloot, in Brabant, a village situated between Brussels and Louvain, in October, 1547. Marcus Lipsius, the intimate friend of Erasmus, was his uncle. His genius developed itself very early, his memory being considered wonderful. Before he had completed his ninth year, he had written some miscellaneous poetry, much above mediocrity. He was instructed at Brussels, and, subsequently, at the colleges of Æth, Cologne, and Louvain. He removed to Rome in his twentieth year, and, having secured the patronage of cardinal Grævekin, by dedicating to him his treatise *Variarum Lectionum*, was received into his household, in the nominal capacity of secretary. With this distinguished prelate he remained till 1569, sedulously consulting the treasures of the Vatican, and other principal libraries, especially employing himself in the collation of rare and ancient

manuscripts. On his return to the Netherlands, after a short time spent at Louvain, he visited the capital of the German empire, and then accepted a professorship in the university of Jena. Here the fickleness of his disposition, and the vacillating state of his opinions respecting religious matters, which eventually fixed the imputation of imbecility on a character in other respects estimable, first became apparent. He renounced the Romish church, and became a Lutheran; but, quitting Jena, at length, with an avowed intention of spending the remainder of his life in retirement in his native country, he repaired to Overysche, and, soon after, recanted his supposed errors, and became reconciled to the see of Rome. In 1577, however, he again removed to Leyden, when he embraced the doctrines of Calvin, and, during the thirteen years which he spent in that university, gave to the world the most esteemed of his works. In 1590, he returned finally to Louvain, and once more became a Catholic, and that of the most bigoted description. Many tempting and honourable offers were made him by various potentates, to engage him in their service; but he refused them all: and, at length, died at Louvain, in the spring of 1606. Superstition led him, a short time before his death, to dedicate a silver pen, and his fur gown, to the virgin Mary. His principal works are the *Variae Lectiones* above-mentioned; an excellent Commentary on the Works of Tacitus; treatises *De Constantia*; *De Militia Romana*; *De Amphitheatris*; *De Pronunciatione recta Linguae Latinae*; *De Cruce*; *De una Religione*; *De Bibliothecis*; *Satira Menippæa*; *Saturnalia*; and an Oration on the Death of the Duke of Saxony. The best edition of them is that printed at Antwerp, in 1637.

LIQUEUR (from the French); a palatable spirituous drink, composed of water, alcohol, sugar, and some aromatic infusion, extracted from fruits, seeds, &c. The great difference in the qualities of the different liqueurs is owing principally to a variation in the proportions of the sugar and alcohol. The French distinguish three qualities: the first are the *ratifias*, or simple liqueurs, in which the sugar, the alcohol, and the aromatic substance are in small quantities: such are the anise-water (q. v.), *noyau*, the apricot, cherry, &c. *ratifias*. The second are the oils, or the fine liqueurs, with more saccharine and spirituous matter; as the *anisette*, *curacao*, &c., which are those commonly found in the *cafés*. The third are the *creams*, or superfine liqueurs, such as *rosoglio*, *maraschino*, *Dantico* water, &c. The same aromatic infusion may, therefore, give its name to liqueurs of different qualities, in which the materials are the same, but the proportions different: thus one proportion of ingredients gives *eau-de-noyau*; another *trine de-noyau*, &c.

LIQUIDAMBAR STYRACIFLUA, or SWEET GUM. This tree is widely diffused through America, from lat. 43° to Florida, and along the shores of the gulf into the provinces of Mexico. The leaves, which somewhat resemble those of some maples, are very regularly five-lobed, and the lobes are serrated on the margin. The flowers are inconspicuous. The fruit consists of a sort of bur, supported on a long pedicel, and is somewhat similar to that of the cotton-wood, or plane-tree, but is much less even on its surface. It is abundant every where throughout the Middle, Southern, and Western States, and sometimes has a trunk five feet in diameter, with a proportional summit. The usual diameter, however, is from one to three feet. The wood is compact, capable of receiving a fine polish, and has been used in articles of furniture; but, for this purpose, it is inferior to either the wild cherry or black walnut. It is, however, employed for lining mahogany, for bed-

steads, and for a variety of purposes in the interior of houses, possessing great strength, but requiring protection from the weather. The bark, on being wounded, yields a small quantity of a fragrant resin.

LIQUORICE (*glycyrrhiza*); a genus of leguminous plants containing eight species. They have pinnated leaves, and small, blue, violet, or white flowers, which are disposed in heads or spikes, and are remarkable for the sweetness of the roots. The common liquorice (*G. glabra*) grows wild in the south of Europe, and is cultivated in many places, even in Britain, for the sake of the root, which is much used in pharmacy, and forms a considerable article of commerce. More than 200 tons of the extract are manufactured annually in Spain, a considerable portion of which is sent to London, and employed in the brewing of porter. It is often administered medicinally, in coughs and pulmonary affections, and the aqueous infusion is used as a refreshing beverage. A deep, light and sandy soil is best adapted to its culture.

LIRIODENDRON. See *Tulip-Tree*.

LISBON (*Lisboa*), the chief city of Portugal, and the residence of the court, is situated in the province of Estremadura, on the right bank of the Tagus, which is here a mile and a half in width, and not far from the mouth of the river. It is built on three hills, in a romantic country, and exhibits a grand appearance from the harbour. Including the suburbs Junqueira and Alcantara, it is about five miles in length, and a mile and a half in breadth. It contains forty parish churches, seventy-five convents, and a hundred chapels, 44,000 houses, and, before 1807, had 300,000 inhabitants, but, at present, has not more than 200,000; among whom are many foreigners, Negroes, Mulattoes, Creoles, and 30,000 Galicians, who come from Spanish Galicia, and serve as porters and water carriers, and perform other menial occupations. The town is open, without walls or gates. The highest hill only has a castle, now in ruins; but the harbour is beautiful, capacious, and safe, and is defended by four strong forts on the banks of the river (St Juliana, St Bugio, the tower of Belem, &c.). Many of the streets are very uneven, on account of the hilly situation of the city. The finest are on the banks of the river. There are no elegant private buildings. The houses of the nobility are distinguished only by their size. The western part has been beautifully rebuilt since the dreadful earthquake (Nov. 1, 1755) which destroyed half of the city, with the loss of 30,000 lives,\* the streets being straight, and regularly laid out, with fine houses and squares. The eastern part of the city, which was not affected by the earthquake, has preserved its gloomy aspect—crooked streets and old-fashioned houses, six and seven stories high. Lisbon was formerly known to be extremely filthy and unsafe; but, at present, regulations have been made to provide for the public security, and the streets are well lighted. Among the squares, the principal are the *Plaza do Commercio* and the *Rocio*. They are connected by handsome, wide, straight streets. The former, on which the royal palace, now in ruins, was situated, lies on the bank of the Tagus, as the landing-place of the harbour, is an oblong square, of 615 paces in length and 550 in breadth, and is surrounded, on three sides, with fine buildings (the fourth is open towards the

\* The city then contained about 150,000 inhabitants. The shock was instantly followed by the fall of every church and convent, almost all the large public buildings, and more than one fourth of the houses. In about two hours after the shock, fires broke out in different quarters, and raged with such violence, for the space of nearly three days, that the city was completely desolated. The earthquake happened on a holiday, when the churches and convents were full of people, very few of whom escaped.

river). In the centre there is a bronze statue of king Joseph I. The Rocio, where the *autos da fe* were formerly exhibited, is a regular oblong, 1800 feet in length and 1400 in width, with the new palace of the inquisition on one side. In this square ten streets meet. Among the churches, the new church is the finest, and is the most magnificent building erected since the earthquake. The patriarchal church, on an elevated situation, which affords a beautiful view, is magnificent in its interior, and contains rich treasures and many curiosities. The patriarch, the head of the Portuguese church, has a large annual income. The aqueduct, about seven miles in length, is a remarkable construction. The centre is so high, that a ship of the line might pass under it. The water is carried over the valley of Alcantara, on thirty-five marble arches. It withstood the force of the earthquake, although the keystones sank a few inches. The St Joseph's hospital, where 16,000 sick, and the foundling hospital, where 1600 children, are annually received, deserve to be particularly mentioned. Among the literary institutions are the royal academy of sciences, the college of nobles, the marine academy, with other seminaries, a botanical garden, three observatories, the royal cabinet of natural curiosities, and several public libraries, among which is the royal library, containing 80,000 volumes. Lisbon is the seat of the supreme authorities, and, of the patriarch of Portugal, with a numerous clergy. The inhabitants have but few manufactures: there are not even mechanics enough to supply the demands of the city. But Lisbon is the centre of Portuguese commerce, which extends to most of the countries of Europe, to America, and to the Portuguese possessions in other parts of the world. There are about 240 Portuguese and 130 foreign (principally British) mercantile houses. From 1700 to 1800 vessels arrive annually at the port (Junqueira). The beautiful environs of the town are embellished by a great number of country seats (*quintas*). In the vicinity are Belem and the castles Ramalhao and Quelus.

LISLE, or LILLE (Flemish, *Rijsel*); a large and strong city of France, formerly the capital of French Flanders, and now of the department of the North, situated on the Deule, in a dead flat. The Deule is navigable, and is divided into several branches, part of which supply the moats or great ditches of the citadel and town. The form of Lisle is an irregular oval; its length, from north-west to south-east, is nearly two miles; its breadth, about three quarters; its circumference, between four and five, exclusive of the earthen ramparts that surround the town, and which are, in their turn, surrounded by a moat. Lisle presents an imposing appearance, from its extent, its fortifications, its canals, its squares, and its public buildings. Few cities of France can vie with it in the straightness and width of its streets, the regularity of its buildings, and its general air of neatness. Several convents have survived the revolution; the hospitals are five, one very large. Lisle is a fortress of the first rank. Its citadel, the masterpiece of Vauban, is the first in Europe after that of Turin. It is a mile in circuit, and is surrounded by a double moat. The trade of Lisle is extensive. Its manufactures are of camlets, serges, and other woollen stuffs, cotton, calico, linen, silk, velvet, lace, carpets, soap, starch, tobacco, leather, glass, and earthenware. The origin of this town is ascribed by tradition to Julius Cesar. Louis XIV. took it from the Spaniards in 1667. It surrendered in 1708, to the duke of Marlborough and prince Eugene. At the peace of Utrecht, it was restored to France. In 1792, it was bombarded by the Austrians, who were obliged to retire, with the loss of 20,000 men. Po-

pulation, 69,860; 18 miles east of Tournay; lon. 7° 4' E.; lat. 50° 37' 50" N.

LIST; the enclosed ground wherein knights had their jousts and tournaments; so called because encircled with barriers as with a list. Some were double, one for each cavalier, so that they could not approach nearer than a spear's length. Hence to enter the lists is to engage in contest.

LISTEL; a small square moulding, serving to crown or accompany a larger, and to separate the flutings in columns.

L'ISTESSO TEMPO (*Italian*); a phrase implying that the movement before which it is placed is to be played in the same time as the previous movement.

LITANY (from the Greek *lithano*, *supplicatio*, prayer); a form of prayer or song, used on occasions of public calamity, first introduced, according to Zonaras and Nicephorus, by Proclus, about the year 446, at Constantinople, in the reign of Theodosius, according to Paulus Diaconus, under Justinian, at Antioch, in consequence of the following circumstance. An earthquake, says the legend, having driven the people into the fields, a boy was suddenly taken up into the air in their presence; but was again let down unhurt, on the people crying out *Kyrie eleison* (O Lord have mercy). The boy related he had heard the songs of the angels, "Holy God! Holy and Mighty Holy and Immortal! have mercy upon us!" and he gave rise to the litany. This kind of common prayer was, perhaps, not unusual among the Jews, and the 136th Psalm seems to have been adapted to this purpose. Litanies afterwards became very common, and every saint of the Roman calendar has his litany. It must be owned, that some of these are very unmeaning, enumerating all the names and miracles ascribed to the saint, and, in this respect, not unlike the prayers of the Romans, which consisted merely of a catalogue of the names of the deity addressed, against which St Paul gives a particular warning. Litanies are found in the old hymn-books of the Lutheraeans, but are no longer used by German Protestants. The Catholic litanies are distinguished into the greater and less. The latter is said to have been composed by bishop Mamertus, of Vienne (in France), in 461, when that place was visited by repeated calamities, the former by Gregory the Great, during an inundation of the Tiber, and a raging plague. This consisted of a song of seven choirs (hence *septiformis*), of clergy, monks, nuns, boys, girls, Roman citizens, and widows and married women. The litany probably consisted, at first, of the words *Kyrie eleison*, but was gradually enlarged. The litany was usually sung on the *dies rogationum* (days of entreaty). At a later period, the litany was not only addressed to the Holy Trinity, but also, as we have said, to the saints, and sung in processions. This latter kind of litany of course was omitted by the Protestants. The usual answer of the people is, *Orate pro nobis* (pray for us); if the litany is directed to the Virgin or a saint, or *Libera nos* (deliver us), if it is addressed to the Deity. Indecent parodies have often been made on litanies, and sung in connexion with other profane songs. In early times, instances occur of this being done, even by monks. (See the note to the article *Faust*, *Fast* of.) The following parody is taken from the *Capitlier's* Letanie (1647):

From too much keeping an evil devotion,  
From the manyfold treasons perjuramentum,  
From Oliver Cromwell, our common sedition,  
Liberate us.

See the *Sacra Litaniae versus* (Astbury, *debet* and Bingham's *Origines Ecclesiasticae*, for a general account of litanies.—That this simple form of prayer and response has, at times, been of great advantage to the people cannot be denied; and, because many litanies

are poor, all ought not to be condemned. See *Liturg.*

**LITCHFIELD.** See *Lichfield*.

**LIT DE JUSTICE** was formerly a solemn proceeding in France, in which the king, with the princes of the blood royal, the peers, and the officers of the crown, state and court, proceeded to the parliament, and there, sitting upon the throne (which in the old French language, was called *lit*, because it consisted of an under cushion, a cushion for the back, and two under the elbows), caused those commands and orders, which the parliament did not approve, to be registered in his presence. The parliament had the right of remonstrating, in behalf of the nation, against the royal commands and edicts. If the king, however, did not choose to recede from his measures, he first issued a written command (*lettres de jussion*) to the parliament; and if this was not obeyed, he held the *lit de justice*. The parliament was then, indeed, obliged to submit, but it afterwards commonly made a protest against the proceeding. Louis XV. held such a *lit de justice*, in 1763, in order to introduce certain imposts, but, on account of the firm resistance of the parliaments, he was finally obliged to yield. The last *lits de justice* were held by Louis XVI., in 1787 and 1788.

**LITERARY HISTORY** is the science whose object is to represent the development or the successive changes of human civilization, as far as these are manifested in writings, as the object of *political history* is to show the same, manifested in the various political establishments and changes. In a more limited sense, literary history treats of learned writings, their contents, fate, modifications, translations, &c. (which is *bibliography*, q. v.), of the lives and characters of their authors, the circumstances under which they wrote, &c. (which constitutes *literary biography*). The latter has also been called *external literary history*, the former *internal literary history*, because it aims to show, in a connected view, the development of sciences. From its nature, it is obvious that literary history could not fairly begin until mankind had acquired extensive knowledge of what has been done and written, which required the preparatory study of centuries, as well as a civilized intercourse among the various nations. This science is, indeed, of comparatively recent date, and we have it no means, even yet, a general literary history. What we have is mostly confined to Europe; at least, we are yet too little acquainted with many parts and periods of the literary history of the East, which has several times given an impulse to the western world, to authorize us to call what has hitherto been done a general literary history. The branch which relates to Greece and Rome must remain of surpassing importance. The ancients did not treat literary history as a distinct department of history. The literature of the Greeks, and, though not in the same degree, that of the Romans, were so intimately connected with their religion and politics, that a separation of literary from general history could not easily take place; besides, the materials were not sufficient to claim a separate consideration. Hence the classics contain only scattered notices and detached materials for a literary history, partly in biographies of poets, philosophers, orators, grammarians, &c.; partly in criticisms and extracts from their writings. In notices we find in the works of M. Terentius Varro, Cicero, Pliny, Quintilian, Aulus Gellius, Cassius of Halicarnassus, Pausanias, Athenæus, the biographers Plutarch, Suetonius, Diogenes Laërtius, &c. Suidas and Photius likewise contribute names and titles. The middle ages contributed detached facts to the history of their literature, chiefly in chronicles, partly in the confidential com-

munications of poets and other authors, respecting their own lives. The first rude attempt at a compilation of general literary notices, yet without systematical order, was made by Polydore Virgil of Urbino in his work *De Inventoribus Rerum*, which first appeared in print in 1499. The true father of literary history is the famous Conrad Gesner, whose *Bibliotheca Universalis* contains stores of knowledge not yet exhausted. In his twenty-fifth year, he began to execute his grand plan of a general work on literature, and, in three years, his materials were so far prepared, that they could be arranged for printing. According to his plan, the work was to be divided into three parts—an alphabetical dictionary of authors, a general systematic view of literature, which even cites single dissertations and passages, and an alphabetical index of matters and subjects treated. (See Ebert's *Bibliog. Lex.*, article *Gesner*). The first edition of the first division appeared in 1545.\* Peter Lambeck gave instruction in literary history at the gymnasium of Hamburg, 1656, on the plan of Gesner and Virgil, and published, in 1659, outlines, as a text-book for his lectures, the title of which is *Prodromus Historiæ Literariæ*. Daniel George Morhof's *Polyhistor Literarius, Philosophicus et Practicus*, the first edition of which appeared in 1688, contributed to promote the study of literary history. Since the beginning of the eighteenth century, literary history has been a favourite study of the learned, and has been taught in the universities, and in higher schools, at least in Germany. To these lectures we owe several Introductions, General Views, and Systems of literary history. We mention, in chronological succession, Burkhard Gottlieb Struvius, professor at Jena; Matthew Lobelt, professor at Greifswald; N. H. Gundling, professor in Halle; Gottlieb Stoll, professor in Jena; G. G. Zeltner, professor in Altorf; C. C. Neufeld, professor in Königsberg; F. G. Bierling, professor in Rinteln; and others. Reimann must also be mentioned on account of his Introduction to *Historia Literaria* (1708), and his *Idea Systematis Antiquitatis Literariæ*. Still more important was Chr. Aug. Heumann's *Conspectus Republicæ Literariæ*, a work much superior to any that had preceded it, in arrangement, acute criticism, and richness of materials. John Andrew Fabricius's *Sketch of a General History of Literature* (1752) is a comprehensive work, and unites the synthetic and analytic method. A. Y. Goguet was the first to introduce a more philosophical treatment of literary history; and the

\* Lord Bacon, in his *Advancement of Learning* (*De Aug. Sci.* ii. 5), seems to have been the first (1605) to have traced out the objects and extent of a general literary history (*Historia Literaria, Historia Literaria*). "History," says he, "is natural, civil, ecclesiastical and literary; whereof the first I allow to be extant, the fourth I note as deficient. For no man hath propounded to himself the general state of learning to be described and represented from age to age, as many have done the works of nature, and the state civil and ecclesiastical, without which the history of the world seemeth to me to be as the statue of Polyphemus with his eye out, that part being wanting which doth show the spirit and life of the person; and yet I am not ignorant that in divers particular sciences, as of the jurisconsults, the mathematicians, the rhetoricians, the philosophers, there are set down some small memorials of the schools, authors and books; and so likewise some barren relations touching the inventions of arts or usages. But a just story of learning, containing the antiquities and originals of knowledge, and their sects, their inventions, their traditions, their divers administrations and managings, their flourishing, their oppositions, decays, depressions, obliuions, removes, with the causes and occasions of them, and all other events concerning learning, throughout the ages of the world, I may truly affirm to be wanting. The use and end of which work I do not so much design for curiosity or satisfaction of those that are lovers of learning, but chiefly for a more serious and grave purpose, which is, that it will make learned men wise in the use and administration of learning."

Italian Denina rivals him in brilliancy of manner, without equalling him in thoroughness and originality of views or in judgment. It began to be more and more clearly felt, that literary history, though an independent branch of history, would remain a mere list of names, titles, and dates, if it were not treated with constant reference to the state of religion, politics, morals, and the arts. Attempts have been made to treat it as a part of the general history of civilization by Iselin, Ferguson, Home, and particularly by Herder. In recent times, the Germans have taken the lead in this science, both in extent of knowledge and comprehensiveness of views. J. G. Eichhorn's, and L. Wachler's work is of high value, as are also those of S. G. Wald, J. G. Meusel, and Fr. Schlegel. It would exceed our limits were we to mention here the different productions upon the literary history of single nations and particular periods. A work on an extensive plan, though not of a general nature, is the great enterprise of the literary society of Göttingen—*History of Arts and Sciences in Europe, since the Restoration of the same, until the End of the Eighteenth Century*.

Literary history is naturally divided into ancient, middle and modern. The ancient terminates with the retirement of science into the convents, in the sixth century; the middle begins with the downfall of the great Roman empire (about 500 A. D.) and the commencement of literary civilization in the various European nations, without the support of ancient classical civilization (see Berrington's *Literary History of the Middle Ages*); and the last begins about 1450, when the study of the classics was renewed, and knowledge revived in Europe.

**LITERARY PROPERTY.** In the whole compass and variety of the products of human labour, no one thing is more exclusively such than intellectual works. In the fabrication and production of almost all other subjects of value and property, the materials are supplied, directly or indirectly, by the earth or the water; and man only co-operates with nature in furnishing the article. But a piece of music, a painting, a poem, an oration, a history, or a treatise of any description, is the offspring of the unaided labour of the mind. It is supplied from abroad, only with the canvass, paper, parchment, or whatever other substance is used for recording the work, and affording the evidence of its accomplishment, but which is no more a part of the thing produced, than a deed conveying an estate, is a part of the thing conveyed. But, though the right to the products of intellectual labour is thus peculiarly positive and absolute, it is among the latest rights of property recognised in a community, since the subject of it, the product itself, is only the result of an advanced state of civilization. Another reason of its not attracting a more early attention, is its abstract, incorporeal nature, and also, in some cases, the difficulty of defining and identifying it, and deciding what is an infringement of this right of property; and again, in some countries, speaking the same language as those bordering upon them, the great difficulty of protecting this kind of property from infringement, though no doubt arises as to the identification of the thing claimed, or in determining what shall be considered to be an infringement.

The question whether an author has, of common right, and independently of any special statute in his favour, a property in the products of the labour of his mind, as unquestionable and absolute as any other producer has in those of the labour of the hands, was very elaborately discussed in the court of king's bench, and in the house of lords, in the time of lord Mansfield, in the celebrated cases of *Millar* against *Taylor*, reported in the fourth volume of *Barrow's Reports*, in relation to the copyright of

*Thomson's Seasons*; and *Donaldson* against *Trotter*, reported in the same volume. The first of these cases came before the court in 1769. In 1709, the statute of 8 Anne, chapter 19, had been passed giving to authors an exclusive copyright "for the term of fourteen years, and no longer." Notwithstanding the limitation of the right to that term, by the statute, it had been held, in *droits d'auteur* cases, subsequently decided, that the exclusive property of the author, or his representatives or assigns, continued after the expiration of the fourteen years, and, accordingly, in 1739, lord chancellor Hardwicke granted an injunction against a person, other than the proprietors, printing *Milton's Paradise Lost*, the title to the copyright of which was derived to the proprietor, under an assignment by *Milton*, twenty-two years before. In the case relating to the copyright of *Thomson's Seasons*, three of the judges, namely, lord Mansfield, and justices Ashmole and Willes, were of opinion, that the exclusive right of property continued after the expiration of fourteen years from the first publication, as limited by the statute of Anne, and such was the decision of the court. Mr Justice Yates dissented from that opinion. Five years afterwards, in 1774, the other case came before the house of lords, and, as is usual with that tribunal, the opinion of the judges of the king's bench, common pleas, and exchequer, was taken. Lord Mansfield, being a member of the house, did not give an opinion in answer to the questions proposed by the house, with the other judges, but acted as voted as a member of the body. Of the eleven judges who gave opinions, eight were of opinion that an author had of common right—that is, as by the common law, or without any statute to that effect—the exclusive privilege of publishing his own works, and three were of a contrary opinion. Seven, against four to the contrary, were of opinion, that, by publishing his works and vending copies, he did not abandon his exclusive property to the public, or, in other words, that, by making and selling one copy he did not authorise all other persons to make, and use or sell as many copies as they might choose. This seems to be so plain a point, that, if four respectable judges had not been of a contrary opinion, one would be ready to say it admitted of no doubt.

A case very analogous, but much stronger in favour of the author's right of property, is stated in the public journals (1831), as having recently been decided in France. An artist had sold a miniature picture, the production of his own hand or hands, and the question was made whether the purchaser had a right to publish engravings of the original. It was decided, that the artist alone, and not the purchaser, had, in such case, the exclusive right to make and publish engraved copies. But, on the other question, proposed by the house of lords, viz. whether the statute of Anne took away the author's exclusive right to his own property, after the expiration of fourteen years, six of the judges were of opinion to the affirmative, so that the whole twelve judges were equally divided upon this question, lord Mansfield being, upon this and the two other questions, in favour of the author's right. But the house of lords decided that the author had no exclusive right after the expiration of the period limited in the statute, though the reasons given on that side, by the judges who supported it, are very unsatisfactory—and it is not easy to divine the grounds of the decision. Thus, while the poverty of authors and scholars—the great leaders and champions of civilization and intellectual advancement—has been proverbial all the world over, the government has interposed, or is constrained to have interposed, with its mighty arm, not for their protection and reward, but to despoil them of their pro-

perly, the fruits of their own labour, and sequester it for the public use. If a man cultivates the ground, or fabricates goods, the fruits of his labour go to him and his heirs or assigns, absolutely, for ever; but if he spends his life upon a poem or musical composition, he only has a lease of it for fourteen years, according to the statute of Anne, when it is to be forfeited to the public. This doctrine displays, in striking contrast, the rewards bestowed, and the forfeitures enacted, in reference to different species of glory and public service. While a military hero is rewarded with a grant of lands and a title of honour, to himself and his heirs *ad infinitum*, a man of equal genius, who, by his labours, instructs and delights mankind, and sheds a lasting glory upon the country of which he is a citizen, is despoiled of the fruits of his own labours. The injustice of such a doctrine is so obvious, that its legality, though sanctioned by an acquiescence of half a century, may well be questioned. However this may be, legislators have begun to mitigate the forfeitures heretofore inflicted upon literary eminence, by extending the time for which an author may enjoy the fruits of his own talents and industry. By a law passed in the fifty-fourth year of George the Third, chapter 156, an author is entitled to an exclusive copyright in his work for twenty-eight years, and, if he is living at the end of that period, it is continued during his life. This act is entitled to the commendation of being less unjust than that of Anne.

On the continent of Europe, the laws are much more favourable, or, rather, much less unfavourable, to authors. In France, they are entitled to an exclusive copyright during their lives, and their heirs or assigns for twenty years afterwards. In many of the German states, the right is perpetual, but it is subject to this disadvantage, that it extends only to the state, in which it is granted, and the work may be pirated in the others with impunity. This can be avoided only by procuring a copyright in the different German states, which is attended with much difficulty and expense. The defect of the laws of these German states on this subject, therefore, is not in confiscating the author's property, or refusing to recognise his right to it, but in burdening him with heavy expenses in securing its protection. In Russia, the period of the copyright is the same as in France, and it is not liable to be seized and sold for the payment of the author's debts. In the United States of America, the constitution provides, that congress may secure, "for limited times, to authors, &c., the exclusive right to their respective writings," &c. Under this provision, a law was passed, in 1790, giving to authors, being citizens of the United States, and being resident therein, the sole right of printing and vending their works for the term of fourteen years from the time of recording the title in the clerk's office; and, if living at the expiration of that period, and then citizens or resident as above, they could have a renewal of the exclusive right for fourteen years longer, on filing a copy of the title again in the clerk's office. This law also required, that, at the commencement of each term, the author should publish the clerk's certificate in some newspaper for four weeks. It also required that a copy should be deposited in the office of the secretary of state. A more liberal, or, rather, less illiberal, law was passed on this subject in 1831. By this act, the exclusive right is extended to twenty-eight years, with a right of renewal for his life, if the author is living at the expiration of the first copyright. It dispenses with the publication of the clerk's certificate in a newspaper—a very useless provision; for, the work itself gives notice that the copyright is secured, a person who pirates it can have no pretence

for alleging ignorance of the fact. The act, also, though it requires that the author shall supply a copy for the office of the secretary of state, excuses him from the trouble of depositing it there, requiring him only to leave it in the office of the clerk of the district court. See *Copyright*.

LITERATURE, according to the English dictionaries, means *learning*. In general use, however, this word, in English, commonly signifies what in other countries would be called *elegant literature*, excluding works of abstract science, and mere erudition. The meaning of the word, in English, however, is vague. In German and French, the word means distinctly, the whole which has been written. Hence the phrase "literature of the middle ages," or, "medical literature," means the aggregate of works written during the middle ages, or on medicine, &c. *Literary* is applied to all those branches of reading which come within the scope of a general reader; the phrase "literary gentleman" corresponds pretty nearly to the French *homme de lettres*. *Literary gazette* is a journal which treats of works interesting to a general reader. In literary history, the word has a more extensive meaning. See *Literary History*.

LITHIA; the name applied by Arfwedson to an alkali discovered by him in analysing the petalite. The name was derived from the Greek *lithus* (stony), in allusion to the existence of the earth in a stony mineral. Lithia has since been detected in spodumene, and several kinds of mica. The best process for procuring it is the following: One part of petalite or spodumene, in fine powder, is mixed intimately with two parts of fluor-spar, and the mixture is heated with three or four times its weight of sulphuric acid, as long as any acid vapours are disengaged. The silica of the mineral is attacked by hydrofluoric acid, and dissipated in the form of fluosilicic acid gas, while the alumina and lithia unite with sulphuric acid. After dissolving these salts in water, the solution is boiled with pure ammonia to precipitate the alumina; is filtered, evaporated to dryness, and then heated to redness, to expel the sulphate of ammonia. The residue is pure sulphate of lithia, which is dissolved in water, and decomposed by acetate of barytes; and the acetate of lithia, being heated to redness, is converted into the carbonate of lithia, and, finally, this is decomposed by lime or barytes, which affords pure lithia. Its colour is white; it is not deliquescent, but absorbs carbonic acid from the air; very soluble in water; acrid, caustic, and acts on colours like the other alkalis: heated with platina, it acts on the metal. It combines with the different acids, and forms salts with them, like potash and soda, though possessed of a higher neutralising power than these alkalis. Its phosphate and carbonate are sparingly soluble; its chloride is deliquescent and soluble in alcohol, and this solution burns with a red flame. All its salts give a red colour, when heated on a platinum wire before the blowpipe. The muriate and nitrate are deliquescent. The metallic base of lithia was evolved by Sir H. Davy, by galvanism; but it was too rapidly oxidized to be collected: the metal was, however, seen to be white like sodium, and burned with bright scintillations.

LITHIC ACID, in combination with potash, is obtained from human urinary calculi, by digesting them in caustic lixivium: the lithate of potash gives up the lithic acid, on being mingled with acetic acid. It has the form of white shining plates, which are denser than water; is without taste or smell, and dissolves in 1400 parts of boiling water. It reddens the infusion of litmus. The lithates are all tasteless, and very sparingly soluble in water. Lithic acid, by

repeated distillations, is resolved into ammonia, nitrogen, and prussic acid.

**LITHOCHROMICS**; the art of painting in oil upon stone, and of taking impressions on canvass. This process, which is designed to multiply the master-pieces of painting, was invented some years ago by Malapeau, in Paris, who received a patent for his invention, and has an establishment for lithochromic productions, which have been popular in Paris since 1823. This process is a substitute for the copying of portraits; it also served as a cheap means of ornamenting walls. This art, however, is still in its infancy. The lithochromic printings yet produced, are less valuable than the poorest copies. A similar, but much superior invention has been made by Senefelder, which he calls *mosaic impression*.

**LITHOGRAPHY** (from *λίθος*, stone, and *γραφειν*, to write).\* The art of printing from stone, was invented at Munich, between the years 1795 and 1798, by Alois Senefelder. Peter Senefelder, the father of the inventor, was an actor at the theatre royal in that city, and intending to bring up his son to the law, placed him at the university of Ingolstadt. The dramatic inclination of young Senefelder, however, displayed itself in private theatricals; and, in 1789, he composed and printed a little comedy, called '*Die Mädchenkennner*,' for which he obtained some applause and profit. This success, and the death of his father, by which he was placed in reduced circumstances, fixed his determination of quitting the university, and attaching himself to the theatres. For two years he seems to have experienced all the miseries of a life of green-room vicissitudes, and then to have taken up the no less uncertain profession of authorship.

As a play which he had written could not be got ready in time for the Easter book fair at Leipzig, his second publication produced but barely sufficient to pay for the printing, to accelerate which he had passed much time in the printing-office, an anxious, and, as it will appear, no imitative spectator. "I thought it so easy," says Senefelder, in his work on Lithography, "that I wished for nothing more than to possess a small printing-press, and thus to be the composer, printer, and publisher of my own productions."

After a variety of experiments made with the view of carrying this wish into effect, in the course of which Senefelder was compelled to substitute materials less expensive, or to him more manageable, for those commonly used by printers, he accidentally invented an art which will hand his name down to posterity. Among the materials employed by him were polished blocks or slabs of Kellheim stone, and on these he endeavoured to etch his composition, in imitation of the manner of copperplate engravers, with very imperfect success.

"I had just succeeded (he himself says) in my little laboratory in polishing a stone-plate, which I had intended to cover with etching ground, in order to continue my exercises in writing backwards, when my mother entered the room, and desired me to write her a bill for the washer-woman, who was waiting for the linen. I happened not to have even the smallest slip of paper at hand, as my little stock of paper had been entirely exhausted by taking proof impressions from the stones; nor was there even a drop of ink in the inkstand. As the matter would not admit of delay, and we had nobody in the house to send for a supply of the deficient materials, I resolved to write the list with my ink prepared with wax, soap, and lamp-black, on the stone which I had just polished, and from which I could copy it at leisure. Sometime

after this, I was going to wipe this writing from the stone, when the idea all at once struck me to try what would be the effect of such a writing with my prepared ink, if I were to bite in the stone with my fortis; and whether, perhaps, it might not be possible to apply printing ink to it, in the same way as to wood engravings, and so take impressions from it."

The result of the subsequent experiments was the art of printing from stone, the principle of which I may be here necessary briefly to explain. Its foundation is the fact known to every one, that grease will readily adhere to grease, and be repelled by water.

The lines required to be printed are drawn on stone with a greasy composition formed of Indian bees' wax, shell-lac, and common soap, in equal parts which will not unite with or be affected by water previously to printing, the surface of the stone is wetted, and it is, therefore, prevented by the moisture from receiving the printing ink when applied, except on those places covered with the greasy composition. A roller charged with printing ink (which is not hardly to be stated is greasy) being passed over the stone, the printing ink readily adheres to the greasy lines of the drawing, but does not adhere to the other parts of the surface which retain the water. The print is obtained by pressure, which removes the printing ink from the lines of the drawing, and between each impression the operation of wetting the stone with a sponge, and applying the roller charged with printing ink is repeated. Such is a brief outline of the process of lithographic printing, but like every other art, simple as the general principle appears, a knowledge of the numerous details necessary to make a skilful practitioner can only be acquired by experience, and must be gained by much execution.

Unable, from the want of pecuniary resources, to pursue his discovery, or obtain any advantages from it, Senefelder, tempted by a bounty of two hundred florins, determined to enlist as a private soldier with artillery, with the enthusiastic expectation that the small sum might ultimately enable him to bring his invention into practice, and secure to himself an honourable competency and reputation. The feelings of an ingenious mind under the circumstances of Senefelder must be interesting; but his situation, at this time, was one rather of romance than of ordinary life, and cannot be better told than in his own words, nor will any one who reads the plain and nearly narrative published by him, entertain a doubt of the uncoloured truth of the relation.

"I was quickly resolved, and on the third day after forming my resolution, I went to Ingolstadt with a party of recruits to join my regiment. It was not without some feelings of mortification and humbled pride that I entered this city, in which I had formerly led the independent life of a student, but the consciousness of my own dignity, and enthusiasm for my new invention, greatly contributed to restore my spirits. I slept in the barracks, where I was not a little disgusted by the prevailing filth and vulgar jargon of a corporal. The next morning I was to enlist, but to my great disappointment the commander of the regiment discovered that I was not a native of Bavaria; and, therefore, according to a recent order of the Elector, could not serve in the army without obtaining a special license. Thus my last hope failed me, and I left Ingolstadt in a state of moral bankruptcy on despair. As I passed the great bridge over the Danube, and looked at the majestic river to which I had been twice nearly drowned while bathing, I could not suppress the wish that I had not been discovered, as misfortune seemed to persecute me with the utmost rigour, and to deny me even the last prospect

\* For the historical portion of this article we are indebted to the "Foreign Review," No. VII.

of gaining an honest subsistence in the military career."

On Senefelder's return to Munich, chance threw in his way Mr Gleissner, a musician of the Elector's band, to whom he had formerly been known, and who was about to publish some music. Senefelder communicated to him his invention of printing from stone, and it was soon determined that by this new method Gleissner's music should be given to the world. The composing, writing on stone, and printing of twelve songs was accomplished in less than a fortnight, and one hundred and twenty copies taken at the expense of about thirty florins. In a short time the entire impression was sold for one hundred florins, thus leaving a profit of seventy florins, or rather more than two hundred per cent.

In addition to this prosperous commencement, count Torring having laid a copy of the work before the Elector Charles Theodore, Mr Gleissner received a present of one hundred florins, with the promise of an exclusive privilege for this method of printing. Two or three other publications, one of which was Cannabick's "Ode on the death of Mozart," respectively yielded some profit, and Senefelder saw his invention established with every appearance of successful results. But, amidst these bright prospects, his ardour seems to have been damped at the reception of a communication which he made to the Electoral Academy of Sciences, explanatory of his mode of printing from stone. In this he stated its peculiar advantages, and dwelt at some length on the cheapness of the means by which it was performed, and instanced his own printing-press which had not cost more than six florins. Von Vachieri, the vice-president, presented him with twelve florins, intimating that his "Memoir" had been very favourably received; and adding, that as the expenses of the press, according to his own statement, did not exceed it, he hoped that a double compensation would satisfy his expectations. "I, indeed," says Senefelder, expected a very different treatment from the guardians of science and art, whose duty it is to investigate the value of every new invention, and if approved to submit it to the notice of their government."

This was in 1796. As employment increased, Senefelder set himself to work to construct an improved press; but a defect, apparently of the most obvious kind, occasioned a variety of embarrassments. A clumsy manual operation was substituted for a press, and by this means Senefelder hoped to be able to fulfil the engagements which he and Mr Gleissner were under.

Mr Falter, a music-seller at Munich, employed Senefelder to write and superintend the printing from one an arrangement of Mozart's "Zauberflöte," at this effort was unfortunate.

It would be tedious to follow the various struggles of the ingenious Senefelder, or to enumerate his lithographic labours; so far, his personal history is that of the art, which having made certain advances, as of too much importance to continue long a secret.

In 1799, when Senefelder received from the king of Bavaria an exclusive privilege to practise his new art for fifteen years, his two brothers were employed by him, as well as two apprentices; and on this act of justice, he no longer made a mystery of the process. 1800, a circumstantial description of it was lodged in the patent office in London, and, in 1803 with the government of Lower Austria.

Amongst the strangers, who from motives of curiosity visited Senefelder's establishment, was Mr André, an extensive music publisher; he admired the facility of lithographic printing, and his respect for the invention induced him to make Senefelder the offer of 2000 florins for an unreserved

communication of all the particulars of his art, and the establishment of a press at Offenbach. If André's views had been confined to his immediate trade, his anticipations of the value of lithography would probably have been realized, but feeling a confidence in the vast power of the art, his views became ambitious; he proposed obtaining patents for the exclusive exercise of it in Vienna, London, Paris, and Berlin, simultaneously: he came over to England on the speculation of its application to cotton printing, without much previous knowledge of either art; and to this point the attention of Senefelder was, in consequence, for a considerable time, almost exclusively devoted.

On the return of Mr André to Germany, he prevailed on Senefelder to visit London, for the purpose of superintending the formation of a lithographic establishment. After nearly a year's absence, Senefelder arrived at Offenbach, where he found his family involved in a fierce dispute with Mr André respecting their claim to the exclusive right of practising his invention, and this led to a separation between Senefelder and André. His next patron (if indeed the name of patron can be applied to a connexion avowedly formed on mercenary motives) was Mr Von Hartl, imperial court agent at Vienna; and he appears also to have entertained sanguine expectations from the application of lithography to cotton printing. During the next three or four years various partnerships were formed, and successively broken up, whenever it was discovered that immediate and extensive profits did not follow their formation.

But the art was no longer a secret, and in defiance of Senefelder's privilege, it was practised by several individuals and public establishments. "I rather suspect," says Senefelder, "that the opinion of my art having been long kept secret, arose from the circumstance that several of my former workmen or other persons who had by accident heard something of lithography, treated it as a great secret, in order to obtain greater consequence; some of them even went so far as to travel about and to sell their secrets and prescriptions to credulous persons, in some cases, for considerable sums."

In 1809 there were, besides Senefelder's, six lithographic printing-houses at Munich; and several amateurs and artists had presses erected for their own use. To trace further the gradual diffusion of lithography in Germany is unnecessary, and would be tedious; we, therefore, turn our attention to its introduction into Britain and France.

Senefelder, about the year 1802, as has been stated, joined Mr Philip H. André in London, where his art was announced, under the name Polyautography. A caveat had been entered in the patent office to secure, if necessary, the exclusive exercise of the invention in England; but we believe no patent for it was ever taken out, although the specimens published by André in 1803, bear the legend "By his majesty's royal letters patent." Senefelder complains of the seclusion in which Mr Philip André kept him, under the idea that he might divulge the process; but in justice to Mr André it must be mentioned, whatever his conduct towards Senefelder may have been, that he not only readily communicated the general principles of lithography to several artists in London, but admitted them freely into his printing room. This *fac simile* method of multiplying drawings from the hand of the original designer alarmed the engravers, who, on the supposition that their craft was in danger, exerted themselves to cause lithography to be received as a whimsical invention, of no real importance, and one which could never be brought to any degree of perfection. The artists also, at this period, after one or two careless trial sketches, and without due attention

to its capabilities, fell readily into the same opinion; ascribing as inherent defects of the invention what ought to have been attributed to their own incompetency; for it was unfair to expect that any of them, however eminent in their peculiar practice, should with a single effort obtain a perfect result. As a body, the British artists appear to have resigned lithography to its fate, with the feeling that it would never satisfy the expectations which its announcement had excited.

The first effort, therefore, to introduce the art into Britain by André completely failed, and he left the country. Lithography was next practised in London by two Germans, named Volweiller and Kergenrader; but they were equally unfortunate with André, and lithography would have been a second time driven out of Britain, had not the late Colonel Brown (assistant quartermaster-general) met with specimens, which convinced him that at least it was peculiarly well adapted for military and official purposes.

The quartermaster-general authorized the purchase for a hundred pounds of the secret (as it was then called) of stone printing, with the materials from Volweiller, who, with his partner, returned to Germany in 1807. Owing to Colonel Brown having misunderstood or forgotten part of the process, and perhaps also from the natural timidity attendant on a first essay in an occult art, the attempts made by him at printing were abortive; and the practice in Britain must have been abandoned, had not lieutenant Pawley accidentally discovered the man whom both André and Volweiller had employed to prepare the stones and assist in working the press. This person, whose name is Redman, had acquired a knowledge, or rather had picked up a smattering of the general process, and with his aid the experiments at the Horse Guards became tolerably successful. The first map (a sketch of Bantry bay) was produced in the beginning of the year 1808; but previously to the appointment of Sir Willoughby Gordon as quartermaster-general, in 1811, the art was only used as an auxiliary to the military depot. From that date, lithography became of importance in the hands of the British government; and on a representation to the secretary at war, it was applied to printing the circulars of his office. At the present time the quartermaster-general's department executes lithographic printing for the treasury, war, commander-in-chief's, adjutant-general's and army pay offices; the home department, military asylum, commissariat, army medical department, office for military boards, recruiting department, &c. Plans and maps to a very large number have also been drawn and printed occasionally for both houses of parliament, with several laborious surveys relating to the new lines of roads through England, for the general post office.

Lithography is now, even in the hands of an inferior printer, no longer an imperfect art, as the supposed impossibility of repairing an injury, or correcting a fault, after impressions have been taken, is obviated by an important discovery made by Mr Coindet, the head partner of the house of Engelmann, who, in 1827, opened a lithographic establishment in London. This gentleman, acting on some experiments made at Mulhausen, was enabled, after a great deal of difficulty, to give to artists the power of retouching their drawings, after they had been etched. Several British artists have employed this method of retouching with success, some, indeed, in changing the composition of their drawings; others in altering the effect.

In France lithography was first introduced about the year 1807, by M. André, who disposed of "the secret" to whoever was willing to purchase it, for such sums as he could obtain.

In 1810, the French government refused M. Man-

lich, keeper of the king of Bavaria's press, permission to form a lithographic establishment there and it was not until 1814 that the art seems to have obtained popular notice in France.

We shall now proceed to give a description of the materials employed.

The stone best adapted for this kind of printing, and that used for the finest work, is procured from quarries situated along the banks of the Danube, at Pappenheim in Bavaria. They are of a calcareous nature, and contain a little flint. The color is a grayish-yellow. The grain is very fine, and being nearly of the same hardness as marble, they take on a very fine polish. When wetted, they lose the property of retaining the water for a considerable time, on which depends their great use in lithography. Stones of an inferior description have been found at Chateauroux; they are not uniform in the grain, are, moreover, in large blocks, which must be cut into thin plates, whereas the Bavarian stone is found in flat strata, uniform in thickness, and most ready for use. Stones fitted for printing have likewise been found at Corston, near Bath, and at Stony Stratford; but they also are inferior to the German. The thickness of the stone must always be in proportion to its surface, varying from six to eight and a half to two inches and a half, which thickness is quite sufficient for a stone of ten square feet. When good stones cannot be had, a substitute may be formed by a mixture of lime and sand, together with the caseous or cheesy part of soft soap, that the compound when dry, may be about the hardness of marble.

A table is necessary, in order to lay the stone on, and keep it steady when it is grinding or polishing (operations which will afterwards be described), and may be formed of stone, metal, or wood, but the ledges round the edges, and holes to permit the escape of water.

A drawing table is also required, of such a size as to contain the stone, and having pieces of wood at each end, in order to support a roller, or flat bar, that lies across the table, and above the stone, so that the draughtsman's hand may not come into contact with the surface of the stone.

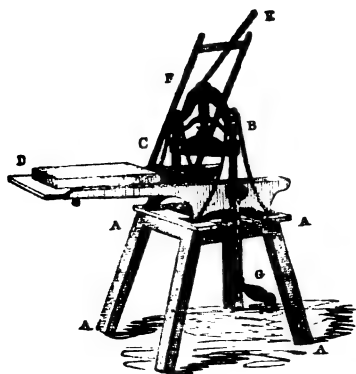
The ink table is usually made in the form of a box, on the upper surface of which the ink is spread and taken off by a roller covered with soft leather, and made elastic by stuffing. The interior of the box is occupied by various small articles required in the process of printing.

A mould for fashioning chalk pencils is used. It is commonly formed of brass, and contains about seven holes, into which the composition is poured while in a soft state. The nature of the chalk composition, as also of the ink, will be afterwards described.

Steel pens are used in preference to quills, because they make much finer work, although they cannot be handled with so much dexterity. They are made of watch springs, or steel ribands made for the purpose. The pen is first formed by cutting the steel into a pair of scissors, and then brought to the proper degree of fineness by means of a hone. This done the pen is fashioned into a semicylindrical form by beating it with a small hammer, and is then fixed on a handle by means of a bit of quill.

Various other articles are used, such as rubbing or scratching knives, points, graters or burners, flat pencils, brushes made of badger's hair, &c.

The most improved form of the lithographic printing press is represented in the annexed wood engraving. The construction is much more simple than the presses usually described in articles on the subject; the action of the press is at least equal to them, and it is far less liable to go wrong. The stone of the



press A A A A, consists of four stout legs, firmly fixed to the floor, and spread out like the feet of a desk stool, as is seen in the figure, in order to insure stability. The upper ends of these feet are connected by four strong bars forming the support of the press. Two uprights rise from this frame, one on each side of the press; the one next the eye being shown at B. Each of these uprights has a smooth cylindrical wheel, which serves as a guide to the platten or scraper box C, so that it may move easily up or down in a direction perpendicular to the table of the press, which is shown at D. This table moves on rails, in a manner similar to the table in the press of earl Stanhope (See *Printing Press* in this work), and on the table the stone is put from which the impression is to be taken. The platten, or scraper box, is pressed down by means of the lever E, which is brought down in the direction of the table rail, and its lower extremity being formed like a wiper, or having a curved shape, drives down a spindle in the centre of the platten, and presses it on to the table. There is a spring fastened to the middle of the spindle, and fixed to the side uprights, which causes the scraper box to rise so soon as the lever E is allowed to rise to the position represented in the engraving. There is a roller crossing the press, and on a level with the top of the frame, which is turned by the handle G, and so situated that when turned, it causes the table to move under the scraper box. F represents the tympan, a rectangular iron frame, moveable at a joint at the bottom, which frame is covered with parchment similar to the tympan in the press for type setting. The scraper is a wedge-formed plate of steel, fixed into the bottom of the platten with its large downmost, and nicely adjusted by screws so that it may lie parallel with the face of the stone lying on the table of the press. The operation of the press is simply this: the stone being prepared with the drawing in a manner that will afterwards be described, is laid on the table, the paper is laid over it, and the tympan brought down. The table is then moved forward to the scraper, the long lever is brought down, and the handle G is turned so as to draw the stone under the scraper, which is kept pressing upon the tympan; the pressure is then taken off, and the stone moved back to its former position by turning the handle G.

The manner of preparing the stone depends upon the kind of work to be executed. To prepare them for printing chalk drawings, two stones of the required dimensions are selected, one of which is placed on the table formerly described, with a little finely powdered quarts or hard sand (silver sand is the best that can be procured in this country). A little water is then put on the stone, and the other stone, being placed upon it, they are ground by giving the

upper stone small circular sweeps in various directions. Sand and water being constantly added, the grinding is continued until the surfaces of the stones are quite level. The sand must be passed through a sieve, in order to obtain it of equal grain. When ground, the stone should be carefully washed. When dry, the stone ought to have a uniform colour, and be perfectly free of scratches. M. Jobard, a lithographer, in Paris, has lately discovered an improved method of grinding, which consists in using a spoonful of starch along with the sand. The greatest care is necessary in cleaning the stone of both starch and sand, by means of a brush and water.

When the stone is to be prepared for ink drawings or writings, it must be polished. The grinding process, already described, is first pursued, and the polish is then given in the following manner. The circular motion is continued, and water but no more sand is added, until no grains appear, the polishing being given by the sort of paste formed by the water and the attenuated sand. The stone is now washed, and the same process is continued with powdered pumice stone. A fine polish is thus obtained; but the finishing is effected by polishing the stone with a large piece of pumice stone until the polish is equal to that commonly given to marble, i. e., until objects are seen reflected from the surface when the eye is placed near it.

When a drawing or stone has been used, it must be carefully taken out by rubbing two stones together with water, and that immediately after coming from the press. Ink drawings are much more difficult to efface than chalk ones. When all traces are effaced, the stone must be washed with dilute nitric acid, the acid being five per cent. the bulk of the water.

Ink for this kind of drawing should be insoluble in water, flow easily from the pen, not liable to spread on the paper or stone, to which last it should adhere firmly, have great solidity on being treated with the acid solution, and, lastly, a good body of colour. An ink having these properties is formed by a composition, the parts being taken by weight:

Dried tallow soap, . . . . .	30 parts.
Mastic in drops, . . . . .	30
Subcarbonate of potash, . . . . .	30
Chinese or table varnish, . . . . .	150
Lamp black, . . . . .	12

The tallow being well dried, the whole of the materials are put into a clean copper vessel, which is placed on a brisk fire. Keep stirring until the melting and mixing is completed, when they are to be poured into a mould of metal that has been heated to a considerable degree. The metal is heated so as to prevent the composition from cooling too rapidly, in order that it may the more easily be cut into regular strips. Such is the mode of preparing the ink for the stone. When the drawing or writing is to be done on paper, and from thence transferred to the stone, ink of a tougher nature is required, which may be composed as follows:—

Dry soap, . . . . .	100 parts.
White wax, without tallow, . . . . .	100
Sheep's fat, . . . . .	30
Gum lac, . . . . .	50
Mastic, . . . . .	50
Lamp black, . . . . .	30

Transfer or autograph paper is prepared thus: take smooth common-sized paper and lay a coat of

\* An inferior kind of ink is given in some works, consisting of equal parts of candle tallow, virgin wax, shell lac, common soap, and one twentieth part of the whole weight of lamp black.

starch over it with a fine brush, or camel's hair pencil. Parchment glue is preferable to starch. A superior kind of paper is made by taking thick unsized paper, and covering it with a thick solution of the following ingredients:—

Flour starch, . . . . .	120 parts.
Gum Arabic, . . . . .	40
Alum, . . . . .	20

The paper may be tinted by adding a small quantity of gamboge or Avignon seed. The composition must be laid on while hot, and the paper must be afterwards smoothed by being passed through the press. The lithographers in Paris employ rice paper for transferring sketches: the paper being, of course, covered by a thin coating of the starch composition.

Much of the beauty of chalk prints will depend upon the good quality of the chalk pencils or crayons. The following composition has been found to answer the purpose admirably:—

Dried tallow soap, . . . . .	150 parts.
White wax, . . . . .	150
Lamp black, . . . . .	25

The first two of these ingredients are mixed and melted in a copper vessel over a brisk fire; they are constantly stirred, the lamp black being added by little and little. The compound, while hot, is poured into the brass crayon mould, of which we have already spoken, the mould having been previously oiled to prevent the crayons from adhering.

The lithographic printing ink, is prepared in a similar manner to the ink employed by the letterpress printers. A quantity of linseed oil is boiled in a copper or brass vessel, until it burns when set fire to by a lighted paper, being kept burning till it is reduced in volume, by losing from one fourth to one half of its original bulk. The oil requires to be stronger for working crayon, than for working lithographic ink drawings. Regarding the thickness of the ink, experience alone can be the guide.

The lamp black used, should be that produced by the burning of rosin, when the ink is intended to be black. If the ink is intended to be blue, then Prussian blue or indigo is used, if red, vermilion and other colouring matters may be used, some of which must be mixed with oil of turpentine before they combine with the boiled oil.

There is a kind of ink used for preserving the drawing or writing upon the stone when the working is to be suspended for eight or ten days—it is called *preserving ink*. An excellent preserving ink is composed of,

Boiled oil, very thick . . . . .	2 parts
Sheep's fat . . . . .	4
White wax . . . . .	1
Oil of turpentine . . . . .	1
Lamp black . . . . .	4

The first three ingredients are brought to boil in a vessel over the fire, the turpentine is then added, and the lamp black by little and little, the mixture being constantly stirred. A table and roller must be kept for this ink alone.

When the paper to be used in printing is sized, it must be damped the night before use, in the same manner as is done by the letterpress printers, one sheet is passed through water and laid upon a table, ten or twelve dry sheets are laid above it, another wet sheet is laid above these, then dry ones, &c., the whole being pressed down by a board, and weights for two or three hours. But it is better that the paper should contain little or no size, in which case it does not require to be damped. The greatest care should be taken not to use paper made from rags that have been bleached with chloride of lime. By the use of such paper, the drawing will be inevita-

bly spoiled. Chinese paper, which is impregnated with alum, has a like effect.

In order to place a chalk drawing on the stone, the outline may be traced upon it with a hard wax pencil, or what is still better with red chalk, using care to lean very lightly. A still better method is to trace the outline with red chalk on a piece of paper: the stone is rubbed with a little turpentine, the paper laid on it wetted a little, and covered with a second sheet; the tympan is brought down upon it, and it is passed twice or thrice through the press, and the outline is transferred from the paper to the stone. Another method is to place a bit of red paper on the stone, the paper having been previously rubbed with red lead. On this the drawing is laid and the outline traced with a steel point. In this the outline and forming the shades, the artist proceeds with his crayon in the same way as he would on paper. There is, however, much greater difficulty in keeping a point in the lithographic drawing, and considerable practice is necessary to attain a sufficient freedom of hand. The proper depth of stroke must be given at first, as it is not easy to deepen it afterwards. While putting in the light tint, the ink must be fixed into a light reed, the metal portions being too heavy, and it is very difficult to lay a finer tint off well in the impression. A wedge shape is better than the point for the crayon, being less liable to break; when pieces do break off, they must be carefully brushed away. As the hand softens by the warmth of the hand, several pieces must be had in readiness to be used in succession.

In drawing with ink, the fine steel pen is used. The ink which has been cut into sticks, is now placed in a cup that has been previously warmed, the ink is poured upon it, and it is melted to such a degree of fluidity as will enable it to flow easily from the pen, but the dilution must not be carried further, as the lines laid on by the pen must be sound. The way of varying the depth of shade or tint, is by drawing the lines of different degrees of thickness, or by regulating their distance from one another.

In drawing on the stone, either with crayon or ink, the greatest attention must be paid to keep the stone clean; it must not be touched by the draughtsman's hand, nor should he even breathe upon it.

The next mode we shall notice, of putting the writing of figures to be printed upon the stone, is by the transfer paper we formerly noticed. The paper being prepared as was stated with the starch composition, is commonly rubbed over with a soft powdered gum sandarac, after which the writing or drawing is executed with an ink of greater thickness than that used in writing upon the stone. When the transfer paper has been prepared, the stone is heated to a temperature of somewhat above 100° and laid on the table of the press. The paper is damped, and ere the stone is cold, it is laid on it, and passed several times through the press, by which means the writing is transferred.

The drawing being by any of these means put upon the stone, it is placed obliquely over a tank containing a weak solution of nitric acid poured upon it. The stone is reverted, that is, the under side is now placed uppermost and the dilute acid is again poured upon it. From the nature of the stone, the nitric acid will cause it to effervesce: the strength of the solution should in general be about one part of acid to one hundred of water. The stone is now washed with rain water, after which gum water is poured upon it. The roller well charged with printing ink, is now passed over it in various directions until the drawing is completely inked, after which the stone is laid over with a solution of gum arabic of about the consistency of oil. Great nicety is required in this re-

cess, which is called etching: the strength of the solution will depend upon the nature of the stone, as likewise on the nature of the drawing. A strong etching liquor destroys the finer tints, and blackens the deeper shades: the strength of the acid solution must also diminish with the softness of the stone.

Wood cut engravings can be very well imitated in lithography, by covering the stone with ink, and taking out the light part by means of a steel point, the finer lines being put in with a hair pencil. When the drawing is finished, the stone is treated with the acidulated water as described above.

Copperplate prints may be very well imitated by engravings on stone. Take a well polished stone, and treat it with a solution of nitric acid, so that slight effervescence ensues. Wash the stone, and then cover it with a mixture of gum arabic and honey, and then spread over it a little lamp black when half dry; when dry, etch as in copperplate engravings, taking care not to make the lines very deep, fill in the hollow parts with linseed oil, which after a little must be taken out by pressing a blotting paper on it. The lines are then to be filled with a mixture of linseed oil and tallow in equal quantities, with a little lamp black. In two or three hours the stone is washed clean, and is then ready for use.

Engravings upon copper may be taken from the plate upon transfer paper, and then taken from it immediately upon the stone.

When the drawing or writing is placed upon the stone, it is prepared for printing. The stone is placed on the table of the press, and a proper sized *craper* is placed in the scraper box, being adjusted with nicety by screws to touch the surface of the stone. The stone is gently washed with rain water, and ink taken upon the roller from off the ink table, and distributed upon the stone, in the same manner as in letterpress printing. The drawing receives the ink with difficulty at first, and two or three of the first proofs are commonly bad. The stone should be kept just wet enough to prevent the ink from going any place but the drawing, and a very little gum allowed to remain on the stone during the whole process. Should the ink go on any part where it ought not, it must be taken out by the application of strong acid. There are many particulars regarding press work, especially the tempering of the ink, which need not be specified here, as they can only be learned by practice.

When during the process of printing any error is found, and erasure becomes necessary, the following solution must be employed: dissolve two parts of bic potass, in 126 parts of pure water. The ink must remain a few minutes on the stone before being washed off, when the drawing will be effaced. The proper method is to wash with oil of turpentine, and come over it with vinegar of the ordinary strength.

**LITHOTOMY** is the name given to the operation for extracting the stone from the bladder. See *Lithotomy*.

**LITHOTRITY**; a surgical operation, by which the stone in the bladder is crushed by an instrument used and first applied by doctor Civiale, of Paris, in 1826. He has written on the subject.

**LITHUANIA** (in the language of the country, *Lithuania*; in German, *Lithauen*); an extensive country formerly an independent grand duchy, containing 60,000 square miles, but in 1569, united to Poland. Since the dismemberment of that kingdom in 1793, and 1795, the greater portion of it has been united to Russia, and forms the government of Mohilew, Witepsk, Minsk, Wilna and others. The climate is temperate and healthy, and the face of the country nearly a level, interrupted

only by a few insignificant hills. The soil is in some parts sandy; in others marshy, or covered with woods; but, wherever it is cultivated, very productive. The principal rivers are the Duna, or Dwina, the Dnieper, the Niemen, the Prapiec and Bug. There are also many lakes and morasses. Lithuania raises considerable numbers of cattle, and produces abundance of corn, flax, hemp, wood, honey, and wax. The mineral kingdom yields iron and turf. The forests are full of game; among the wild animals are the urus, lynx, elk, beaver, &c. Corn, wax, honey, wolf and bear skins, leather, wool, and small but good horses, are exported. The manufactures are iron, glass, leather, and there are numerous distilleries. The Lithuanians, who are of the Lettish origin (see *Livonia*), were in the eleventh century tributary to Russia. They made themselves independent when Russia was divided by the troubles under the successors of Wladimir, and soon became formidable to their neighbours. Ringold, in 1235, bore the title of grand duke, and, under his successors, the whole of Russian Lithuania was separated from Russia. Gedemin conquered Kiev; Wladislaus Yagello was baptized in 1386, and, by his marriage with the Polish queen Hedwig, united Lithuania and the conquered Russian provinces with Poland. A portion of Lithuania, 6675 square miles, with nearly 400,000 inhabitants, now forms part of Gumbinnen, in the province of East Prussia, and is fertile and well cultivated. See *Russia*, and *Poland*.

**LITMUS**; a blue paste or pigment obtained from the lichen *parellus*. It is brought from Holland at a cheap rate, but is not much used in painting, for the least acid reddens it; but the colour is again restored by the application of an alkali. On this account, it is a very valuable test to the chemist for detecting the presence both of an acid and alkali. It is employed also for staining marble, and by silk dyers for giving a gloss to more permanent colours. Considerable quantities of the lichen are collected in the northern parts of Great Britain.

**LITRE**. See *France*, division *Decimal Measure*.

**LITTER**; a sort of vehicular bed; a couch or chair wherein the Roman patricians were borne by their servants, particularly on solemn public occasions, such as triumphal pomps or religious ceremonies. These litters were mostly provided with an awning or canopy, to preserve their occupiers at once from the heat of the sun and from the general gaze.

**LITTLETON**, or **LYTTLETON**, THOMAS, a celebrated English judge and law authority, born at the beginning of the fifteenth century, at Frankley, having been educated at one of the universities, was removed to the Inner Temple, where he studied the law, and became very eminent in his profession. In 1455, he went the northern circuit as judge of assize, and was continued in the same post by Edward IV., who also, in 1466, appointed him one of the judges of the common pleas. In 1475, he was created a knight of the Bath, and continued to enjoy the esteem of his sovereign and the nation until his death, at an advanced age, in 1481. The memory of judge Littleton is preserved by his work on *Tenures*, which has passed through a very great number of editions, those from 1539 to 1639, alone amounting to twenty-four. This work is esteemed the principal authority for the law of real property in England, while the commentary of Sir E. Coke is the repository of his learning on the subjects treated.

**LITTORALE**; an Italian word signifying the sea coast, applied particularly to the Hungarian province on the coast of the Adriatic, comprising the three towns Fiume, Buccari and Porte-Re, with

their territories, on the northern coast of Dalmatia. It formerly belonged to the military district of Croatia. The emperor Joseph II. annexed it to Hungary in 1776, and gave it a civil government for the encouragement of Hungarian commerce. The district had, in 1787, 19,928 inhabitants upon 140 square miles. From 1809 to 1814, it formed part of the Illyrian provinces of France. In 1814, it was restored to the Austrian empire, and, in 1822, was reunited with the provinces of the crown of Hungary. The seat of government is at Fiume. (q. v.)

**LITURGIA** (Greek, *λειτουργία*); the office of the *λειτουργοί*. These were persons in Athens, of considerable estates, who were ordered by their own tribe, or by the whole people, to perform some public duty, or supply the commonwealth with necessities at their own expense. This institution indicates the rudeness of an age in which political science had made but little progress. These *λειτουργοί* were of divers sorts, all elected out of 1200 of the richest citizens, who were appointed by the people to undertake, when required, all the burdensome and chargeable offices of the commonwealth, every tribe electing 120 out of their own body. These 1200 were divided into two parts, according to their wealth. Out of the wealthiest half, were appointed 300 of the richest citizens, who, upon all exigencies, were to furnish the commonwealth with necessary supplies of money, and, with the rest of the 1200, were to perform all extraordinary duties in turn. If any person, appointed to undergo one of the duties, could find another person more wealthy than himself, and free from all the duties, the informer was excused. This obnoxious institution was abolished on the proposition of Demosthenes. (See Wolf's *Prolegomena to Demosthenes*, Bockh's *Political Economy of Athens*, and Potter's *Grecian Antiquities*.) The word *λειτουργία* is the origin of the English word *liturgy* (q. v.), the sense having become contracted from public ministry, in general, to the ceremonies of religious worship.

**LITURGY** (Greek, *λειτουργία*, from *λειτουργία*, public, and *εργον*, work); a precomposed form of public worship. It is merely our intention here to mention some of the most important liturgies, without entering at all into the question of the primitive forms of worship in the Christian church. There are three liturgies used in the Greek church—those of Basil, of Chrysostom, and of the Presanctified. They are used in all the Greek churches subject to the patriarch of Constantinople; also in the countries originally converted by the Greeks, as Russia, Georgia, Mingrelia, and by the Melchite patriarchs of Alexandria, Antioch, and Jerusalem. (King, *Rites of the Greek Church*.) There are various liturgical books in use in the Roman Catholic church, the greater part of which are common to all the members in communion with the church, while others are only permitted to be used in particular places, or by particular monasteries. The Breviary contains the matins, lauds, &c., with the variations made therein according to the several days, canonical hours, and the like. There are various breviaries appropriated only to certain places; as the Ambrosian breviary used in Milan, the Gallican, by the church of France, and those of different monastic orders; but the Roman breviary is general. It consists of the services of matins, lauds, prime, third, sixth, nones, vespers, complines, or the *post-communion*, that is, of the seven hours, on account of the saying of David, "Seven times a day do I praise thee." It is recited in Latin. The Missal, or volume employed in celebrating mass, contains the calendar, the general rubrics, or rites of the mass, and, besides such parts as are invariably the same, the

*de tempore*, that is, the variable parts on Sundays and holidays that have proper masses; the *proprium sanctorum*, or the variable parts in the masses for the festivals of such saints as have proper masses; and *commune sanctorum*, or the variable parts on the feasts of those saints that have no proper mass. The canon of the mass was committed to writing about the middle of the fifth century. Gregory the Great made many additions to it. The Cereemonial contains the offices peculiar to the pope, treating of his election, consecration, benediction and coronation, the canonisation of saints, the creation of cardinals, the vestments of the pope and cardinals when celebrating the divine offices, &c. The Pontifical describes the functions of the bishops of the Roman church; such as the conferring ecclesiastical orders, consecrating of churches, manner of excommunicating, absolving, &c. The Ritual treats of those functions which are to be performed by simple priests, or the inferior clergy, both in the public service of the church, and in the exercise of private pastoral duties. The ancient Gallican liturgy is that which was in use among the Gauls before the time of Pope and Charlemagne, who introduced the Roman mode of celebrating divine worship. The Spanish liturgy, more commonly called the *Mozarabic liturgy*, is derived from that of Rome. The Ambrosian liturgy, used in the cathedral at Milan, derives its name from St Ambrose, who made some changes in it. It does not differ from the Roman in doctrine, though it does in form. The whole of the Roman liturgy is in Latin: The Protestants all adopted their vernacular tongue in the celebration of divine service. In 1523, Luther drew up a liturgy, or form of prayer and administration of the sacraments, which, in some points, differed but little from the mass of the church of Rome (*Opera*, ii., 384). He did not, however, confine his followers to this form, and hence every country, in which Lutheranism prevails, has its own liturgy, agreeing with the others in the substance, but differing in many things of an indifferent nature. The prayers are read or chanted by the minister at the altar, and the subject of the discourse is, in most cases, limited to the epistle or gospel of the day. A new liturgy for the principal divine service on Sundays, holidays, and the celebration of the holy communion, was published at Berlin, in 1822. This was designed primarily for the use of the royal and cathedral church in Berlin, but has been generally adopted in Prussia. Calvin prepared no liturgy, but his followers in Geneva, Holland, France, and other places, drew up forms of prayer, of which the Genevese and the French are the most important. The Genevese liturgy contains the prayer with which divine service begins, a confession of sin, public prayers for every day in the week, and for some particular occasions, the Lord's prayer, decalogue, creed, &c. A new liturgy of the French reformed church was compiled in 1826. The Kirk of Scotland or the Scotch Presbyterian church, has no liturgy. The Directory for the public Worship of God contains directions for the assembling of the congregation, the manner of proceeding, &c. In 1532, the Book of Common Order, or Knox's Liturgy, was recommended to be used by those who were unable to pray without a set form. In England, before the reformation, the public service of the church was performed in Latin, and different liturgies were used in different parts of the kingdom. The most celebrated of these were the Breviary and Missal, compiled by the bishop of Salisbury about 1080. They consisted of prayers and other parts of very ancient origin, and others of the progress of later times. In 1536, by Henry VIII., the Bible, Paternoster, creed and decalogue, were

read in English. In 1547, Edward VI. commissioned Cranmer, Ridley, and eleven other divines, to draw up a liturgy in English. This was published in 1549, and again, with some changes, in 1551, whence it was called the *Second Prayer Book of Edward VI.* In the reign of James I., and, finally, at the restoration, it underwent new revisions. This was the last revision in which any alteration was made by authority. A liturgy of the New Church (Swedenborgians) signified by the New Jerusalem in the Revelation, was published by the Swedenborgian general conference in England, in 1828. The liturgy of the episcopal church in Scotland, is at present not very different from that of the church of England. The attempt of Charles I. (1637) to introduce into Scotland a book of common prayer, copied from the English, produced the solemn league and covenant. The Directory was afterwards adopted, but by no means strictly adhered to. In 1712, the English Book of Common Prayer was finally adopted, with some modifications. The Book of Common Prayer of the Protestant Episcopal church in the United States of America, was adopted in 1789, and, besides some minor deviations from the English, it omits the Athanasian creed, and, in the Apostles' creed, leaves the officiating minister the discretionary power of substituting, for the expression "he descended into hell," "he went into the place of departed spirits." It has adopted the oblation and invocation in the communion service, in which it approximates to the Scottish communion office, and has added six forms of prayer—for the visitation of prisoners; for thanksgiving for the fruits of the earth and other blessings; for morning and evening prayer in families; for the consecration of a church or chapel; and, lastly, a beautiful and impressive office of institution of ministers. See Kuecher's *Bibliotheca Liturgica*; Bingham's *Origines Ecclesiasticae*; Comber's *Scholastical History of Liturgies*.

**LIVADIA**; the ancient Hellas, or Middle Greece (see Greece); situated to the south of Janna, or Thessaly and north of Morea, bounded east by the Ægean, and west by the Ionian sea, 5800 square miles in extent, and containing 250,000 inhabitants, chiefly Greeks. The name is derived from the town of Livadia (or Lebadia; 2000 houses and 6000 inhabitants). The boundary between Livadia and Thessaly is formed by the mountain Ceta (on whose summit Hercules was burned), now called *Kumailta*. It is only accessible, at least for artillery, by a narrow pass between Ceta and the swamps on the Malian gulf (gulf of Zeitouni), or the famous pass of Thermopylae. In the war of the Greek revolution, several decisive battles were fought in this part of the country, the most bloody near the town of Zeitouni, the ancient Lamia, which lies to the north. From this pass, which is about six miles long, we enter, 1. Boeotia, the northerly part of Livadia; farther south 2. Phocis, with the ancient Elatea, now Turko-borio, watered by the river Cephissus, and intersected by mount Parnassus; and, still more southerly, 3. Boeotia; 4. Attica; and 5. Megaris; to the west 6. Ætolia; and 7. Acarnania. The ancient names of places are now revived, and Middle Greece has been divided into East and West Hellas. (See *Greece, evolution of Modern*.) The boundary of Greece, as settled by the protocol of February, 1830, runs north Livadia, thus placing it within the kingdom of Greece. The character of the present inhabitants of these countries is as various as their descent and mode of life. The first inhabitants of the coast were chiefly of foreign, or, as the Greeks called it, barbarian descent. Their occupation was piracy. The mountaineers were robbers, constantly at war with their oppressors. Missolonghi, the only strong-

hold on the western coast, has been rendered celebrated by late events. To the north is the ancient Actium, or Asio. Trevesa, which, with Parga, and the coast of Epirus, was ceded to the Turks in 1800, and Arta, near the gulf of Arta, belong to Albania. In the southerly part of Locris lies Lepanto. In Boeotia is the town Livadia, formerly Lebadia, at the foot of mount Helicon, near which are the cave of Trophonius, and the fountains of Mnemosyne (memory) and Lethe (oblivion). Not far off are Leuctra and Platea, and the ruins of Thespize, whose inhabitants were selected by Leonidas to die for their country, with the 300 Spartans. Tanagra, on the Æsopus, was the birth-place of the celebrated Corinna. Mount Cithæron divides Boeotia from Attica and from Megaris. See *Greece*.

**LIVE OAK.** See *Oak*.

**LIVER** (*jecur, hepar*); a large gland which occupies a considerable portion of the cavity of the belly, and which secretes the bile. It is a single organ, of an irregular shape, brownish-red colour, and, in general, is smaller in proportion as the individual is more healthy. It occupies the right *hypochondrium*, or space included by the false ribs, and a part of the epigastric region, and lies immediately under the diaphragm (midriff), above the stomach, the transverse colon, and right kidney; in front of the vertebral column, the *aorta* and the inferior *vena cava*, and behind the cartilaginous edge of the chest. The right false ribs are on its right, and the spleen on its left. The superior surface is convex, and the inferior is irregularly convex and concave, which has given risen to the division into the *right*, or *large* lobe, the *small*, or *inferior* lobe, and the *left* lobe. The right extremity of the liver is lower than the left, and is the most bulky part of the organ. The pressure of the surrounding organs, and certain folds of *peritoneum*, called its *ligaments*, which connect it with the diaphragm, retain the liver in its place, leaving it, at the same time, a considerable power of changing its relative position. The organization of the liver is very complicated. Besides its peculiar tissue, or *parenchyma*, the texture of which is unknown, it receives a larger number of vessels than any other gland. A peculiar venous system—that of the *vena portarum*—is distributed in it. To this must be added the ramifications of the hepatic artery and veins, the nerves, which are small, the lymphatic vessels, the excretory tubes, and a peculiar tissue, enclosed by a double membrane, a serous or peritoneal, and a cellular one. The excretory apparatus of the bile is composed of the hepatic duct, which, rising immediately from the liver, unites with the cystic duct, which terminates in the gall-bladder. The choledochic duct is formed by the union of the two preceding, and terminates in the *duodenum*. See *Gall-Bladder*, and *Bile*.

**LIVERPOOL**; a borough town of England, in Lancashire, and (next to London) the principal seaport in the British dominions: 204 miles from London; 36 from Manchester: lon. 2° 59' W., lat. 53° 25' N. It extends along the eastern bank of the Mersey, about three miles, and, at an average, about a mile inland. On the west side of it, and forming a remarkable feature in the town, lie the docks, which, with the wharfs, warehouses, &c., extend in an immense range along the bank of the river. On the other side, the town is prolonged into numerous suburbs, consisting of villas and country houses, the residence or retreat of its wealthy citizens.

The etymology of the name of Liverpool has been a matter of much conjecture. In the charter granted by king John, it is called *Lyr-pul*, meaning the harbour of the Mersey, derived from the Gaelic *Lyr*

the sea. Dr Enfield wishes to consider Liverpool as the true orthography, and some suppose that it was thus derived from the family of Lever, of ancient standing in the county. Others would conclude that the Cormorant in its corporation seal, by the heralds called a Lever or Liver, gave its appellation; but the coat of arms is evidently a rebus from the name of the town. Others imagine that it is derived from the abundance of liverwort growing on the shore, but unluckily the liverworts are not marine plants, and the various species of *Ulva* thrown up by the sea are called laver, and therefore cannot have been the origin of the name, which it seems more safe to consider as a corruption from the original British *Lyrpol*.

The early history of Liverpool is extremely meagre. Originally a fishing village, belonging to the parish of Walton, it is not mentioned in Domesday Book. It fell with the rest of the country between the Ribble and Mersey to the share of Roger of Pictou, who it is supposed built a castle here about the year 1076, on the site of what is now St George's church, which thus became the nucleus of a town. Liverpool is said to have received a charter of incorporation from Henry I. in 1129, and another from Henry II. soon after his conquest of Ireland; but both these charters are of very doubtful authenticity, if not confessedly spurious. The earliest really authentic document is a charter from king John, dated 1207, still preserved amongst the records of the town. So few incidents occur, in the lapse of five centuries, that the history of Liverpool may be summed up in relating that the Molineux family remained during this long period wardens of the castle; that in the thirteenth century a building was erected called the tower, at the bottom of Water street, as an outguard to keep watch for the safety of the castle, and that about the year 1360 it became vested in the Stanley family, by the marriage of Sir John Stanley with the heiress of Lathom. This building was occasionally the residence of the earls of Derby, and afterwards became a prison; its remains were replaced by warehouses in 1819. Between the Stanleys and the Molineux a feud so violent took place, in the reign of Henry VI., that government was obliged to interfere. At this period, and for many ages after, the knightly family of More, of Bank Hall, held large possessions and had a mansion in Liverpool. In the reign of Henry VIII. Leland describes the town as in a flourishing condition:—"Lyrpole, alias Lyverpoole, a pavid towne, hath but a chapel, Walton a iiiij miles off, not far from the Se is parochie church, the king has a castelet there, and the earls of Darbe hath a stone house there. Irish marchauntes cum much thither as to a good haven; after that Mersey water cumming up to Runcorne in Cheshire, lieth among the commune people the name, and is Lyrpole. At Lyrpole is smaule custume payed that causith marchauntes to resorte. Good marchandis at Lyrpole, and moch Yris yarn that Manchestre men do buy there." After this period the town seems to have fallen somewhat into decay, as in the year 1565 a town record states that the number of householders was only 138, and in a petition to queen Elizabeth, in 1571, it is styled her majesty's poor decayed town of Liverpoole; but at the latter end of this reign it appears to have somewhat recovered itself, as Camden's description of it is very similar to Leland's; but even at the period of the civil wars its relative inferiority to Bristol may be inferred from the former city being rated at £1000 for the illegal exaction of ship money, whilst Liverpool was required to furnish only £25. In the year 1644 the town was defended by colonel More against the army of

prince Rupert for three weeks, at the expense of which it was taken by storm, but the royal cause being soon after utterly ruined, at the battle of Marston Moor, Liverpool again fell into the hands of parliament. In 1690 king William embarked at the place for Ireland, three days before the battle of the Boyne, which fixed the crown upon his head, and established the security of the protestant faith and the liberties of England. It was honoured, in 1801, by another royal visit, in the person of the prince of Wales, accompanied by the duke of Clarence, in present majesty. Liverpool escaped the ravages of the rebellions in 1715 and 1745. Its history subsequent to the Restoration is the detail of its increasing commercial prosperity, one principle of which seems to be hinted at by Leland, in "the smaule custume payed." At the time of its erection into a separate parish, 1699, Liverpool appears to have contained a population of about 5000 persons; its great success and prosperity have been occasioned by the enterprise and skill of its inhabitants, by its local advantages, commanding the trade of Ireland and America, and by the enlarged wisdom of the corporation, in abolishing all exclusive laws, and encouraging by an entire freedom every species of industry and commercial talent.

The streets of Liverpool are mostly spacious, and some of them elegant, and the greater part of them lighted with coal gas. The older and more central parts of the town are in a state of improvement. The public buildings are elegant. The principal of these are the town hall, exchange, bankers' exchange, lyceum, atheneum, Wellington room, infirmary, workhouse, blue-coat school, dispensary and asylum for the blind. There are at present about twenty churches belonging to the establishment, many of them of much architectural beauty, a greater number of chapels belonging to various denominations of dissenters; with four Roman Catholic chapels, a meeting-house for Quakers, and a Jews' synagogue. The charitable institutions are numerous and well conducted. About 1500 paupers are admitted annually into the infirmary. The blue-coat hospital maintains and educates about 200 boys and girls. The school for the blind is on a most extensive scale. A handsome and spacious theatre and a circus, are open during great part of the year. At the royal Liverpool institution, public lectures are given; and attached to it is a philosophical apparatus and a museum of natural curiosities. A botanic garden was also established in 1801, at an expense of about £10,000. The lyceum and the atheneum consist each of a news-room and library. There are also the Union news-room, the music-hall, the Wellington rooms, opened in 1816, for balls, concerts, &c., the town hall, the exchange building, erected in 1803—8 for commercial purposes. The area enclosed by the fronts of these buildings and the town hall, is 197 feet by 178. In this centre of the area is erected a superb group of brown marble, supposed to be the largest in the kingdom, to commemorate the death of lord Nelson.

But the peculiar feature of Liverpool consists in its extensive docks, which have been both the cause and effect of its prosperity. The area of these excavations, including the various basins, graving and dry docks, embraces a space little short of 1000 acres. From the flatness of the shore, shipping must always have been liable to great inconveniences: the vessels were obliged to ride in a road rather than a harbour, exposed to sudden gales and hurricanes, which even at present cause much damage. The act of parliament for excavating the old dock was obtained in 1710; its surface was  $3\frac{1}{2}$  acres, but it is now filled up, and the new custom house built on its site.

The Salt House Dock was constructed by virtue of an act 10, George II.; it is the receptacle of ships in the Levant and Irish trade. In the third of George III., a much larger work, St George's Dock, was begun; this was followed by the King's Dock, opened in 1788, in which only the Virginia vessels laden with tobacco, and vessels from the East Indies, are allowed to discharge their cargoes. Soon after Queen's Dock, of still greater magnitude, was completed in 1796; it is frequented by timber ships from the Baltic and from America; Prince's Dock, 500 yards in length, was opened in 1821. This dock is enclosed by a wall, between which and the river is a spacious parade, commanding a delightful view of the opposite coast, and of the exhilarating scene presented by the continual bustle on the Mersey, constantly alive with steam vessels, which were first introduced in 1815. To the north of Prince's Dock, and communicating with it, is the new North Dock, and a large graving dock; also Clarence dock appropriated to steam vessels. To the south of the Queen's Dock is the Brunswick Dock, which is appropriated for vessels laden with timber. In addition to these works the duke of Bridgewater's estate has a small dock for the use of the flats navigating his canal; and there are various dry or graving docks, basins, and communicating branches: all these docks are gained from the Mersey, and are a splendid monument of human ingenuity and perseverance. The great advantages which they afford are obvious, when the ease and convenience of transacting business at Liverpool is compared with the hazard and delay of most other ports, not even excepting the metropolis.

The exports of Liverpool consist chiefly in the manufactured goods of England, such as earthenware, pottery, hardware, cotton, and woollen goods, much salt, and some coal; the imports in the produce of Ireland, such as butter, bacon, beef, pork, cattle, sheep, linen, spirits, and wool; and the produce of Africa, the East Indies, and North and South America, viz. palm oil, red wood, ivory, tea, bark, rice, flour, hides, indigo, pimento, rice, rum, sugar, clove, tobacco, woods, and cotton wool: for which see article, Liverpool is the great emporium of the kingdom. In 1830, of 793,695 bales of cotton imported to England, 703,200 were carried into Liverpool. In 1824, the whole amount imported into Liverpool was 8,323 bales, of which 413,724 were from the United States of America. In 1824, the amount of exports of Liverpool was £20,000,000 sterling; number of vessels belonging to the port in 1829, 8,805, of 161,780 tons.

*Statement of the Amount of Dock Duties Received at the Port of Liverpool, in each Year, ending 24th June, from 1812 to 1835, inclusive.*

Year.	Number of Vessels.	Tonnage.	Amount of Dock Duties.			Duties on Goods.			Total Amount of Dock Duties.		
			£.	s.	d.	£.	s.	d.			
1812	4,599	446,768	20,200	3	5	24,143	4	6	44,343	7	11
1813	5,341	547,426	23,134	18	8	26,042	14	6	50,177	12	2
1814	5,706	548,357	28,630	11	3	31,110	11	1	59,741	2	4
1815	6,440	709,849	36,310	1	9	40,605	6	11	76,915	8	8
1816	6,688	774,243	43,765	6	3	40,491	4	6	84,256	10	9
1817	6,879	653,423	35,156	8	0	40,703	8	4	75,859	16	4
1818	6,779	754,090	43,842	16	6	54,035	11	9	98,878	8	3
1819	7,243	867,319	50,943	7	8	60,084	14	0	111,027	1	8
1820	7,276	805,033	44,717	17	10	49,694	14	0	94,412	11	10
1821	7,510	899,456	43,124	6	3	51,425	2	11	94,550	9	1
1822	8,126	892,142	47,329	10	4	55,174	7	0	102,504	17	4
1823	8,916	1,010,819	56,837	5	5	62,945	16	11	119,783	1	6
1824	10,091	1,199,514	60,573	9	7	70,033	11	10	130,607	11	6
1825	10,337	1,222,420	59,446	7	8	60,245	12	0	120,691	19	8
1826	9,801	1,228,319	60,411	9	11	70,359	9	1	130,770	10	9
1827	9,302	1,325,213	61,601	0	6	72,671	12	9	134,272	14	3
1828	10,733	1,311,111	62,590	7	10	78,400	7	9	141,009	15	7
1829	11,482	1,307,967	66,125	16	10	81,198	6	1	147,323	22	11
1830	11,214	1,411,964	68,322	9	11	83,007	7	11	151,329	17	10
1831	13,597	1,702,436	81,089	11	11	102,415	12	4	183,504	4	3
1832	13,589	1,604,657	74,530	4	11	85,917	8	0	160,447	6	11
1833	12,764	1,504,461	79,558	3	11	103,422	15	5	183,000	16	8
1834	13,444	1,692,970	84,081	15	11	107,608	1	9	191,709	17	8
1835	13,341	1,764,426	87,644	14	5	110,992	4	4	198,637	18	9

*Statement of the Gross and Net Receipt of the Customs' Duties at the Port of Liverpool, at different Periods during the last and present Century, so far as the same can be made up from existing Documents.*

Years.	Customs' Receipt for the last and present Century.	Net Remittance to the Receiver General, for Payment into the Exchequer.
1738	L. 25,466	L. 25,166
1750	215,961	25,007
1755	309,307	40,561
1760	248,312	64,490
1765	360,435	70,346
1770	331,994	78,087
1775	374,655	96,159
1780	188,690	102,648
1785	640,928	264,771
1790	Books from 1780 to 1792 not to be found.	
1795	469,436	380,463
1800	This Decrease may be accounted for by the War. 1,034,578	701,380
1805	1,766,370	1,468,063
1810	2,675,766	2,347,409
1815	3,360,967	2,145,448
1820	4,458,072	3,820,115
1824	1,984,522	1,660,971
1826	Excise Import Duties transferred to Customs in 1825. 3,067,651	2,596,535
1827	3,308,894	2,118,894
1828	3,190,563	2,978,416
1829	3,315,041	3,123,756
1830	3,362,114	3,333,473
1831	3,594,806	3,381,574
1832	3,325,062	3,741,362

See the article *Ireland* for a statement of the quantity and value of the agricultural produce imported into Liverpool from Ireland.

Liverpool has an extended system of canal navigation, which has grown up with its increasing trade, and by which it has a water communication with the North sea. The manufactures are chiefly those connected with shipping, or the consumption of the inhabitants. There are extensive iron and brass foundries, breweries, soap-works, and sugar-houses. In the vicinity are many wind-mills for grinding corn, which have a very striking appearance; also a large tide-mill, and another worked by steam. A great number of men are employed in building, repairing and fitting out vessels. Of the finer manufactures, the watch-movement and tool business is carried on extensively, and almost exclusively here; and in the neighbourhood there is a china manufactory, where beautiful specimens of porcelain are produced.

The Liverpool and Manchester rail road commences with a tunnel, twenty-two feet high, sixteen broad, 6750 long. The thickness from the roof to the surface of the ground, varies from five feet to seventy. About two thirds of it is cut through solid rock. The rail road is continued through the remaining distance of thirty miles, with embankments, viaducts and excavations. It is traversed by locomotive steam carriages, running at the rate of about twenty miles an hour. Two additional tunnels connected with the rail road, have been recently formed, under the town of Liverpool; one terminating at the docks and the other at the Haymarket. The quantity of merchandise conveyed between Liverpool and Manchester, has lately been estimated at 1500 tons a-day, the number of passengers at 1300.

The following is an account of the progressive increase of the population of Liverpool:—In 1700, 5000; in 1760, 26,000; in 1773, 34,407; in 1790, 56,000; in 1801, 77,653; in 1811, 94,376; in 1821, 118,972; in 1831, 165,175.

LIVERPOOL, CHARLES JENKINSON, earl of, was the eldest son of colonel Jenkinson, the youngest son of Sir Robert Jenkinson, the first baronet of the family. He was born in 1727, and educated at the Charter house, whence he removed to University college, Oxford, where he took the degree of M. A. in 1752. In 1761, he obtained a seat in parliament, and was made under-secretary of state. In 1766, he was

named a lord of the admiralty, from which board he subsequently removed to that of the treasury. In 1772 he was appointed vice-treasurer of Ireland, and was rewarded with the sinecure of the clerkship of the Pells, purchased back from Mr Fox. In 1778, he was made secretary at war, and, on the dissolution of the administration of lord North, joined that portion of it which supported Mr Pitt, under whose auspices he became president of the board of trade, which office he held in conjunction with the chancellorship of the duchy of Lancaster, given him in 1786. In the same year 1786, he was also elevated to the peerage, by the title of baron Hawkesbury, of Hawkesbury, in the county of Gloucester, and in 1796, he was created earl of Liverpool. He remained president of the board of trade, until 1801, and chancellor of the duchy of Lancaster until 1803. His death took place on the 7th December 1808, at which time he held the sinecures of collector of the customs inwards of the port of London, and clerk of the Pells in Ireland. The earl of Liverpool for a long time shared in all the obloquy attached to the confidential friends of the Bute administration, and, in a particular manner, was thought to enjoy the favour and confidence of George III., of whom it was usual to regard him as the secret adviser. The earl of Liverpool was the author of the following works:—A Discourse on the Establishment of a Constitutional Force in England (1756); a Discourse on the Conduct of Great Britain in Regard to Neutral Nations, during the present War (1758); a Collection of Treaties, from 1646 to 1673 (3 vols., 8vo, 1785); a Treatise on the Coins of the Realm, in a Letter to the King (1805).

LIVERPOOL, ROBERT BANKS JENKINSON, earl of; son of the preceding; born in 1770, and died in 1828; known in public life, from 1796 to 1808, as lord Hawkesbury; from 1812 to 1827, first lord of the treasury. He was educated at the Charter-house; on leaving which, he was entered of Christ church, Oxford. His father directed his reading and studies in political economy, and other branches of political science at this time; and, on leaving the university, Mr Jenkinson set out on his travels. He was in Paris at the outbreak of the French revolution, and, in 1791, took his seat in the house of commons, in which he distinguished himself as a debater and an efficient member of the house. In 1801, he was appointed secretary of state for foreign affairs, and two years later, was called to the house of peers as baron Hawkesbury. On the death of Pitt (1806), the premiership was offered him, but declined; and, after the short administration of Fox, his former office was conferred on him, in the Percival ministry. After the assassination of Mr Percival, lord Liverpool (as he had become, on the death of his father, in 1808) accepted (1812), though reluctantly, the post of premier. His administration was marked by great moderation and prudence at home, but the foreign department bore the different impress of lord Londonderry and Canning. Lord Liverpool lost popularity by the trial of the queen, which was closed, as is well known, by the abandonment of the bill of pains and penalties, on the part of the ministers. It was on this occasion, that earl Grey demanded of him "how he dared, upon such evidence, to bring forward a bill of degradation, the discussion of which had convulsed the country from one end to the other, and might have been fatal to her independent existence." A paralytic stroke, in the beginning of 1827, having rendered him incapable of attending to business, Mr Canning succeeded him in the premiership.

LIVERWORT. The plant so called is the *Hepatica triloba* of Pursh. Like many other supposed remedies, it has had a temporary reputation for the

cure of pulmonary consumption. It is a small little plant, flowering very early in spring, and is common to the United States and Europe. There are two varieties, one with obtuse, and the other with acute lobes to the leaves.

LIVERY (*livrée*). At the pleenary court of France, under the sovereigns of the second and third races, the king delivered to his servants, as also to those of the queen and the princes, particular clothes. These were called *livrées*, because they were delivered at the king's expense. The expense of these donations, together with that of the robes, the equipages, the presents for the nobles and to people, amounted to an immense sum. A prudent economy afterwards suppressed these pleenary robes, but the livery of the servants still remained in London, by *livery* or *livery men*, are meant the freemen of the city who belong to the municipal companies, which embrace the various trades of the metropolis; they had the exclusive privilege of voting at the election of members of parliament and of the lord mayor. Out of this body, the common council, sheriffs, aldermen, and other officers for the government of the city, are elected.

LIVIA DRUSILLA; wife of the emperor Augustus, daughter of Livius Drusus Claudianus, who lost his life in the battle of Philippi, on the side of Brutus and Cassius. She was first married to Tiberius Claudius Nero, by whom she had two sons, Drusus and Tiberius. When she fled with her husband to Italy, before the triumvir Octavian, she narrowly escaped being made prisoner by him who afterwards became her husband. From that place, she went with her son to Antony, in Asia, and when her husband was reconciled to Augustus, returned to Rome. Here her personal and domestic charms made such an impression on the emperor that he repudiated his wife, Scribonia, to make a marry her, and, in the 715th year of Rome, was her, though pregnant, from her husband. Livia knew how to use her power over the heart of Augustus, for the attainment of her ambitious purposes, and effected the adoption of one of her sons as successor to the throne. At her instigation, Julia, the only daughter of Augustus, was banished. Ancient writers, too, almost universally ascribe to her the death of the young Marcellus, of Lucius Caesar, and the banishment of Agrippa Posthumus. Augustus, being no longer any near relatives, yielded to her requests in favour of Tiberius. In the emperor's will, Livia was constituted the first heiress, and received into the Julian family, and honoured with the name of *Augusta*. She was also made chief priestess in the temple of the deified Augustus, and many coins were struck in her honour. But Tiberius proved himself very ungrateful to his mother, to whom he was indebted for every thing, and would not allow the senate to bestow upon her any further marks of respect. He did not, however, treat her in public with disrespect; but, when he left Rome in order to gratify his lusts in an unintermitted solitude, he fell into a violent dispute with her, did not visit her in her last sickness, would not see her body after her death, and forbade drums to be paid to her memory.

LIVINGSTON, BROCKHOLST, judge of the supreme court of the United States, was the son of William Livingston, governor of New Jersey, and was born in the city of New York, November 25, 1757. He entered Princeton college, but, in 1776, left it for the field, and became one of the family of general Schuyler, commander of the northern army. He was afterwards attached to the staff of general Arnold, with the rank of major, and died in the honour of the conquest of Burgoyne. In

1779, he accompanied Mr Jay to the court of Spain, as his private secretary, and remained abroad about three years. On his return, he devoted himself to law, and was admitted to practice in April, 1783. His talents were happily adapted to the profession, and soon raised him into notice, and, ultimately to eminence. He was called to the bench of the supreme court of the state of New York, January 8, 1802, and, in November, 1806, was transferred to that of the supreme court of the United States, the duties of which station he discharged, with distinguished faithfulness and ability, until his death, which took place during the sittings of the court at Washington, March 18, 1823, in the sixty-sixth year of his age. He possessed a mind of uncommon acuteness and energy, and enjoyed the reputation of an accomplished scholar, and an able pleader and jurist, an upright judge, and a liberal patron of learning.

LIVINGSTON, ROBERT R., an eminent American politician, was born in the city of New York, November 27, 1746. He was educated at King's college, and graduated in 1765. He studied and practised law in that city with great success. Near the commencement of the American revolution, he lost the office of recorder, on account of his attachment to liberty, and was elected to the first general congress of the colonies; was one of the committee appointed to prepare the Declaration of Independence; in 1780, was appointed secretary of foreign affairs, and, throughout the war of the revolution, signalled himself by his zeal and efficiency in the revolutionary cause. (See his letters, in the *Diplomatic Correspondence of the Revolution*.) At the adoption of the constitution of New York, he was appointed chancellor of that state, which office he held until he went, in 1801, to France, as minister plenipotentiary, appointed by president Jefferson. He was received by Napoleon Bonaparte, then first consul, with marked respect and cordiality, and, during a residence of several years in the French capital, the chancellor appeared to be the favourite foreign envoy. He conducted, with the aid of Mr Monroe, the negotiation which ended in the cession of Louisiana to the United States, took leave of the first consul (1804), and made an extensive tour on the continent of Europe. On his return from Paris, as a private citizen, Napoleon, then emperor, presented to him a splendid snuff-box, with a miniature likeness of himself (Napoleon), painted by the celebrated Isabey. It was in Paris that he formed a friendship and close personal intimacy with Robert Fulton, whom he materially assisted with counsel and money, to mature his plans of steam navigation. (See *Fulton, and Steam-Boat*.) In 1805, Mr Livingston returned to the United States, and thenceforward employed himself in promoting the arts and agriculture. He introduced into the state of New York the use of gypsum and the Merino race of sheep. He was president of the New York academy of fine arts, of which he was a chief founder, and also of the society for the promotion of agriculture. He died March 26, 1813, with the reputation of an able statesman, a learned lawyer, and a most useful citizen.

LIVIUS, ANDRONICUS, the father of Roman poetry, by birth a Greek of Tarentum, first went to Rome at the commencement of the sixth century from the foundation of the city, as instructor to the children of Livius Salinator. He introduced upon the Roman stage, dramas after the Grecian model, and, besides several epic poems, wrote a translation of the *Odyssey*, in the old Saturnian verse. We have only a few fragments of his writings, which may be found in the *Comici Latini*, and in *Corpus Poëtarum*. See Fabricius, *Bib. Lat.* iv. 1; A. Livii, *Hist.* vii. 2.

LIVIUS, TITUS, born at Padua, in the year of Rome 695 (59 B. C.), came from the place of his birth to Rome, where he attracted the notice of Augustus, after whose death he returned to his native town, where he died A. D. 16. His history of Rome, to which he devoted twenty years, rendered him so celebrated, that a Spaniard is said to have gone from Cadix to Rome merely for the purpose of seeing him. Of the circumstances of his life we know little. He was called, by Augustus, the *Pompeian*, because he defended the character of Pompey, in his history; this, however, did not prevent his enjoying the patronage of the emperor till the time of his death. According to Suidas, Livy did not receive, during his lifetime, the applause which his history deserved, and it was not till after his death that full justice was rendered him. In the fifteenth century, his body was supposed to have been discovered at Padua, and a splendid monument was raised to his memory. His Roman history begins at the landing of Æneas in Italy, and comes down to the year of the city 744. His style is clear and intelligible, laboured without affectation, diffusive without tediousness, and argumentative without pedantry. His descriptions are singularly lively and picturesque, and there are few specimens of oratory superior to that of many of the speeches with which his narratives are interspersed. Yet he was accused (see *Quintilian*, viii. 1.) of provincialism (*"patavinitas"*). His whole work consisted of 140 or 142 books, of which we have remaining only the first ten, and those from the twenty-first to the forty-fifth, or the first, third and fourth decades, and half of the fifth. In the first ten books, the history extends to the year 460; the portion between the twenty-first and forty-fifth books contains the account of the second Punic war (A. U. C. 536), and the history of the city to the year 586. In 1772, Bruns, while engaged in collecting various readings, discovered, in a *codex rescriptus*, in the Vatican, a fragment of the ninety-first book; but it is not of much importance. It was printed at Rome, and reprinted at Leipsic, in 1773. The epitome of the whole work which has been preserved, has been ascribed, by some to Livy, by others, to Florus. Following this outline, and deriving his facts from other credible sources of Roman history, Freinsheim composed his Supplement to Livy. The best editions of Livy are those of Gronovius (Amsterdam, 1679, 3 vols.) of Drakenborch (Leyden, 1738—46, 4 vols.), and, among the later editions, those of Ernesti, Schafer, Ruperti, and Döring. The best English translation is that of George Baker (6 vols, 1797), which has been often reprinted.

LIVONIA. The Russian provinces upon the Baltic, viz. Livonia, Esthonia, Courland, and Semigallia, early belonged to the Russian states, as tributaries, while they retained their own institutions, and were never protected by the Russians from hostile inroads. During the period when the Russian empire was in a state of confusion, they became independent, but were again reduced to subjection by Peter the Great. Livonia was little known to the rest of Europe till 1158, when some merchants of Bremen, on their way to Wisby, in Gothland, in search of new sources of commerce, were thrown upon the coasts of Livonia. The country was afterwards frequently visited by the people of Bremen, who soon formed settlements there. An Augustine friar, Meinhard, with other Germans, emigrated thither about twenty-eight years after. He converted the inhabitants to Christianity, and was their first bishop. The third bishop after him, by name Albert, who advanced as far as the Dwina, first firmly established the foundations of the spiri-

tual authority. He built the city of Riga, in the year 1200, and made it the see of the bishopric. At the close of this century, the Danish king Canute VI., made himself master of these provinces, which were, however, given up by his successor, Vladimir III., for a sum of money, to the Teutonic knights, with whom the order of Brethren of the Sword, founded by Albert, in 1201, had been united, so that the dominion of the Teutonic order comprehended all the four provinces above mentioned. They were, however, too weak to hold them against the Russian czar, John II. Wasilowitch, who was bent upon reuniting them with the Russian empire, and the state was dissolved. Estonia then placed itself under the protection of Sweden; Livonia was united to Poland; and Courland, with Semigallia, became a duchy, under Polish protection, which the last grand master of the Teutonic order held as a Polish fief. From this time, Livonia became a source of discord between Russia, Sweden and Poland, for near a century, from 1561 to 1660. At the peace of Oliva, in 1660, this province was ceded to Sweden by Poland, and it was again united to the province of Estonia. By the peace of Nystadt, in 1721, both provinces were again united to the Russian empire. Livonia is bounded east by Ingria, south by Lithuania and Samogitia, west by the Baltic, and north by the gulf of Finland. It is productive in grass and grain, and consists of two provinces, Estonia and Livonia, of which the first lies upon the gulf of Finland, the last upon the borders of Courland and Poland. The Livonians, like the Lithuanians, are a branch of the Finns; and are, for the most part, in a state of servitude; but the grievous oppression, under which they were held by their tyrants, the nobility, has been much lightened by an imperial decree of 1804. Besides the original inhabitants, there are, in the country, many Russians, Germans, and Swedes. The greater part are Lutherans; but Calvinists, Catholics, and the Greek church, enjoy liberty of worship. In 1783, the country was newly organised, and Livonia became the government of Riga, and Estonia that of Revel. The name of Livonia was, however, restored by the emperor Paul, in 1797. It is, at present, divided into five circles. It comprises an area of 21,000 square miles, of level, marshy country, abounding with lakes. Riga, situated on the Duna, nine miles from the bay of the Baltic, is the chief place of commerce. The merchants there are mostly British. Population of the town about 36,000. The only other town of note is Dorpat, situated on the Embach, the seat of a university, established in 1802, and of a great annual fair. The government of Riga contains 980,000 inhabitants. See the *Essai sur l'Histoire de la Livonie*, by count de Bray (Dorpat, 1817, 3 vols.), and Granville's *Journey to St Petersburg*, (1828).

LIVRE; an ancient French coin. The word is derived from the Latin *libra*, a pound. It appears as early as 810 B. C. At first, the livre was divided into twenty *solidos*; afterwards into ten *sous*; in Italy, into twenty *solidi*; in Spain, into twenty *sueldos*, as the old German pound into twenty *schillinge*, and the English into twenty shillings. The livre was, at first, of high value. The revolution changed the name into *franc*. See *Franc*, and *Coin*.

LIVY. See *Livius*.

LIZARD. All reptiles having a naked body, four feet and a tail, are vulgarly known under the name of *lizards*. Linnaeus himself only constituted two genera of this numerous class of animals—*draco* and *lacerta*; but more modern naturalists have greatly increased the number of genera. The following is the arrangement followed by Cuvier in the last edition of his *Règne animal* :—

## Second Order of REPTILIA, or Sauriens

FAMILY I. CROCODILIENS.	Serpens, Cuv. Agave, Deand. Inimica, Cuv. Drom, Lat.	FAMILY IV. GECKONES.
Crocodilus, Br. Sub-genus, 3.	Sub-genus, 14.	Gecko, Lat. Sub-genus, 1.
FAMILY II. LACERTIENS.	Serpens II	FAMILY V. CHAMÆLEONES.
Monitor. Lacerta.	Iguana, proper Iguana, Cuv.	Chamaeleon, Cuv.
Sub-genus, 7.	Ophryotroche, Deand. Basiliscus, Deand.	FAMILY VI. SCINCOIDES.
FAMILY III. IGUANIENS.	Polychaeta, Cuv. Euphonia, Lat.	Scincus, Lat. Basiliscus, Deand. Basiliscus, Cuv. Chamaeleon, Lat. Lacerta, Cuv.
SECTION I. Ameivura.	Ophryotroche, Cuv. Anolis, Cuv.	

Besides these, the salamanders, which belong to the fourth order, or *Batrachians*, are also generally named lizards. See *Alligator*, *Basilisk*, *Chamaeleon*, *Crocodile*, *Dragon*, *Gecko*, *Iguana*, *Monitor*, &c.

LIZARD, CAPE; the most southern peninsula of England, in the county of Cornwall.

LLAMA (*saccharia*, Illig.). This valuable animal, which supplies the place of the camel to the inhabitants of Southern America, is much more gentle and delicate than the Eastern "ship of the desert." Their slender and well formed legs bear a more equal proportion to the size and form of the body. Their necks are more habitually erect in an upright position, and are terminated by a small head. Their ears are long, pointed, and immovable; their eyes large, prominent, and brilliant, and the whole expression of their physiognomy reveals a degree of intelligence and vivacity far wanting in the camel. There has been much difference of opinion among naturalists as to the number of species. The first travellers in America spoke of the llama, the guanaco, the alpaca, and the vicuña, without giving such details as were requisite to identify them. Most of the early naturalists, including Linnaeus, reduced them to two species, the llama or guanaco, used as a beast of burden, and the alpaca, paca, or vicuña, prized for its wool and flesh. Buffon was at first of the same opinion, but subsequently, admitted the vicuña as a third species. Molina also separated the guanaco, and added still the huacua or Chilian sheep, both of which species were adopted by most subsequent compilers. De Cuvier, however, limits the number to three, rejecting the two last mentioned; whilst Lesson and Cuvier only admits the llama and the vicuña, considering the alpaca as a variety of the first. The llamas inhabit the Cordilleras of the Andes, but are not so common in Peru and Chile; they are more in Colombia and Paraguay. They congregate in large herds, which sometimes consist of upwards of a hundred individuals, and feed on a grass peculiar to the mountains, termed yeco. As long as they can procure green herbage, they are never known to drink. At the period of the arrival of the Europeans in Peru, these animals were the only resources known to the inhabitants, by whom they were used as beasts of burden, and killed in vast numbers for their fat and skins. Gregory de Bolivar asserts that, in his time, 4,000,000 were annually killed for food, and 300,000 used in the service of the natives of Peru. From the form of their feet, they are peculiarly fitted for mountainous countries, being, it is said, even safer than mules. They are also distinguished as a trifling expense, wanting, as is observed by Father Feuillée, "neither big nor small; there is no need of oats to feed them; it is only necessary to send them in the evening, at the place where they are to rest for the night; they go ahead into the country to seek their own food, and, in the morning, return to have their baggage replaced, and continue their journey." They cannot carry more than from 100 to 150 pounds, at the rate of twelve or fifteen miles a day. Like the camel, they lie down to be loaded.

and when they are wearied, no blows will compel them to proceed. In fact, one of their great faults is the capriciousness of their disposition. When provoked, they have no other mode of avenging themselves than by spitting, which faculty they possess in an extraordinary degree, being capable of ejecting their saliva to a distance of several yards. This is of a corroding quality, causing some degree of irritation and itching, if it falls on the naked skin. Besides their services as beasts of burden, the llamas afford various articles of no small utility to human life. The flesh is considered very wholesome and savoury, especially from the young animal. Their wool, though of a strong, disagreeable scent, is in great request, especially among the native Indians, who employ it in the manufacture of stuffs, ropes, bags, and hats. Their skins are of a very close texture, and were formerly employed by the Peruvians for soles of shoes, and are much prized by the Spaniards for harness. The female llama goes five or six months with young, and produces one at a birth. The growth of the young is very rapid; being capable of producing at three years of age, and beginning to decay at about twelve. The llama is four feet and a half high, and not more than six in length. He has a bunch on his breast, which constantly exudes a yellowish oily matter. His hair is long and soft; his colours, various shades of white; brown, &c. The tail is rather short, curved downwards. The hoofs are divided; or, rather, the toes are elongated forwards, and terminated by small horny appendages, surrounding the last phalanx only, rounded above, and on either side somewhat curved. There are several specimens of the llama in the different menageries in Europe, where they appear to thrive very well.

LLANEROS (from *llano*, plain); the inhabitants of the plains, or *Llanos* (q. v.). In this article we speak more particularly of those in Venezuela. The immense plains of Venezuela, which afford excellent pasture for all kinds of flocks and herds, are generally inhabited by converted Indians or descendants of Indians and whites, who are distinguished for activity, ferocity, ignorance and semi-barbarous habits, and are called *Llaneros*. From childhood they are accustomed to catch and mount wild horses, which roam by hundreds over the savannas. When at war, they are generally armed with a long lance, and often have neither swords nor pistols. Uniform is unknown among them; a few rags cover the upper part of their body; their pantaloons are broad and full, somewhat in the Mameluke style. They have blankets (*mantas*), as is the case with most Indians in habits of intercourse with whites; many of them have hammocks. They are brave in defending their plains. Their manner of fighting is much like that of the osenaks; they never attack in regular files, but disperse themselves in every direction, rushing onward, flying, repeatedly attacking and constantly harassing the enemy. *Paez*, who was born and bred among them, and is in manners, language and ferocity, a complete *Llanero*, commanded them during the war of Colombian independence, and is adored by them. They choose their own officers, and dismiss them at pleasure. They suffer no foreigners among them. As they have played a conspicuous part in the revolutions of Colombia, we subjoin the description of them by colonel Hippisley, which is corroborated by general Ducoudray Holstein, in his *Mémoires* of Simon Bolívar. "Sedeno's cavalry (*Llaneros*)," says colonel Hippisley, "were composed of sorts and sizes, some with saddles, very many of them without; some with bits, leather head-stalls and reins; others with rope lines, with a bit of the rope tied over the tongue of the horse as a bit; some with old pistols hung over the saddle bow, either in-

cased in tiger-skin, or ox-hide holster-pipes, or hanging by a thong of hide, one on each side. As for the troopers themselves, they were from thirteen to forty-six years of age, of black, brown, sallow complexions, according to the castes of their parents. The adults wore coarse, large mustachios, and short hair, either woolly or black, according to their climate or descent. They had a ferocious, savage look. They were mounted on miserable, half-starved, jaded beasts, horses or mules; some without trowsers, small clothes, or any covering, except a bandage of blue cloth or cotton round their loins, the end of which, passing between their legs, was fastened to the girth, round the waist; others with trowsers, but without stockings, boots, or shoes, and a spur generally gracing the heel of one side; and some wearing a kind of sandal made of hide, with the hair side outward. In their left hand they hold their reins, and in their right a pole, from eight to ten feet in length, with an iron head, very sharp at the point and sides, and rather flat; in shape like our sergeants' halbert. A blanket of about a yard square, with a hole, or rather a slit, cut in the centre, through which the wearer thrusts his head, falls on each side of his shoulders, thus covering his body, and leaving his bare arms at perfect liberty to manage his horse, or mule, and lance. Sometimes an old musket, the barrel of which has been shortened twelve inches, forms his carbine, and a large sabre or hanger, or cut and thrust, or even a small sword, hangs by a leather thong to his side. A flat hat, a tiger skin or high cap, covers his head, with a white feather or a white rag stuck into it." This picture will remind the reader of some of the cavalry which Russia marched from her Asiatic dominions against France in the final struggle with Napoleon.

LLANOS; the name given in the northern part of South America, particularly in Colombia, to vast plains, almost entirely level, and interrupted only by detached elevations, called in Spanish, *mesas*. The superficial area of the *llanos* is estimated at 296,800 square miles; they extend from the coast of Caracas to Guiana, and from Merida to the mouth of the Orinoco and the Amazonas. A large portion of them is sandy and without much vegetation, except on the banks of the rivers and during inundations: some fan-palms are found. When the inundations occur, the beasts take refuge upon the *mesas*. The *llanos* have been supposed by some to have formerly been the bottom of the sea. They are distinguished into the (a.) *Llano of Colombia*, extending from the mountains of Caracas to the mouth of the Orinoco, and to the mountains of St Fé, and containing several *mesas* (de Amana, de Guanipa, de Peña, fifty to sixty-five feet in height), which, in the rainy season, are covered with rich verdure, and inhabited by herds and flocks of all descriptions.—(b.) *Llano de Casanare*; a continuation of the former, between the Orinoco, Meta and Sinaruca.—(c.) *Llano de S. Juan*; very fertile, woody, often so thickly overgrown, that it can only be penetrated by means of the numerous rivers; lies on the southern bank of the Meta, reaching to the Amazonas, and was discovered in 1541, by Gonzalo Ximenes Quesada.—(d.) *Llano of the Amazonas, or the Marañon*; on both sides of the river, extending from the Andes to the mouth of the Marañon, over 2100 miles; it is also wooded, and rich in grass, entirely without stones, and inhabited by many species of animals. The inhabitants of these plains are called *Llaneros* (q. v.). Farther to the south, such plains are called *pampas* (q. v.).

LLORENTE, DON JUAN ANTONIO, author of the first history of the Spanish inquisition, drawn from its own records, was born in 1756, near Calahorra, in Arragon. He received his education at Tarra-

gona, entered the clerical order in 1776, got a benefice at Calahorra, and, in 1779, by means of a dispensation (as he was hardly twenty-three years old), was consecrated a priest. This, however, did not prevent him from pursuing the study of the canon law, while he devoted his leisure to the muses. At Madrid, he was attracted by the theatre, and composed a sort of melo-drama, the *Recruit of Galicia*. A tragedy, entitled *Eric, the King of the Goths*, was not represented, as it contained allusions to existing difficulties at the court of Madrid. In 1789, he was made chief secretary to the inquisition. Here he had an opportunity to learn from the archives of the tribunal the history of its shameful and barbarous proceedings. In 1791, he was sent back to his parish, on suspicion of being attached to the principles of the French revolution, and in spite of the protection of the minister Florida Blanca, who was an enlightened statesman. Here he occupied himself actively in the support of emigrant French priests; and many of these unfortunate men were indebted to him alone for their subsistence. The manuscript of a history of the emigration of the French priesthood, founded upon the knowledge obtained from these acquaintances, and written in 1793, was lost by the fault of the censors of the press. In the mean time, don Manuel Abad la Sierra, an enlightened man, was made grand inquisitor, who, intending to reform the administration of this tribunal, employed Llorente to prepare a plan for the purpose. But, before it was completed, the removal of Abad la Sierra was obtained by his enemies. Some time after, the design was taken up again at Madrid, and Llorente repaired thither to submit the plan which he had prepared in conjunction with the bishop of Calahorra. Jovellanos (q. v.), minister of justice, supported them. It was proposed to make the proceedings of the tribunal of the inquisition public. All depended upon their obtaining the assistance of the prince of peace, the favourite of the queen. But Jovellanos was suddenly removed from office, and the inquisition remained as it was.\* (See *Inquisition*.) Llorente soon felt its arm himself. His correspondence was seized; the most innocent expressions were misinterpreted; he was sentenced to a month's confinement in a monastery, and to pay a fine of fifty ducats, and was removed from the appointments which he held in the Holy Office. He lived in disgrace till 1805, when his reputation caused him to be called to Madrid to investigate some dark points of history. He was then appointed a canon of the cathedral of Toledo in 1806, and, in 1807, after he had proved himself of noble descent, he was made a knight of the order of don Carlos. In the next year, when Napoleon undertook to regulate the affairs of Spain, Llorente repaired to Bayonne, at Murat's request, and took part in organising the new institutions of his country, which, however, could not take permanent root, as the clergy saw in them the destruction of their authority. When Joseph Bonaparte entered Madrid, in 1809, he charged Llorente to take possession of the papers of the inquisition, and of the buildings and archives which were under the superintendence of the general commandant of the place. In 1812, Llorente published an historical

memoir on the inquisition, with the view of freeing the Spanish nation from the charge of having ever been attached to this institution, and to the *auto de fé*. Llorente was almoner of king Joseph, who made him, successively, counsellor of state, commander of the royal order of Spain, commissioner-general of the *Cruzada*. He followed Joseph to Paris after the disastrous campaign of the French in Russia, and in 1813 had the intention of accompanying him to the United States; but, remaining to take leave of his family, he was induced to give up the plan. In 1817, he published his history of the inquisition in Spain, a French—a work which was soon translated into most European languages, and which has become an historical source. An abridgment has been published by Leonard Gallois. When the old authorities were restored, he was obliged to flee. Banished from his country, deprived of his property and of his library, Llorente lived in France, after the downfall of the French party in Spain, in indignance. But the hatred of the illiberal party arose, at last, to such a height, that the university of Paris forbade him from teaching the Spanish language in the boarding schools, which had been his only means of support. The rage of his enemies was raised to the highest pitch by the publication of his *Portraits peints par Papes*, and the old man was ordered, in the middle of the winter of 1822, to leave Paris in three days, and France in the shortest possible time. He was not allowed to rest one day, and died exhausted, a victim to the persecutions of the nineteenth century. A few days after his arrival in Madrid (Feb. 5, 1823). During his residence in France, he published his *Mémoires pour servir à l'Histoire de la Revolution d'Espagne, avec des Pièces justificatives*, under the name of R. Nellole (an anagram of Llorente), in three volumes (Paris, 1815)—a work of value, as illustrative of the events of 1808, in Spain. He also wrote a biographical account of himself (*Notas biograficas de Don J. A. Llorente*, Paris, 1818), and *Aforismos Políticos*. The *Discurso sobre una Constitucion religiosa* was actually written by an American, but arranged and edited by Llorente. He also superintended an edition of *Oeuvres complètes de Barthélemy de las Casas*, Paris, 1822.

LLOYD, HENRY, a military officer and eminent writer on tactics, born in Wales, in 1729, was the son of a clergyman, who instructed him in the mathematics and classical literature. At the age of seventeen he went abroad, and was present at the battle of Fontenoy. He afterwards travelled in Germany; and having resided some years in Saxony, he was appointed aid-de-camp to marshal Lintow. He was gradually promoted, till, in 1760, he was intrusted with the command of a large detachment of cavalry and infantry, destined to observe the movements of the Prussians. Lloyd executed this service with great success; but soon after resigned his commission in disgust. He was then employed by the king of Prussia; and during two campaigns, he acted as aid-de-camp to prince Ferdinand of Brunswick. After the peace of Hubertsburg, he travelled, and the occurrence of hostilities between Russia and Turkey, when he offered his services to Catherine II., who made him a major-general. He distinguished himself in 1774, at the siege of Silistra; and subsequently, he had the command of 30,000 men, in the war with Sweden. At length, he left Russia, and travelled in Italy, Spain, and Portugal. He visited general Eliott, at Gibraltar, whence he proceeded to England. Having made a survey of the coast of the country, he drew up a *Memoir on the Invasion and Defence of Great Britain*, which was published in 1798. He retired, at length, to Hengelo, in the Netherlands, where he died, June 19, 1803.

\* A French ultra, Clausel de Coussergues, having publicly asserted that the inquisition had not burned any person since 1800, Llorente, in his *Lettre à M. Clausel, &c., sur l'Inquisition d'Espagne* (Paris, 1817), proved, that from the year 1760 to 1808 alone, no less than 1578 persons had perished at the stake by its means! And how long is it since this holy tribunal suffered the body of general Miranda, who had died in their dungeons, to be devoured by dogs, and burned a German officer in effigy, because he had, during the war under Napoleon, translated a book, which, in Spain was considered heretical?

the memoir, he was the author of an Introduction to the History of the War in Germany, between the King of Prussia and the Empress-Queen (London, 1791, 2 vols., 4to); and a Treatise on the Composition of different Armies, ancient and modern. These works have been translated into French and German, and Jomini made use of the Introduction for his *Traité des Grandes Opérations Militaires*. Other works of Lloyd's are said to have been bought up and suppressed by the British government, and many of his papers are said to have been taken possession of, at his death, by a person supposed to be an emissary of the British ministry, among which were the Continuation of the History of the Seven Years' War, and a History of the Wars in Flanders. The truth, however, of these statements seems doubtful.

LLOYD'S COFFEE-HOUSE, London, on the northern side of the royal exchange, has long been celebrated as the resort of eminent merchants, underwriters, insurance brokers, &c. As Lloyd's is one of the most extensive and best known insurance offices, the estimate of a vessel at Lloyd's tends much to determine her character among merchants. The books kept here contain an account of the arrival and sailing of vessels, and are remarkable for their early intelligence of maritime affairs.

LLOYD'S LIST, a publication in which the shipping news received at Lloyd's coffee-house is published. On account of the extensive information which it contains, it is of great importance to merchants.

LOADSTONE. See *Magnet*.

LOAN, PUBLIC, is the name given to money borrowed by the state. There may occur cases which require expenses for which the ordinary revenue of the state is not sufficient. If, in such cases, it is not possible to increase the usual revenue by augmenting the taxes, without great inconvenience to the nation, the state will find it advisable to borrow, and to pay interest till it can discharge the principal. If such loans are appropriated to objects by which the means of production are augmented, the state strengthened, and industry increased, they answer the same purpose as those which an industrious tradesman makes in order to enlarge and improve his business. If he is successful, he will increase his property, and the loan itself will afford the means for repaying it. This will be the case also with the state, when it employs the borrowed capital to open to the nation increased means of profitable industry, by facilitating its intercourse with other countries, giving security to its commerce, and increasing its means of production. But if the loans are expended in useless or unfortunate wars, or in other unprofitable ways, they diminish the means of labour or enjoyment, and burden the nation with taxes to pay the interest and discharge the capital. The capitalists who aid in producing, when they lend their capital to men of business, and receive their interest from the proceeds of their capitals, become unproductive subjects as soon as they lend it to the state which expends it uselessly, for now they live on the products of the capitals of others, when before they lived on the products of their own. As loans, however, may become necessary to the state, the only question is, What is the most advantageous method of making them? A chief distinction among loans is this—that the government promises either the repayment of the capital at a particular time, until which it pays interest, or reserves the liberty to retain the capital, according to its own pleasure, only paying interest regularly. The first kind is liable to occasion trouble to the state, because the payment may often fall at an inconvenient time. The payment of large sums, too, at a particular period, has this disadvantage, that the nation, when the payment is to be made, becomes destitute

of ready money. Therefore large loans are usually contracted in such a way that the payment is made, successively, at many periods, or remains entirely indefinite. The last kind of loans requires that the credit of the state should be undoubted, and also that large capitals should have been accumulated in the hands of many rich people, who find their greatest advantage in disposing of them in loans. Where there is a well founded system of credit, statesmen think it most advantageous to secure only the regular payment of the stipulated interest, but to leave the payment of the capital at the pleasure of the state. This is called the *funding system*, as far as fixed funds are assigned for the perpetual payment of the interest. These *perpetual annuities*, as they are called, had their origin in Britain, but have since been imitated in Holland, France, Russia, Austria, and many other states. In order to provide for the redeeming of the capital, a sinking fund (French, *amortissement*) is established, together with the fund appropriated to the payment of the annuities. This is procured by means of a tax large enough to pay the annuity as long as it lasts, and to redeem, annually, a part of the capital debt. This sinking fund is increased every year, if the annuities, annually redeemed are added to it. (See *Sinking Fund*.) According to this method, the state cannot be said, properly, to borrow capital; it sells annuities, and fixes, at the sale, the rate at which they may be redeemed. They are commonly estimated at so much per cent. The government says—I offer you an annuity of three, four, five, &c. per cent., redeemable at my pleasure. How much will you give me for it? According to the market rate of interest, and the degree of credit which the state enjoys, the capitalists offer fifty, sixty, seventy, eighty, ninety, &c., per cent. The sinking fund aims to discharge the debt, gradually, by redeeming, annually, part of the annuities, at the market price. If the latter exceeds the price for which it had sold its annuities, it will be obliged to redeem them with loss; but if it is less, it can redeem them with gain. Another kind of loan is, when the capitalists pay 100 per cent. at a fixed rate of interest, the government reserving the right to pay the capital at any convenient time. Suppose that the state, when it wishes to borrow, is obliged to pay eight per cent., and that these stocks, in the course of three years, should rise in the market 100 per cent. above par; the state would easily find capitalists, who would lend at the rate of four per cent. annually, and with this it could redeem the eight per cent. stocks. If, therefore, the state has reason to expect that the price of the stocks will rise, its best plan is to receive a fixed capital sum at such a rate of interest as it is obliged to give. But if it fears that the interests or the prices of the stocks will fall, it is for its advantage to procure the necessary money by the sale of stocks at the market price, because it may hope to redeem them at a reduced rate. Sometimes premiums, or the chances of a lottery, are employed to stimulate reluctant capitalists, and sometimes even force. If a government must have recourse to other means than those arising from the annuity or interest offered, it is a certain sign that it enjoys but a feeble credit, or that there is a want of capital. How fertile modern history is in loans of every kind, and into what an unhappy situation many states have fallen, by reason of them, is well known. In Austria, the proprietors of the stocks have been forced, several times, to advance further sums, to avoid losing what they had already lent. See *National Debt*.

LOANDA, or LOANDO, or ST PAUL DE LOANDA; a city of Angola, in a province of the same name, capital of the Portuguese possessions in this part of Africa; longitude 13° 22' E.; latitude

8° 55' S.: population, stated by Clarke at 5,000; by Hassel at 18,000. It is pleasantly situated on the declivity of a hill, near the sea-coast, and the streets are wide and regular. It covers a large extent of ground, but is neither walled nor fortified. It is the seat of a bishop, and contains three convents. The port is safe and spacious; the country around pleasant and fertile, abounding in cattle, corn, and fruits; provisions plentiful and cheap; but the water bad, and must be brought from a neighbouring river, on an island opposite. The houses belonging to the Portuguese are built of stone; the houses of the natives are more numerous, but mean. The Jesuits officiate as priests, and preside over the schools.

LOANGO; a country of Western Africa, of limits somewhat vague. The country subject to the king of Loango extends from the Zaire or Congo, on the south, to cape St Catharine, a coast of upwards of 400 miles; but Loango proper occupies only the middle part, excluding Mayomba on one side, and Malemba on the other. The climate is described as fine; rain of rare occurrence, and never violent, but dews abundant; the soil a red, stiff clay, and very fertile, but little cultivated; the grains are manioc, maize, and a species of pulse, called *maangen*; the sugar-cane grows to a great size; palm-trees are abundant; also potatoes and yams, and the finest fruits grow wild. Among the animals are tiger-cats, ounces, hyænas, hares, and antelopes. The country is thinly inhabited; the population is estimated by De Grandpré at 600,000. The inhabitants are very indolent, and live in the most simple manner. Their houses are formed of straw and junk, roofed with palm leaves. The government is despotic, and the dignity is transmitted only in the female line. Almost the only object for which Europeans resort to this coast is the trade in slaves. While Loango was in the height of its power, its port was almost the exclusive theatre of this trade. The trade has of late much diminished. See Tuckey's *Expedition to the Congo*.

LOANGO; a city, and the capital of Loango, on a river which forms a bay at its mouth, about six miles from the Atlantic; longitude, according to captain Tuckey, 12° 30' E.; latitude 4° 40' N. It is about four miles in circuit, containing only about 600 enclosures, in each of which there is a number of cottages; and the inhabitants are computed at 15,000. The land in the vicinity is very fertile, and the water excellent. The entrance of the bay is attended with some danger. The town is called *Lovango*, *Loangiri*, *Banga*, and *Buali*; by the natives, *Borai*, or *Boori*.

LOBEAU, GEORGE MOUTON, count, lieutenant-general, and, in 1830, commander of the national guards of Paris, one of the pupils of the French revolution of 1789, and a distinguished actor in that of July, 1830, was born in 1770, and designed for commercial pursuits. On the invasion of France, in 1792, he entered the military service, and obtained his first promotion on the Rhine. Having served with distinction in Italy, where he was dangerously wounded, he was created, by the first consul, Bonaparte, general of brigade, and afterwards accompanied the emperor in all his campaigns, in the capacity of aid. In 1807, he was wounded at Friedland, and promoted to the rank of general of division. His brilliant services in Spain, in 1808, and in Germany, obtained him his title of count. (See *Aspern*.) After having served in the Russian campaign, he was made prisoner in Dresden in 1813, but set at liberty after the abdication of Napoleon. He rejoined the emperor during the hundred days, was named peer of France, received the command of a division, and distinguished himself at Waterloo. On

the second restoration of the Bourbons, count Lobau was banished from the kingdom (see *Louis XVIII*), and he resided in Belgium till 1819, when he was allowed to return to France. During the revolution of 1830, he took an active part on the popular side, and, when Lafayette resigned the command of the national guards, was appointed (December 21) commander of those of Paris.

LOBEIRA, VASCO, author of the romantic romance of *Amadis de Gaul*, was born at Porto, in Portugal, in the fourteenth century. In 1384, he was knighted on the field of battle, at Aljubarrota, by king Joam I. He died at Elvas, where he possessed an estate, in 1403. The original of his celebrated romance was preserved in the library of the duke of Aveiro, who suffered for the conspiracy against Joseph I.; but whether still in existence or not, is doubtful. This romance has been claimed for France, it having been asserted that Lobau was only a translator; but Dr Southey has succeeded in refuting that pretension. See *Amadis*.

LOBEL, MARTIN DE, (Latinised, *Lobelius*), was born at Lille, in 1539, studied medicine at Montpellier, travelled through Italy, Switzerland, Germany, became physician to the prince of Orange, and was at a later period, invited to England, as a lecturer, by king James. He died in 1616, at Highgate, near London. His chief works are *Storpium adveniens nova*, with engravings (London, 1570, 4to., several times reprinted; the last time, Frankfurt, 1610, folio); *Plantarum seu Storpium Histories cum Anasariorum Folumine*, with engravings (Amstewp, 1584, folio; in Dutch, *ibid*, 1581); *Jovius Storpium*, Amstewp, 1581, 4to.; also London, 1606, 4to. After him, a genus of plants has been called *Lobelia*. All the species are poisonous; some very much so.

LOBELIA; a genus of plants distinguished by the labiate corolla, and by having the five segments united in the form of a cylinder, as in the *respirator*. About 150 species are known, which are herbaceous or frutescent, having alternate leaves, and flowers disposed in terminal racemes. The juice is acrid, milky, and more or less acrid and caustic.

LOBSTER (*astacus*). This well known crustaceous animal has already been cursorily mentioned under the head of *Crawfish*, and it was then inadvertently stated, that the lobster, found on the American coast, was the *A. gammarus*, or, in other words, identical with the European species. It was so considered by most naturalists, until Mr Say pointed out the differences between them. (See *Journ. Acad. Nat. Sci. Philad.* i. 165.) He was it *A. marinus*. Mr Say observes that *Saba*, however, was aware that this species was distinct from the European, and figured it in his great work. They are exceedingly alike, though there are certain marks of difference, sufficient to authorize a separation. The habits of the American species are, so far as they have been observed, analogous to those of the *gammarus*. They are taken by means of pots or traps made of strips of osiers, formed somewhat like mouse-trap, baited with garbage, attached to a line and buoy, and sunk by means of a weight. The European lobster having been more studied by naturalists, the following particulars respecting it have been obtained. Like the crabs, they change their crust annually. Previous to this process, they appear sick, languid, and restless. They acquire the new shell in about three or four days, during which time being perfectly defenceless, they become the prey not only of fish, but also of such of their kindred as are not in the same condition. It is difficult to conceive how they are able to draw the membrane of the claws out of their hard covering. The fishermen say, that during the pining state of the animal

before casting its shell, the limb becomes contracted to such a degree as to be capable of being withdrawn through the joints and narrow passage near the body. Like all other crustaceous animals, they only increase in size whilst in a soft state. The circumstance of lobsters losing their claws on occasion of thunder-claps, or the sound of cannon, is well authenticated. The restoration of claws lost thus, or from their frequent combats with each other, in which the vanquished party generally leaves one of his limbs in his adversary's grasp, may be readily observed, as the new limb seldom, if ever, attains the size of the former. These animals are very sensible to the shock communicated to the fluid in which they live, by the firing of cannon. In the water, they are very rapid in their motions, and, when suddenly alarmed, can spring to a great distance. They attain their retreat in a rock with surprising dexterity, throwing themselves into a passage barely sufficient to permit their bodies to pass. They are extremely prolific: Dr Baster says that he counted 12,444 eggs under the tail of a female lobster, besides those that remained in the body unprotruded. The female deposits these eggs in the sand, where they are soon hatched.

LOCH; the Scottish for *lake*.

LOCH KATRINE, or CATHARINE; a small lake of Scotland, in the county of Perth, in the Grampian hills, celebrated for the picturesque beauties of its shores. It has become famous as the scene of the Lady of the Lake. Bordering on it are the mountains called the Trosachs, full of wildness and rude grandeur. The access to the lake is through a narrow pass, about half a mile in length, "the Trosachs' rugged jaws."

LOCH LEVEN. See *Leven*.

LOCH LOMOND; a lake of Scotland, lying betwixt Dumbartonshire and Stirlingshire, and nearly equally belonging to both. It is about twenty-three miles in length from north to south, and its greatest breadth is five miles. It contains nearly thirty islands of different sizes. It communicates with the Clyde by a river, which joins the Clyde at Dumbarton. (See *Leven*.) This beautiful lake is surrounded by hills and mountains, and is celebrated for the grand and picturesque scenery of its shores. Its depth is various, in some parts 100 fathoms. It abounds in trout.

LOCK; a well known instrument, used for fastening doors, chests, &c., generally opened by a key. The lock is reckoned the masterpiece in smithery, a great deal of art and delicacy being required in contriving and varying the wards, springs, bolts, &c., and adjusting them to the places where they are to be used, and to the several occasions of using them. The principle on which all locks depend, is the application of a lever to an interior bolt, by means of a communication from without; so that, by means of the latter, the lever acts upon the bolt, and moves it in such a manner as to secure the lid or door from being opened by any pull or push from without. The security of locks, in general, therefore, depends on the number of impediments we can interpose betwixt the lever (the key) and the bolt which secures the door; and these impediments are well known by the name of *wards*, the number and intricacy of which are supposed to distinguish a good lock from a bad one. If these wards, however, do not, in an effectual manner, preclude the access of all other instruments besides the proper key, it is still possible for a mechanic, of equal skill with the lockmaker, to open it without the key, and thus to elude the labour of the other. Various complicated and difficult locks have been constructed by Messrs Bramah, Taylor, Spears, and others. In a very ingenious lock, in-

vented by Mr Perkins, twenty-four small blocks of metal, of different sizes, are introduced, corresponding, to the letters of the alphabet. Out of these, an indefinite number of combinations may be made. The person locking the door selects and places the blocks necessary to spell a particular word, known only to himself, and no other person, even if in possession of the key, can open the door, without a knowledge of the same word.

LOCKS. When a canal varies from one level to another of different elevation, the place where the change of level takes place, is commanded by a lock. Locks are tight, oblong enclosures, in the bed of the canal, furnished with gates at each end, which separate the higher from the lower parts of the canal. When a boat passes up the canal, the lower gates are opened, and the boat glides into the lock, after which the lower gates are shut. A sluice, communicating with the upper part of the canal, is then opened, and the lock rapidly fills with water, elevating the boat on its surface. When the lock is filled to the highest water level, the upper gates are opened, and the boat, being now on the level of the upper part of the canal, passes on its way. The reverse of this process is performed when the boat is descending the canal. Locks are made of stone or brick, sometimes of wood. The gates are commonly double, resembling folding doors. They meet each other, in most instances, at an obtuse angle, and the pressure of the water serves to keep them firmly in contact. Cast iron gates are sometimes used in England, curved in the form of a horizontal arch, with their convex side opposed to the water. In China, inclined planes are said to be used instead of locks, along which the boats are drawn up or let down. They have also been used in Europe, and on the Morris canal, in New Jersey, America.

LOCKE, JOHN, one of the most eminent philosophers and valuable writers of his age and country, was born at Wrington, in Somersetshire, Aug. 29, 1632. His father, who had been bred to the law, acted in the capacity of steward, or court-keeper, to colonel Alexander Popham, by whose interest, on the breaking out of the civil war, he became a captain in the service of parliament. The subject of this article was sent, at a proper age, to Westminster school, whence he was elected, in 1651, to Christ church college, Oxford. Here he distinguished himself much by his application and proficiency; and, having taken the degree of B. A. in 1655, and of M. A. in 1658, he applied himself to the study of physic. In the year 1664, he accepted an offer to go abroad, in the capacity of secretary to Sir William Swan, envoy from Charles II. to the elector of Brandenburg, and other German princes; but he returned, in the course of a year, and resumed his studies with renewed ardour. In 1666, he was introduced to lord Ashley, afterwards the celebrated earl of Shaftesbury, to whom he became essentially serviceable in his medical capacity, and who formed so high an opinion of his general powers, that he prevailed upon him to take up his residence in his house, and urged him to apply his studies to politics and philosophy. By his acquaintance with this nobleman, Mr Locke was introduced to the duke of Buckingham, the earl of Halifax, and others of the most eminent persons of their day. In 1668, at the request of the earl and countess of Northumberland, he accompanied them in a tour to France, and, on his return, was employed by lord Ashley, then chancellor of the exchequer, in drawing up the Fundamental Constitutions of Carolina. He also superintended the education of that nobleman's son. In 1670, he began to form the plan of his *Essay on the Human Understanding*, and, about the same time, was made a fellow of the royal society. In 1672, lord Ashley, having been created earl of

Shaftesbury, and chancellor, appointed Mr Locke secretary of presentations, which office, however, he lost the following year, when the earl was obliged to resign the seals. Being still president of the board of trade, that nobleman then made Mr Locke secretary to the same; but, the commission being dissolved in 1674, he lost that appointment also. In the following year, he graduated as a bachelor of physic, and, being apprehensive of a consumption, travelled into France, and resided some time at Montpellier. In 1679, he returned to England, at the request of the earl of Shaftesbury, then again restored to power; and, in 1682, when that nobleman was obliged to retire to Holland, he accompanied him in his exile. On the death of his patron, in that country, aware how much he was disliked by the predominant arbitrary faction at home, he chose to remain abroad; and was, in consequence, accused of being the author of certain tracts against the British government; and, although these were afterwards discovered to be the work of another person, he was arbitrarily ejected from his studentship of Christ church, by the king's command. Thus assailed, he continued abroad, nobly refusing to accept a pardon, which the celebrated William Penn undertook to procure for him, expressing himself, like the chancellor L'Hopital, in similar circumstances, ignorant of the crimes of which he had been declared guilty. In 1685, when Monmouth undertook his ill-concerted enterprise, the English envoy at the Hague demanded the person of Mr Locke, and several others, which demand obliged him to conceal himself for nearly a year; but, in 1686, he again appeared in public, and formed a literary society at Amsterdam, in conjunction with Limborch, Leclerc, and others. During the time of his concealment, he also wrote his first Letter concerning Toleration, which was printed at Gouda, in 1689, under the title of *Epistola de Tolerantia*, and was rapidly translated into Dutch, French, and English. At the revolution, he returned to England, in the fleet which conveyed the princess of Orange, and, being deemed a sufferer for the principles on which it was established, he was made a commissioner of appeals, and was soon after gratified by the establishment of toleration by law. In 1690, he published his celebrated Essay concerning Human Understanding, which he had written in Holland. It was instantly attacked by various writers. It was even proposed, at a meeting of the heads of houses of the university of Oxford, to formally censure and discourage it; but nothing was finally resolved upon, but that each master should endeavour to prevent its being read in his college. Neither this, however, nor any other opposition, availed; the reputation, both of the work and of the author, increased throughout Europe; and, besides being translated into French and Latin, it had reached a fourth English edition, in 1700. In 1690, Locke published his second Letter on Toleration; and, in the same year, appeared his two Treatises on Government, in opposition to the principles of Sir Robert Filmer, and of the whole passive-obedience school. He next wrote a pamphlet entitled *Some Considerations of the Consequences of lowering the Interest and Value of Money* (1691, 8vo), which was followed by other smaller pieces on the same subject. In 1692, he published a third Letter on Toleration, and, the following year, his Thoughts concerning Education. In 1695, he was made a commissioner of trade and plantations, and, in the same year, published his Reasonableness of Christianity, as delivered in the Scriptures, which being warmly attacked by doctor Edwards, in his Socinianism Unmasked, Locke followed with a first and second Vindication, in which he defended himself in a masterly manner. The use made by Toland,

and other latitudinarian writers, of the premises laid down in the Essay on the Human Understanding, at length produced an opponent in the celebrated bishop Stillingfleet, who, in his Defence of the Doctrine of the Trinity, censured some passages in Locke's Essay; and a controversy arose, in which the great reading and proficiency in ecclesiastical antiquities of the prelate yielded, in an argumentative contest, to the reasoning powers of the philosopher. With his publications in this controversy, which were distinguished by mildness and urbanity, Locke retired from the press, and his asthmatic complaint increasing, he resigned his post of commissioner of trade and plantations, observing that he could not, in conscience, hold a situation, to which a considerable salary was attached, without performing the duties of it. From this time, he lived wholly in retirement, where he applied himself to the study of Scripture; while the sufferings incidental to his disorders were materially alleviated by the kind attentions and agreeable conversation of lady Masham, who was the daughter of the learned doctor Cudworth, and, for many years, his intimate friend. Locke continued nearly two years in a declining state, and at length expired in a manner correspondent with his piety, equanimity, and rectitude, October 28, 1704. He was buried at Oates, where there is a neat monument erected to his memory, with a modest Latin inscription indited by himself.

The moral, social, and political character of the eminent man, is sufficiently illustrated by the foregoing brief account of his life and labours; and the effect of his writings upon the opinions and even fortunes of mankind, is the best eulogium on his mental superiority. In the opinion of doctor Reid, he gave the first example in the English language, of writing on abstract subjects with simplicity and perspicuity. No author has more successfully pointed out the danger of ambiguous words, and of having indistinct notions on subjects of judgment and reasoning; while his observations on the various powers of the human understanding, on the use and abuse of words, and on the extent and limits of human knowledge, are drawn from an attentive reflection on the operations of his own mind. In order to study the human soul, he went neither to ancient nor to modern philosophers for advice, but, like Maimonides, he turned within himself, and, after having long contemplated his own mind, he gave his reflections to the world. Locke was a very acute thinker, and his labours will always be acknowledged with gratitude, in the history of philosophy; but, at the same time, it must be remembered, that, in attempting to analyse the human soul, as an anatomist proceeds in investigating a body, piece by piece, and to derive ideas from experience, he has unintentionally supported materialism. His declaration, that God, by his omnipotence, can make matter capable of thinking, has been considered dangerous to a religious point of view. Locke's great work, his Essay on the Human Understanding, which he was nineteen years in preparing, owes its existence to a dispute, at which he was present, and which he perceived to rest on a verbal misunderstanding, and considering this to be a common source of error, he was led to study the origin of ideas, &c. The influence of this work has rendered the empirical philosophy prevalent in Britain and France, though in both countries, philosophers of a different school have appeared (See Cousin.) Henry Lee and Norris (in England) were among his earliest opponents. In France, Jean Leclerc (Clericus) distinguished himself particularly as a partisan of Locke; and GWF spread his philosophy, by compendiums, in Holland. Amidst the improvements in metaphysical studies

to which the Essay itself has mainly conduced, it will ever prove a valuable guide in the acquirement of the science of the human mind. His next great work, his two Treatises on Government, was opposed by the theorists of divine right and passive obedience (see *Legitimacy*), and by writers of Jacobinical tendencies; but it upholds the great principles, which may be deemed the constitutional doctrine of his country. It was a favourite work with the statesmen of the American revolution, by whom it is constantly appealed to in their constitutional arguments. His Reasonableness of Christianity maintains, that there is nothing contained in revealed religion inconsistent with reason, and that it is only necessary to believe that Jesus is the Messiah. His posthumous works, also, have caused him to be considered, by some, as a Socinian. Besides the works already mentioned, Locke left several MSS. behind him, from which his executors, Sir Peter King and Mr Anthony Collins, published, in 1706, his Paraphrase and Notes upon St Paul's Epistles to the Galatians, Corinthians, Romans, and Ephesians, with an Essay prefixed for the Understanding of St Paul's Epistles, by a reference to St Paul himself. In 1706, the same parties published Posthumous Works of Mr Locke (8vo), comprising a Treatise on the Conduct of the Understanding, an Examination of Malebranche's Opinion of seeing all Things in God. His works have been collected together, and frequently printed in 3 vols. folio, 4 vols. quarto, and, more lately, in ten vols. 8vo, with a life prefixed, by Law, bishop of Carlisle. Some unpublished MSS. yet remain in possession of lord King, who has given to the public some valuable materials in his Life and Correspondence of John Locke (London, 1829).—See, also, Stewart's Philosophical Essays.

**LOCKER**; a kind of box, or chest, made along the side of a ship, to put or stow anything in.

**Shot-lockers**; strong frames of plank near the pump-well in the hold, in which the shot is put.

**LOCKMAN**. See *Lokman*, and *Fable*.

**LOCOMOTION**. The arts of locomotion are very well described in Bigelow's Technology (Boston, 1829), and the few remarks that follow are abridged from the first part of the article. The chief obstacles which oppose locomotion, or change of place, are gravity and friction, the last of which is, in most cases, a consequence of the first. Gravity confines all terrestrial bodies against the surface of the earth, with a force proportionate to the quantity of matter which composes them. Most kinds of mechanism, both natural and artificial, which assist locomotion, are arrangements for obviating the effects of gravity and friction. Animals that walk, obviate friction by substituting points of their bodies instead of large surfaces, and upon these points they turn, as upon centres, for the length of each step, using themselves wholly or partly from the ground successive arcs, instead of drawing themselves over the surface. As the feet move in separate ones, the body has also a lateral, vibratory motion.

*man*, in walking, puts down one foot before the other is raised, but not in running. Quadrupeds, in walking, have three feet upon the ground for most of the time; in trotting, only two. Animals which walk against gravity, as the common fly, the treadmill, &c., support themselves by suction, using ridges on the under side of their feet, which they urge, at pleasure, till the pressure of the atmosphere causes them to adhere. In other respects *in locomotion* is effected like that of other walking animals. Birds perform the motion of flying by king the air with the broad surface of their wings downward and backward direction, thus propelling the body upward and forward. After each

stroke, the wings are contracted, or slightly turned, to lessen their resistance to the atmosphere, then raised, and spread anew. The downward stroke also, being more sudden than the upward, is more resisted by the atmosphere. The tail of birds serves as a rudder to direct the course upward or downward. When a bird sails in the air without moving the wings, it is done in some cases by the velocity previously acquired, and an oblique direction of the wings upward; in others, by a gradual descent, with the wings slightly turned, in an oblique direction, downward. Fishes, in swimming forward, are propelled chiefly by strokes of the tail, the extremity of which being bent in an oblique position, propels the body forward and laterally at the same time. The lateral motion is corrected by the next stroke, in the opposite direction, while the forward course continues. The fins serve partly to assist in swimming, but chiefly to balance the body, or keep it upright; for, the centre of gravity being nearest the back, a fish turns over, when it is dead or disabled.\* Some other aquatic animals, as leeches, swim with a sinuous or undulating motion of the body, in which several parts at once are made to act obliquely against the water. Serpents, in like manner, advance by means of the winding or serpentine direction which they give to their bodies, and by which a succession of oblique forces are brought to act against the ground. Sir Everard Home is of opinion that serpents use their ribs in the manner of legs, and propel the body forwards by bringing the plates on the under surface of the body to act, successively, like feet against the ground. This he deduces from the anatomy of the animal, and from the movements which he perceived in suffering a large coluber to crawl over his hand. Some worms and larvæ of slow motion, extend a part of their body forwards, and draw up the rest to overtake it, some performing this motion in a direct line, others in curves. When land animals swim in water, they are supported, because their whole weight, with the lungs expanded with air, is less than that of an equal bulk of water. The head, however, or a part of it, must be kept above water, to enable the animal to breathe; and to effect this, and also to make progress in the water, the limbs are exerted, in successive impulses, against the fluid. Quadrupeds and birds swim with less effort than man, because the weight of the head, which is carried above the water, is, in them, a smaller proportional part of the whole than it is in man. All animals are provided, by nature, with organs of locomotion best adapted to their structure and situation; and it is probable that no animal, man not being excepted, can exert his strength more advantageously by any other than the natural mode, in moving himself over the common surface of the ground.† Thus walking cars, velocipedes, &c., although they may enable a man to increase his velocity, in favourable situations, for a short time, yet they actually require an increased expenditure of power, for the purpose of transporting the machine made use of, in addition to the weight of the body. When, however, a great additional load is to be transported with the body, a man, or animal, may derive much assistance from mechanical arrangements. For moving weights over the common ground, with its ordinary asperities and in-

\* The swimming-bladder, which exists in most fishes, though not in all, is supposed to have an agency in adapting the specific gravity of the fish to the particular depth in which it resides. The power of the animal to rise or sink, by altering the dimensions of this organ, has been, with some reason, disputed.

† This remark, of course, does not apply to situations in which friction is obviated, as upon water, ice, rail-roads, &c.

qualities of substance and structure, no piece of inert mechanism is so favourably adapted as the wheel-carriage. It was introduced into use in very early ages. Wheels diminish friction, and also surmount obstacles or inequalities of the road, with more advantage than bodies of any other form, in their place, could do. The friction is diminished by transferring it from the surface of the ground to the centre of the wheel, or, rather, to the place of contact between the axletree and the box of the wheel; so that it is lessened by the mechanical advantage of the lever, in the proportion which the diameter of the axletree bears to the diameter of the wheel. The rubbing surfaces, also, being kept polished, and smeared with some unctuous substance, are in the best possible condition to resist friction. In like manner, the common obstacles that present themselves in the public roads, are surmounted by a wheel with peculiar facility. As soon as the wheel strikes against a stone or similar hard body, it is converted into a lever for lifting the load over the resisting object. If an obstacle eight or ten inches in height were presented to the body of a carriage unprovided with wheels, it would stop its progress, or subject it to such violence as would endanger its safety. But by the action of a wheel, the load is lifted, and its centre of gravity passes over in the direction of an easy arc, the obstacle furnishing the fulcrum on which the lever acts. Rollers placed under a heavy body diminish the friction in a greater degree than wheels, provided they are true spheres or cylinders, without any axis on which they are constrained to move; but a cylindrical roller occasions friction, whenever its path deviates in the least from a straight line. The mechanical advantages of a wheel are proportionate to its size, and the larger it is, the more effectually does it diminish the ordinary resistances. A large wheel will surmount stones and similar obstacles better than a small one, since the arm of the lever on which the force acts is longer, and the curve described by the centre of the load is the arc of a larger circle, and, of course, the ascent is more gradual and easy. In passing over holes, ruts, or excavations, also, a large wheel sinks less than a small one, and consequently occasions less jolting and expenditure of power. The wear also of large wheels is less than that of small ones, for if we suppose a wheel to be three feet in diameter, it will turn round twice, while one of six feet in diameter turns round once; so that its tire will come twice as often in contact with the ground, and its spokes will twice as often have to support the weight of the load. In practice, however, it is found necessary to confine the size of wheels within certain limits, partly because the materials used would make wheels of great size heavy and cumbersome, since the separate parts would necessarily be of large proportions to have the requisite strength, and partly because they would be disproportioned to the size of the animals employed in draught, and compel them to pull obliquely downwards, and therefore to expend a part of their force in acting against the ground.

LOCOMOTIVE ENGINE is that which is calculated to produce locomotion, or motion from place to place.

In this article, it is our intention to give an historical and descriptive account of locomotive engines, and to reserve the consideration of their effects upon railways, until we come to treat of *railways*, (q. v.) Dr Robinson, while a student at Glasgow college in 1759, seems to have been the first who suggested the application of steam power to the propelling of carriages. Oliver Evans, an ingenious American, thought of the same thing twenty-three years after-

wards, but it does not appear that any thing more than a good high pressure fixed engine was the result of his labours. In 1784, James Watt took out a patent for the application of his steam engine to move carriages, and three years afterwards, Mr William Symington exhibited a model of a steam carriage of his own invention at Edinburgh, the engine being of the low pressure kind. In 1802, a carriage on four wheels, was erected by Mr Richard Trevithick, having a high pressure engine and boiler contained in the carriage. The great defect of Trevithick's carriage, consisted in the slipping of the wheels, which Mr Blinckesop endeavoured to obviate in 1811, by employing a rack rail, in which a large toothed wheel was to work. In the year following, Messrs Chapman brought forward a steam carriage, in which the weight was distributed over a larger surface, and consequently less injury done to the rail. About the same time, Mr Brunton of Bathurst contrived a carriage to be propelled by levers, acting like horse's feet. A railway carriage invented by M George Stevenson in July, 1814, was reckoned the most perfect for many years. That gentleman employed two cylinders, and increased the efficiency of the machine, by distributing the friction over four wheels, instead of over two as in Trevithick's machine. In 1830, steam carriages of a still better construction, were started upon the Liverpool and Manchester railway. The carriage used on the Sanspareil by Mr Hawkworth, the *Novelty* by Messrs Braithwaite and Ericson, and the *Rocket* by Mr Stevenson: after a fair trial, the *Rocket* obtained the reward. Mr Stevenson has, however, made further improvements upon his steam carriage, which we shall now proceed to describe. Various views of this railway steam carriage are given in plates 51. No. 1, and 51. No. 2. A side elevation is shown in fig. 1, plate 51. No. 1; figs. 2 and 3 are end elevations, the former showing the back, and the latter the front elevation, fig. 4, is an end view of the boiler. Fig. 1, plate 51. No. 2, is a ground plan, and fig. 2 a section and 3 a side view with some parts taken away, in order to show the more concealed portions of the machinery. The letters or letters of reference are used in all the figures.

Our attention must in the first place, be directed to the boiler, an end view of which is represented in fig. 4, plate 51. No. 1. It consists of a massive cylinder, having two flat ends, the cylinder being commonly about six feet in length. The entire end of this cylinder is occupied by eighty or 100 copper tubes traversing the whole length, and each of about 1½ inches diameter. These tubes are so many that being open at both ends, the one end communicating with the fire box, or furnace, and the other opening into the chimney, thus affording a passage for the smoke and hot air. These pipes being heated, they communicate their caloric to the water which surrounds them, the boiler or cylinder being filled with water to such a height as to cover the tubes. The boiler lies lengthwise in the carriage, so as to come at A A' in the longitudinal section, fig. 2, plate 51. No. 2, one end of the boiler as was before observed opens into a fire-box or furnace, seen at a a a in the same section. The furnace bars are laid horizontally at a as may be seen, also in the ground plan, fig. 1, plate 51. No. 2. The fire box or furnace, is a square box formed of two casings, the one contained within the other. The outside casing communicates with the lower, and also at the upper, parts of the boiler, by means of two pipes, therefore when water is poured into the boiler, it flows into the space between the outside casing and the fire-box, and the boiler being constantly kept about half full of water the casing is consequently well supplied. The steam

that is generated in the casing, passes into the boiler by the upper pipe. Above the fire-box, and communicating with the upper part of the boiler, there is a sort of bell-shaped receiver covered at the top, and opening into the boiler, as seen at E." From this receiver a pipe is led, one end of which opens into the receiver: at a little distance below, this pipe is bent, having a knee joint, and then traverses horizontally along the whole length of the boiler. At its further extremity, it opens into two pipes of smaller bore, one of which is seen at g, the other being hid in the section. These pipes are bended downwards, in order to supply the cylinders, one of which is seen at R.

The hot air and smoke, as before stated, pass along the horizontal tubes in the boiler, rise up through the chimney A, and escape into the air. F is the safety-valve, being of the steel yard kind, but instead of the pressure being regulated by a moveable weight, it is regulated by a spiral steel spring, whose elastic force is measured by a graduated scale. F' is another safety-valve, wrought in a similar way, but confined within a pipe, so that the workmen cannot get at it, in order that should the other valve be too much loaded, the valve F' will still act, and prevent accident when the force of the steam is greater than it should be. E is the main hole, which is uncovered when the boiler requires to be cleaned. The engine, which is of the high pressure kind, is seen at R & R'; the cylinders two in number, lie nearly in a horizontal position, being a little inclined upwards towards the fire-box, or back of the carriage.

The alternate motion of the piston rod, gives motion to a crank on the axle of the back wheels, and thus the carriage is propelled. The valves in the nozzles are wrought by an eccentric, V r. The rods for putting off or on the steam, as also for working the eccentric that causes the carriage to move either backwards or forwards, are seen at h and Z at the end of the fire-box.

D is the hot water pump, which may be connected with the gearing at pleasure, by a handle at the command of the engine-man, who stands within the rail at the back of the carriage. The whole is suspended on springs, which may be seen at N, in plate 51. No. 1.

The above is only intended to be a general description; more particular details will be given in our articles *Railways and Steam Engine*.

With regard to locomotive engines for moving on common roads, it is unnecessary to say much. Various attempts have from time to time been made by Mr Gurney, Messrs Heatons, Mr Russell, and other ingenious engineers; but although very great mechanical skill has been displayed in these inventions, none of them have succeeded to satisfaction. From the rapid improvements in the various departments of machinery, it is highly probable that ere long, steam carriages will be made to ply on our turnpike roads with safety and expedition.

LOCRI was a country of Middle Greece, whose inhabitants, the Locrians, were among the oldest Grecian people. There were four branches of them—the Epicnemidian, the Opuntian, Ozolian, and Pizephyrian Locrians. The last were a colony from the Ozolian stock, and lived in Lower Italy. Their capital, Locri, was one of the most powerful, splendid, and wealthy cities of Magna Græcia.

LOCUST. The misapplication of popular appellations, and the mutations of entomology, have introduced some confusion in regard to the scientific names of many insects. The American *cicada* are particularly known in the United States both by the names of *harvest-fly* and *locust*; the latter term, however, is incorrectly applied. Under the generic name

*locusta* is included, by several modern entomologists, the devouring locusts and the common grasshoppers. These entomologists use the term in nearly the same sense as Linnæus, who affixed it to a group of his great genus *gryllus*, which constitutes the genus *gryllus proper* of Fabricius. The grasshopper may be thus characterized. The wings and wing-cases are applied obliquely to the sides of the body in repose; the antennæ are short, and do not taper towards the ends; the feet have only three joints; and the tail is not furnished with a projecting oviduct, or piercer, for the deposition of the eggs. These insects have the hind legs formed for leaping, and the males produce a stridulous sound, by scraping these legs against their wing-cases. The female deposits her eggs in the earth, and the young survive the winter in the larvæ state, concealed among the decayed vegetation of the surface. They pass through an imperfect metamorphosis, for both larvæ and pupæ resemble, somewhat, the perfect insects in form, are active, and take food in the same way, but are destitute of wings. In all stages, they are herbivorous, and sometimes do immense injury to vegetation. The salt marshes of North America harbour an innumerable host, which not unfrequently strips them of every blade of grass; or, when a scanty crop is gathered into the barn, the hay is so filled with the putrescent carcasses of these grasshoppers, or locusts, as to be highly offensive, and totally unfit for forage. In some sections of that country, they occasionally appear in such numbers as to fill the air in clouds, and wherever they alight they devour every green thing in their path. It is stated, on good authority, that, more than once, when they visited some parts of New England, they not only ate up all the grass in the fields, but actually attacked clothing and fences to appease their insatiable hunger. Some workmen, employed in raising the steeple of a church, in Williamstown, Massachusetts, were, while standing near the vane, covered by them, and saw, at the same time, vast swarms flying at a great height far above their heads. These swarms are said to return after a short migration, and perish on the very grounds they have ravaged. (See Dwight's *Travels*.) Many of these insects are ornamented with various beautiful colours, particularly on the wings, which, however, in repose, are not visible, being folded like a fan, and covered by the long, narrow wing-cases. One of the largest and most common American species is the *locusta Carolina* of Linnæus. It is about one inch and three quarters in length, and the wings are of a deep black colour, surrounded with a broad yellow border. The most celebrated species of grasshopper is the *gryllus migratorius* (migratory locust). Of all animals capable of adding to the calamities of mankind, by destroying the vegetable products of the earth, the migratory locusts would seem to possess the most formidable powers of destruction. In Syria, Egypt, and almost all the south of Asia, these insects make their appearance in legions, and carry desolation with them, in a few hours changing the most fertile provinces into barren deserts, and darkening the air by their numbers. Happily for mankind, this calamity is not frequently repeated, for it is the inevitable precursor of famine, and its horrible consequences. The annals of most of the southern Asiatic climates are filled with the accounts of the devastations produced by locusts. They seldom visit Europe in such swarms, though they are occasionally formidable to the agriculturist. Even when dead, they are still productive of evil consequences, since the putrefaction which arises from their inconceivable number, is so great, that it is justly regarded as the cause of some of those desolating pestilences

which almost depopulate whole districts of country. When locusts thus make their appearance, they are said to have a leader, whose flight they observe, and to whose motions they pay a strict regard. We are told that nearly as much damage is occasioned by what they touch, as by what they devour. Their bite is thought to contaminate the plants, and either to destroy or greatly weaken their vegetation. Of the innumerable multitudes in which they occur, scarcely an adequate conception can be formed. Barrow (*Travels*, &c.) states that, in Southern Africa, the whole surface of the ground might literally be said to be covered with them for an area of 2000 square miles. The water of a very wide river was scarcely visible on account of the dead carcasses that floated on the surface. When the larvæ (for these are much more voracious than the perfect insects) are on a march during the day, it is utterly impossible to turn the direction of the troop, which is generally with the wind. In some parts of the world, these insects are used for food. For this purpose, they are caught in nets, and, when a sufficient number is procured, they are roasted over a slow fire, in an earthen vessel, till the wings and legs drop off; when thus prepared, they are said to taste like crawfish. Mr Adanson (*Voyage to Senegal*) says, however, that he would willingly resign whole armies of locusts for the meaneast fish. The locusts constituted a common food among the Jews, and Moses has specified the different kinds which they were permitted to eat. "Even these thou mayest eat; the locust after his kind; the bald locust after his kind; the beetle after his kind; and the grasshopper after his kind." *Levit.* xi. 22.

The popular term *grasshopper* is also applied, and with more propriety, to insects in another group of the *grylli*—the *tettigonia* of Linnaeus (*locusta* of Fabricius). They are distinguished from the locusts of the preceding section, by their very long, bristle-shaped, or tapering antennæ, and by having four joints to their feet, and an exerted oviduct. The latter instrument often has the form of a curved sword or sickle, and is used in preparing a hole, and in conveying the eggs to their appropriate *nides* beneath the soil. These insects have long, slender hind legs, formed for leaping; but the males do not play with them against their wing-cases, for the production of sounds. Their musical organs consist of a pair of frames, within each of which is stretched a transparent membrane. These tabourets are affixed to that part of the base of each wing-case which laps on the top of the back, and one lies directly over and in contact with the other; so that, whenever the wing-cases are opened and shut, the frames grate together, and, as often as the shuffling motion is repeated, a grating sound is produced. These musical grasshoppers are usually of a green colour, and are nocturnal in their habits. During the daytime, they conceal themselves in the grass or the foliage of trees; but at night, they quit their lurking places, and the joyous male commences the song of love with which he recreates his silent partner. It would be well to restrict the popular appellation *grasshoppers* to these insects, which have been distributed into several modern genera. Two only need here be mentioned, viz., *conocephalus* (Thunberg), (*acrida*, Kirby), including the species whose head terminates in front in a conical projection, and *pterophylla* (Kirby), whose head is obtuse, and not produced in front. The latter genus contains the well-known insect, called, from its note, *katy-did*, *pterophylla concava* (*locusta concava*, Say.) Its large, oblong-oval, concave wing-cases, invwrap the abdomen, and meet at their edges above and below, somewhat like the two sides or valves of a pea-pod. Perched on

the topmost twig of a tree, the insect begins his nocturnal call by separating, closing, and re-opening its wing-cases. The friction of the tabouret-frames upon each other, thrice, produces three distinct notes, which is the usual number; occasionally, only two are given, when the wing-cases are merely opened and shut once. The mechanism of these organs reverberates, and increases the sound to such a degree, that it may be heard, in the stillness of the night, at the distance of nearly a quarter of a mile. At intervals of three or four minutes, he repeats his clamorous babble, while rival songsters echo the note, and the woods resound with the call of *katy-did*, *no did*, the live-long night. The *tettigonia* of Linnaeus, or grasshoppers above-mentioned, are not so to be confounded with the insects referred to the modern genus *tettigonia* of Olivier, Lamarck, and Lacordaire. The former, with all the *grylli* of Linnaeus, have gone to masticating their food, and belong to the order *orthoptera*; while the latter, with the *crickets*, or *cricket-fly* (misnamed *locust*), have suctionary tubes, for sucking plants and imbibing their juices, and belong to the order *homoptera*. In the genus *cricket*, the antennæ are six-jointed: there are three *coxae*, and the legs are not adapted for leaping. In *tettigonia*, the antennæ are three-jointed; there are only *two coxae*, the thorax is transverse; not produced behind, and the legs are formed for leaping. To the genus *tettigonia* (Olivier) may be referred the manner which attacks the grape vine, and injures it to a great extent by noxious punctures, and the exhalation of its sap. When the leaves of this valuable plant are agitated, the little *tettigonia* leap or fly from them in swarms. The infested leaves soon become yellow, sickly, and, losing their vitality, give to the plant, in midsummer, the aspect it assumes naturally at the approach of winter. On turning up the narrow cuttings, the insects will be seen busily employed upon the under side, with their proboscis thrust into the tender epidermis. These insects pass through all their metamorphoses, which are imperfect, upon the plant; the wingless larvæ and pupæ, having a general resemblance to the perfect insect, feed together in the same manner, and their innumerable whitest skins will be found adhering to every part of the leaves. This species survives the winter in the perfect state, hibernating beneath sticks, stones, and among the roots of grass. It may be called *insecta vitis* (Harris.) It is, in its perfect state, nearly an inch long; of a straw colour, with two broad, scarlet bands across the wing-cases, one at the base and the other on the middle, and the tips of the wing-cases are blackish.—The *cricket* *tettigonia* (Fab.), popularly misnamed *locust*, and found in various parts of the world, subsists on the leaves of trees and other vegetable substances. These insects are furnished with a hard proboscis, capable of boring wood. They are well known from the peculiar note made by the males. The instrument for the use of which is situated on each side of the base of the abdomen, and each is covered by a kind of cartilaginous lamina. The cavity which contains these is divided by a triangular partition. Examined from its internal side, each cell presents, anteriorly, a white and pliant membrane, and below this, a tense, thin, transparent lamina, termed, by Réaumur, the *muscle*. Viewed from the external side, there was to be seen another pliant membrane on each side, which is acted on by a powerful muscle, composed of a great number of straight and parallel fibres; this membrane is the *drum*. The muscles, in rapidly contracting and relaxing, act on this drum, and thus produce the noise. It is said, that in some species, in temperate climates, this is very powerful. Mr. *Swainson* speaks of some of these insects, whose notes can be

heard at the distance of half a mile. The most remarkable species is the seventeen years' locust (*C. septendecim*), so common, in particular seasons, in some parts of the United States. These insects emerge from the ground towards the end of April, and always during the night. On their first coming out, they are in the pupa state; but the back soon bursts, and the perfect fly appears. They begin to lay eggs about the end of May; these are deposited in close lines of two inches long, in the tender twigs of trees. As soon as the young attain their growth, in the grub state, they fall to the ground, and make their way two or three feet underneath the surface, in order to undergo their change into the pupa form. Soon after attaining their last transformation, they are found in great numbers over large districts of country. They appear about every seventeen years, though it is highly probable, that the periods of their return vary, according to the heat of the climate, and other circumstances. These insects have been known to make their appearance in the city of Philadelphia in great numbers, penetrating from their subterranean residence, between the bricks of a pavement. Notwithstanding the usual idea, they are in no way injurious to vegetation, except from the damage done by the female in depositing her eggs. This insect is the favourite food of various species of animals. Immense numbers are destroyed by the hog, before they emerge from the ground; they are, also, when in their perfect state, eagerly devoured by squirrels. Some of the larger birds are also fond of them. The Indians likewise consider them as a delicate food when fried. In New Jersey, they have been converted into soap. It is stated, on good authority, that they never light on the pine, nor does the female deposit her eggs in this tribe of trees.

**LOCUST (*robinia pseudacacia*.)** This valuable and ornamental tree, which is so frequently cultivated in the Atlantic States of America, and highly prized in Europe, grows wild in great profusion among the Alleghany mountains, and throughout the Western States, even to the borders of the sandy plains which skirt the base of the Rocky mountains. When in bloom, the large, pendulous racemes of fragrant, white flowers, contrasting with the light-green foliage, produce a fine effect, and give this tree a rank among the most ornamental. The leaves are pinnate, and the leaflets very thin and smooth. The flowers, resembling in form those of the pea, diffuse a delicious perfume, and are succeeded by a flat pod. The ranches and young stems are usually armed with thorns. The wood is compact, hard, capable of receiving a fine polish, and has the valuable property of resisting decay longer than almost any other. The colour is greenish-yellow, with brown streaks. Locust-posts are consumed in enormous quantities, and are every where preferred, when they can be obtained. This wood is also very much employed in ship-building, in the upper and lower parts of the frame, together with the white and live oaks and red cedar; but it is difficult, in the Atlantic ports, to procure stocks of sufficient dimensions. For tree-nails, it is preferred to all other kinds of wood, as it acquires extreme hardness with age, and considerable quantities of these are annually exported to Great Britain. It is also employed by turners, and, from its fine grain and lustre, forms a very good substitute for mahogany. The locust grows very rapidly, but, when cultivated in the Atlantic states, it is found to be exceedingly liable to the attacks of an insect, which, boring into the wood in various directions, weakens the tree so much, that it is easily broken by wind. In various parts of Europe, great attention has been paid to the propagation of this tree, for

ornament as well as for its useful properties, and its cultivation is further encouraged by the absence of the destroying insect above-mentioned. The usual stature of the locust is forty or forty-five feet, but, in the fertile regions of the south-west, it attains much greater dimensions, sometimes reaching to the height of eighty feet, with a trunk four feet in diameter.

The *R. viscosa*, a smaller tree than the locust, from which it is distinguished by its rose-coloured flowers, and by having the young branches covered with a viscous substance, is, in its natural state, confined to the south-western parts of the Alleghany mountains. It usually does not exceed forty feet in height, with a trunk twelve inches in diameter, and is a more ornamental tree than even the preceding. The properties of the wood are very similar to those of the common species, and it will bear cultivation in the same climates.

The *R. hispida* is also a native of the south-west ranges of the Alleghanies. It is a shrub with very hispid branches, often cultivated in gardens on account of its very large and beautiful rose-coloured flowers, which, however, like those of the *R. viscosa*, are inodorous.

A fourth species of *robinia* is said to exist within or near the basin of the Red river, but, with respect to its character, botanists are, at present, entirely uninformed. This genus is thus peculiar to North America.

**LODGE.** This word, with several symbols and ceremonies, was taken from the corporations of stone-cutters and masons, by the freemasons. The former called the place where they assembled a *lodge*; and, in freemasonry, *lodge* signifies the place of meeting; and hence that body of masons, with necessary officers, &c., who meet at such place. Each lodge is distinguished by its particular name, with the addition of the name of the place where it holds its meetings. For further information, see *Masonry*.

**LODI,** a well-built town, since 1814 the chief town of the province of Lodi in the government of Lombardy, in the Lombardo-Venetian kingdom, lies on the Adda, in a fertile territory; lon. 9° 31' E.; lat. 45° 19' N.; population, 17,800. The bishopric is subject to the archbishop of Milan. The town contains a strong citadel. The celebrated Parmesan cheese is made, not at Parma, but at and about the town of Lodi alone, and is considered the best in Italy. The manufactures of earthen ware are also celebrated. It was at this place that general Bonaparte gained the famous victory, May 10, 1796, over the Austrians, under Beaulieu. They had passed the Adda, evacuated Lodi, and taken a very strong position, defended by thirty pieces of cannon, which could be approached only by a narrow bridge over the Adda. Bonaparte formed a part of his forces into a close column, brought his whole artillery into play, and charged at a quick step. The slaughter was dreadful, as the Austrian artillery swept down whole ranks at once on the bridge. The French wavered; but, at this critical moment, the French generals Berthier, Masséna, Cervoni, Lannes, &c., placed themselves at the head of the column, forced their way over the bridge, and took the Austrian batteries. The Austrians fought bravely; both armies struggled with the greatest obstinacy, and victory long remained in suspense, till the division of Augereau came up, and decided the fate of the battle. The Austrians, driven from their post, lost a part of their artillery and over 3000 men; but Beaulieu saved the honour of the Austrian arms by a retreat conducted with coolness. The French loss was not less. If they did not lose 4000 men, as the Austrians stated, they certainly lost more than 2000, which was their own account. Men of science have

censured both generals.—Bonaparte, for taking a post with an immense sacrifice, of which, say they, he might have been master, in twenty-four hours more, with comparative ease; and Beaulieu, for having evacuated the town of Lodi in such haste, as to neglect breaking down the bridge, by which alone the enemy could approach his position; but it is idle to dispute with Raphael about perspective. Lodi remains one of the most striking military achievements of Napoleon; not merely from the personal courage which he displayed, but from the boldness with which the action was planned, and the energy with which it was executed. At Lodi, Bonaparte received the title of *petit caporal* (little corporal). See Thiers's *Histoire de la Révolution Française* (vol. 8th); Botta's *Histoire de l'Italie de 1789 à 1814*.

LOG; a machine used to measure the rate of a ship's velocity through the water. For this purpose, there are several inventions, but the one most generally used is the following, called the *common log*. It is a piece of thin board, forming the quadrant of a circle of about six inches radius, and balanced by a small plate of lead, nailed on the circular part, so as to swim perpendicularly in the water; with the greater part immersed. The log-line is fastened to the log by means of two legs, one of which is knotted, through a hole at one corner, while the other is attached to a pin, fixed in a hole at the other corner, so as to draw out occasionally. The log-line, being divided into certain spaces, which are in proportion to an equal number of geographical miles, as a half or quarter minute is to an hour of time, is wound about a reel. The whole is employed to measure the ship's head-way in the following manner: The reel being held by one man, and the half-minute glass by another, the mate of the watch fixes the pin, and throws the log over the stern, which, swimming perpendicularly, feels an immediate resistance, and is considered as fixed, the line being slackened over the stern, to prevent the pin coming out. The knots are measured from a mark on the line, at the distance of twelve or fifteen fathoms from the log. The glass is therefore turned at the instant that the mark passes over the stern; and, as soon as the sand in the glass has run out, the line is stopped. The water, then being on the log, dislodges the pin, so that the board, now presenting only its edge to the water, is easily drawn aboard. The number of knots and fathoms which had run off at the expiration of the glass, determines the ship's velocity. The half-minute glass, and divisions on the line, should be frequently measured, to determine any variation in either of them, and to make allowance accordingly. If the glass runs thirty seconds, the distance between the knots should be fifty feet. When it runs more or less, it should therefore be corrected by the following analogy: As thirty is to fifty, so is the number of seconds of the glass to the distance between the knots upon the line. As the heat or moisture of the weather has often a considerable effect on the glass, so as to make it run slower or faster, it should be frequently tried by the vibration of a pendulum. As many accidents attend a ship during a day's sailing, such as the variability of winds, the different quantity of sail carried, &c., it will be necessary to heave the log at every alteration, and even if no alteration be perceptible, yet it ought to be constantly heaved. The inventor of this simple but valuable device is not known, and no mention of it occurs till the year 1607, in an East India voyage, published by Purchas.

LOG-BOARD; two boards shutting together like a book, and divided into several columns, containing the hours of the day and night, the direction of the winds, and the course of the ship, with all the material occurrences that happen during the twenty-

four hours, or from noon to noon, together with the latitude by observation. From this table, the officers work the ship's way, and compile their journals. The whole, being written with chalk, is rubbed out every day at noon.

LOG-BOOK; a book into which the contents of the log-board is daily transcribed at noon, together with every circumstance, deserving notice, that can happen to the ship, or within her cognizance, either at sea, or in a harbour, &c. The intermediate divisions or watches of a log-book, containing four hours each, are usually signed by the commanding officer thereof, in ships of war or East Indiamen.

LOG-LINE; the line which is fastened to the log (q. v.).

LOGAN, JAMES; born at Lurgan, in Ireland, Oct. 20, 1674, of Scottish parents. At the age of thirteen years, having learned Latin, Greek, and some Hebrew, he was put apprentice to a linen draper in Dublin; but, the country being covered with much confusion by the war of the revolution, 1793, he returned to his parents, at Bristol, in England, where he devoted all the time which he could command to the improvement of his mind. In the sixteenth year, having happily met with a small treatise on mathematics, he made himself master of it in every manner of instruction. Having, also, further improved himself in the Greek and Hebrew, he acquired the French, Italian, and Spanish languages. He was engaged in a trade between Dublin and Bristol, when William Penn made proposals to him to accompany him to Pennsylvania, as his secretary, which he accepted, and landed, with the proposals in Philadelphia, in the beginning of December, 1793. In less than two years, William Penn returned to England, and left his secretary invested with several important offices, which he discharged with honour and judgment. He filled the offices of private secretary, commissioner of property, chief justice, and, upon the demise of governor Gordon, governor of the province for two years as president of the court. He had, for a long time, earnestly solicited that proprietary family a release from the fatigue of their business; but, even after this release, he was constantly consulted and appealed to in relation to both the quiet and good government of the province for a number of years, was due to his profound experience. He lived about twenty years at home, enjoying literary leisure, corresponding with many men in various countries, and engaged in collecting that library which he bequeathed to the public. He was also the author of several learned works. His *Experimenta Metemata de Plantarum Generatione* entitles its author to be ranked among the great improvers of botany. It was written in 1738, and corresponded with the great Swedish botanist. Logan died at Stenton, near Philadelphia, Oct. 31st, 1761, having just completed his seventy-seventh year.

LOGAN, REV. JOHN, an ingenious poet and a common writer, was born in the parish of Fife, in Lothian, in 1748, and educated for the church at Edinburgh. Having been ordained, he became minister of South Leith in 1773, previously to which he had published a collection of poems, some in own composition, and some the composition of his friend, Michael Bruce. He afterwards produced a tragedy, entitled "Runnimede," which was acted at Edinburgh, but with no great success. In 1781 he removed to London, and became a writer in the English Review. He died in 1788. His poems, which were published after his death, are much admired.

LOGARITHM (from the Greek *logos*, proportion and *arithmos*, number). "The logarithms of numbers

are the exponents of the different powers to which a constant number must be raised, in order to be equal to those numbers; the principles, therefore, which apply to exponents in general, apply to logarithms." To constitute a logarithm, it is necessary that the exponent should refer to a system or series. These exponents, therefore, constitute a series of numbers in arithmetical proportion, corresponding to as many others in geometrical proportion. Take, for instance, the series,  $10^1=10$ ;  $10^2=100$ ;  $10^3=1000$ ;  $10^4=10,000$ : then we have the logarithm of  $10=1$ ; logarithm,  $100=2$ ; logarithm,  $1000=3$ ; logarithm,  $10,000=4$ , &c. Perhaps the definition of a logarithm may be more scientifically expressed thus: *Logarithm*, is a mathematical term for a number by which the magnitude of a certain numerical ratio is expressed in reference to a fundamental ratio. The value of a ratio becomes known to us by the comparison of two numbers, and is expressed by a number called the *quotient* of the ratio; for instance,  $12:4$  is expressed by 3, or  $18:9$  by 2; 3 and 2 being called the *quotients* of the two proportions,  $12:4$  and  $18:9$ . If we now imagine a series of proportions, which have all the same value or quotient, as, for instance,  $1$  to  $3$ ,  $3$  to  $9$ ,  $9$  to  $27$ ,  $27$  to  $81$ , &c. (in which 9 and 3, 27 and 9, 81 and 27, are in the same ratio as 3 and 1), and if we at the same time adopt the ratio 3 to 1, as the fundamental ratio (or the unit of these ratios), then 9 to 1 is the double of this ratio, 27 to 1 the triple, 81 to 1 the quadruple, and so on. The numbers 1, 2, 3, 4, which indicate the value of such ratios, in respect to the fundamental ratio, are called *logarithms*. If, therefore, in this case, 1 is the logarithm of 3, 2 must be the logarithm of 9, 3 of 27, 4 of 81, &c. If we adopt, however, the ratio of 4:1 as the fundamental one, and hence 1 as the logarithm of 4, then 2 would be the logarithm of 16, 3 of 64, &c. The logarithms of the numbers which lie between, must be fractions, and are to be calculated and put in a table. A table of logarithms, made according to an assumed basis or fundamental ratio, of all numbers, to a certain limit, is called a *logarithmic system*. The most common, at present, is that of Briggs, in which the fundamental basis is 10 to 1; hence 1 is the logarithm of 10, 2 of 100, 3 of 1000, 4 of 10,000, &c. It is evident that all logarithms of numbers between 1 and 10, must be more than 0, yet less than 1, i. e. a fraction; thus the logarithm of 6 is 0.7781513. In the same way, the logarithms of numbers between 10 and 100 must be more than 1, but less than 2, &c.; thus the logarithm of 95 is 1.977236. All logarithms of the numbers between 0, 10, 100, 1000, &c., are arranged in tables, the use of which, particularly in calculations with large numbers, is very great. The process is simple and easy. If there are numbers to be multiplied, we only have to add the logarithms; if the numbers are to be divided, the logarithms are merely to be subtracted; if numbers are to be raised to powers, the logarithms are multiplied; if roots are to be extracted, the logarithms are merely to be divided by the exponent of the root. In a table of logarithms, an integer figure is called the *index* or *characteristic*. The decimals are called, by the Germans and Italians, the *mantissa*. In general, the logarithms of a system in which 1 indicates 10, are called *common* or *Briggs's logarithms*. The use of logarithms in trigonometry was discovered by John Napier, v.) a Scottish baron, and made known by him in a book published at Edinburgh, in 1614. Logarithmic tables are of great value, not only to mathematicians, but to all who have to make calculations with large numbers. The best logarithmical tables are those of Vega and of Callet. The former are calculated with ten decimals. Logarithms are of incal-

culable importance in trigonometry and in astronomy. Vega's edition of Vlacq's tables contains a trigonometrical table of the common logarithms of the radius or *log. sin. tot.*  $=10.0000000$ , which gives the logarithms of sines, arcs, co-sines, tangents, and co-tangents for each second of the two first and two last degrees, and for each ten seconds of the rest of the quadrant. Under Napier's direction, B. Ursinus first gave the logarithm of the sines of the angles from 10 to 10 seconds, the logarithm of the tangents, which are the differences of the logarithms of each sine and co-sine, together with the natural sine for a radius of 100,000,000 parts. Kepler turned his attention particularly upon the invention of Napier, and gave a new theory and new tables. Briggs was also conspicuous in the construction of tables. Mercator shows a new way for calculating the logarithms easily and accurately. Newton, Leibnitz, Halley, Euler, L'Huilier, and others, perfected the system much, by applying to it the binomial theorem and differential calculus. The names of Vlacq, Sherwin, Gardiner, Hutton, Taylor, Callet, and others, deserve to be honourably mentioned. The edition of Vlacq, within a few years, by Vega, is particularly valuable. During the French revolution, when all measures were founded on the decimal division, new tables of the trigonometrical lines and their logarithms became necessary. The director of the *bureau du cadastre*, M. Prony, was ordered, by government, to have tables calculated, which were to be not only extremely accurate, but to exceed all other tables in magnitude. This colossal work, for which the first mathematicians supplied the formulas and the methods for using the differences in the calculations, was executed, but the depreciation of the paper money prevented its publication. The tables would have occupied 1200 folio pages. (*Notices sur les grandes Tables Logarithmiques et Trigonométriques, calculées au Bureau du Cadastre à Paris, an IX.*)

LOGAU, FREDERIC, baron of; an epigrammatist, born in Silesia, 1604, and died in 1655. He early showed poetical talents, but, at a later period, his avocations appear to have prevented him from attempting any large poems, and his poetical productions were confined to short pieces and epigrams. He published a selection of 200 epigrams, which were so well received, as to induce him (probably in 1654) to publish a new collection of 3000. A contemporary of Opitz, he followed in the steps of his great predecessor, and often expresses himself with as much vigour. Many of his epigrams are original and happy, and are the more striking as this department has been little cultivated by German writers. Logau is particularly original in the gnome, and truly poetical in a form which is now become foreign to poetry. Ramler and Lessing, who edited a collection of his epigrams in 1759, revived his reputation. After Lessing's death, Ramler republished the collection, in 1791. Select poems of Logau are contained in W. Müller's *Bibliothek Deutscher Dichter des 17. Jahrh.* (Library of the German Poets of the seventeenth Century, volume vi., Leipsic, 1824).

LOGGE DI RAFFAELLO; part of the Vatican, and one of those beautiful scenes to be found nowhere but in Rome. Leo X. had these logge or arcades built under the direction of the immortal Raphael. There are three stories which enclose a court called *il Cortile di S. Damaso*. The middle story is the most celebrated. It is formed by thirteen arches, and the vault of each contains four paintings in fresco, representing scenes from the Old Testament, and executed by Giulio Romano, Pierin dal Vaga, Pellegrino da Modena, Polidoro, and Maturino da Caravaggio, and others, after cartoons prepared by the great Raphael himself. The number of these

exquisite pictures is fifty-two; the arches and pilasters are adorned with grotesque paintings, executed by Giovanni da Udine, so famous in this branch, also under the direction of Raphael.

LOGIC (*λογική*, i. e. *λογιστική*); the science of the laws of thought, and the correct connexion of ideas. It is not certain, however, whether the name was derived originally from *thought* or from *language*, because both may be designated by *λογος*, i. e. reason and word. In German, this science has also been called *Denk-Lehre*, or *Verstandes-Lehre* (rule of thinking, or rule of understanding), because logic strives to represent, in a scientific way, those laws which the understanding is bound to follow in thinking, and without the observance of which, no correct conclusions are possible. Logic is valuable, not only as affording rules for the practical use of the understanding, but also as a science preparatory to all other sciences, particularly mental philosophy, as it affords the rules for giving scientific connexion to all knowledge, the laws of thinking determining the character of scientific arrangement. But, inasmuch as the laws of logic can only determine the form of our knowledge, but can by no means teach us how to obtain the materials of knowledge, and gain a clear insight into things (which is the business of *mental philosophy*, properly so called), in so far logic has been, of late, separated from intellectual philosophy. But if, as is not unfrequently done, all sciences are divided into the historical (those which proceed from experience, as history, natural philosophy, medicine, &c.) and the philosophical (the subjects of which do not fall within the domain of experience), logic is a philosophical science, because the laws of the connexion of thoughts and ideas are founded in reason itself, and not in experience, and the subjects of logic are, therefore, capable of a demonstrative certainty beyond those of any other philosophical science. Logic has not unfrequently been overvalued, particularly by the ancient philosophers. It should always be kept in mind, that the most systematic order, alone, does not render assertions truth. The province of logic has been enlarged or restricted by different philosophers. Among the ancients, logic was made to include the deeper philosophical investigation of the general characteristics of truth, or the essential conditions of the truth of our knowledge, which some modern philosophers have referred to metaphysics. Logic may be divided into the pure and the applied; the former treats of the general laws and operations of thought (conceiving, judging, concluding), and their products (notion, judgment, conclusion). Applied logic treats of thought under particular and special relations, which are to be taken into consideration in applying the general laws of thought, viz. the connexions of thought with other operations of the mind, and the impediments and limitations which it thereby experiences, as, also, the means of counteracting them. For the first scientific treatment of logic, we are to look to the Greeks. Zeno of Elea is called the father of logic and dialectics; but it was then treated with particular reference to the art of disputation, and soon degenerated into the minister of sophistry. The sophists and the Megarean school (founded by Euclid of Megara) greatly developed this art. The latter, therefore, became known under the name of the *heuristic* or *dialectic school*, and is famous for the invention of several sophisms. The first attempt to represent the forms of thinking, in *abstracto*, on a wide scale, and in a purely scientific manner, was made by Aristotle. His logical writings were called by later ages, *organon*, and for almost two thousand years after him maintained authority in the schools of the philosophers. His investigations were directed,

at the same time, to the criterion of truth, in which path Epicurus, Zeno, the founder of the stoic school, Chrysippus, and others followed him. Logic, and dialectics, enjoyed great esteem in later times, particularly in the middle ages, so that it was considered almost as the spring of all science, and was taught as a liberal art from the eighth century. The crown of logic was the scholastic philosophy (which is not a new form of the ancient sophistry); and theology, particularly, became filled with verbal subtleties. Raymundus Lullius strove to give logic another form. The scholastics were attacked by Campanus, Cassiodorus, Peter Ramus (*Pierre de la Ramée*). Bacon, and others, with well-founded objections. Descartes and Malebranche again confounded logic and metaphysics. Locke, Leibnitz, and Wolf, Tschirnhaus, Thomasius, Crusius, Ploucquet, Lambert (*de la Ver Organon*), Reimarus, and others, have rendered great service to modern logic. Kant, Fichte, Schelling, Hegel, have maintained very various opinions on the subject. Whately's *Treatise on Logic*, published in the *Encyclopædia Metropolitana*, and since in a separate volume, is one of the best treatises in English, on the subject.

LOGOS (Greek, *λογος*, from *λογω*, to speak) has a great variety of meanings: 1. language, speech, in general; hence, 2. every manifestation of the mind and understanding by language, so that it has the meaning of oration, eloquence, conversation, address, also of the right and opportunity of speaking, &c. Language being peculiar to man, as a reasonable being, and speech presupposing thought, *logos* signifies, 3. reason, the faculty of thinking in general. Every thing which is a production of the mind, notions, conceptions, demonstration, calculation, explanation, condition, and relation, may, even reason and logic. Thus *logos* has the meaning both of *reason* and *oration*.<sup>\*</sup> In Christian theology, the word *logos*, as used in certain passages of the Scriptures, has been the source of continual disputes ever since the third century of our era. The passage in the Bible which gives rise to this discussion, is the opening of the gospel of St John:—"In the beginning was the Word, and the Word was with God, and the Word was God. The same was in the beginning with God. All things were made by him, and without him was not any thing made that was made," &c. In the Greek text, the expression here translated *Word* (*le verbe*, *das wort*, &c.) is *λογος*. What it here to be understood by *λογος*, what is its essential character, whether it is a person of the Deity or not, the creative intellect of God, or the Son, through whom he created, or the divine truth which was to be revealed, &c.—this work is not the proper place to examine, nor will our limits permit us even to enumerate the different opinions which have been entertained on this interesting point of Christian metaphysics. We can refer the reader to no better source of information than the *General History of Christianity and the Church* (in German, by Augustus Neander, Hamburg, 1827, et seq.—a work of distinguished research and impartiality). The Roman Catholic doctrine of the *λογος* (*verbum*) makes it a person, and not a mere name, and maintains that the Word is called *God*, not by catachresis, but in the strict and rigorous meaning of the term; that the most ancient fathers of the church always taught the divinity of the Word, and that they derived the name from the Holy Scriptures alone, and not from the

\* A slight study of cultivated languages will show us generally the word signifying *speech*, or *reason*, derived from the original verb *to speak*, has acquired a very extended meaning; as the Latin *res*, from the Greek *λογος*, *logos*, from *λογω*, *Emere* and *Dicere*, signifying *to take* and *to say*, generic terms in the Oriental languages.

Platonic philosophy, as many have asserted. For a view of the Catholic doctrine, we must refer our readers to the Catholic *Dictionnaire de Théologie* (Toulouse, 1817), article *Verbe*, and to the works particularly devoted to this subject. Some of the opinions of modern theologians on the meaning of the *logos* are as follows:—It is necessary, some say, in order to understand the true meaning of *logos*, to begin with the examination of *σοφία*, which was previously used. (See the book of *Proverbs*, viii. 1, et seq., and the book of *Wisdom*, vii. 22, et seq.) The poetical author of the *Proverbs* does not imagine a person separate from God, but only an interior power of God, because, in his time, there could be no idea of a being proceeding from God, the Jews having borrowed this notion at a later period from the Oriental doctrine of emanations. The author of the book of *Sirach* (xxiv. 3) first uses *λογος του Θεου*, as equivalent to *σοφία*, to signify the almighty power of God. The Word being an act of wisdom, gave rise to the symbol. John speaks of the *logos* in the beginning of his gospel only, and afterwards uses the expression *πρωμα του Θεου*. From his representation, the following positions have been deduced:—the *logos* was (a.) from the beginning of all things (comp. *Proverbs*, viii. 22; *Sirach*, xxiv. 9); (b.) from the beginning with God (comp. *Sir.* i. 1; *Wisd.* ix. 4, 9); (c.) through it the world was created (*Prov. Sol.* viii. 31; *Sir.* xxiv. 9); (d.) in the person of Christ, the *logos* was manifested as a man to the world (*Wisd. Sol.* x. 16; ii. 14; *Sir.* xxiv. 12). St John, therefore, say those who thus interpret him, had the same idea of the *logos* as the apocryphal writers; for the circumstance that the latter ascribe to the *logos* the creation of all things, while St John leaves this point undecided in his *ο αρχη η*, does not amount to a contradiction. Others, particularly the earlier commentators, understand by *logos*, the Deity himself, that is, the second person of the deity (according to St John viii. 58). But those who adhere to the former opinion maintain that this is in contradiction to John xiv. 28; xii. 49—50; v. 19—20; and that he understood by *logos*, only a power of God, which was communicated to Jesus, on account of which he could claim divine attributes, and yet call the Father, as the source of this power, greater than himself. Others, as Herder, Paulus, Eckerman, understand by *logos*, the Word of God (*וְדָבָר*), which, in the Old Testament, as the expression of the will of God, is the symbol of his creative power (*Gen.* i, et seq.). The later Jews represented the divine omnipotence by the word of God. But it is maintained, on the other hand, from the manner in which John speaks of the *logos*, that he did not understand by it merely the divine omnipotence. A similar account is given of the creation by the Word, in the religion of Zoroaster. According to Richter (*Das Christenthum und die ältesten Religionen des Orients*), the *logos* corresponds with the Indian Om, the Persian Hanover, the Egyptian Kneph. Others, following the fathers of the church, particularly Eusebius, understand by *logos* an independent substance, external from God, like the *νοος* of Plato. But this, again, it is said, involves an error, because Plato means by *νοος*, only a power of God. Still others, as Mosheim, Schlegel, Jerusalem, declare with Irenæus, the *logos* of St John to be identical with the *logos* of the Gnostics; it is objected, that John did not conceive of a unality, like that in the doctrine of *εὐνοια*. Lange considered *logos* equivalent to the *sophia* of the Old Testament, and that to the *logos* of Philo, and as a distinct person from God; but, say the others, *σοφία* not something distinct from God. Paulus, in his commentary, also identifies the *logos* of Philo, with

that of St John. But it is said, on the other hand, that John cannot be supposed to have been acquainted with Philo's notion, as it was not an opinion commonly known at the time, and that the view of the apocryphal writers is more similar to his; moreover, that if St John meant anything more than an original, eternal power in God, his *εὐνοια η* would imply dualism. Others have attempted grammatical explanations. Doderlein and Storr translated the word *λογος* by *doctrina*, the abstract being put for the concrete, *doctrina* for *teacher*, as in *Gen.* xlii. 38; 2 *Sam.* xxii. 23; *Luke* iv. 36. According to others, *λογος* means *ἡ λεγομένη* (the promised); but history makes no mention of Christians who still expected a Messiah. The ancient philosophers often distinguish two *logoses*, an interior in God or man, which merely thinks (*λογος ἰδιόθετος*), and an exterior or uttered (*λογος προθετικός*).\*

LOGTHING; the legislative portion of the Norwegian *storting*, or diet. As soon as the king or his representative has opened the session, the *storting* choose one quarter of their members to compose the logthing. The remaining three-fourths constitute the *odelstthing*, or representatives of the landed property. These bodies conduct their deliberations separately, and each chooses its own president, and secretary. Every law is first proposed in the *odelstthing*, either by its own members or by the government, through a counsellor of state. If the proposition is then accepted, it is then sent to the logthing, who either accept or reject it, at pleasure, in the latter case giving their reasons. These are considered by the *odelstthing*, who either abandon the proposed measure, or send it again, either with or without alteration, to the logthing. If the proposition is twice sent down by the *odelstthing* to the other house, and is, by them, twice rejected, the whole *storting* then assemble together, and the question is decided by a vote of two-thirds of all the members. At least three days must elapse between each of the considerations. When a measure proposed by the *odelstthing*, has received the assent of the other division of the assembly, or of the whole *storting*, a deputation from both branches of the *storting* is sent to the king, or, in his absence, to the viceroy or regency, to obtain the royal sanction for the measure. The sessions of both houses are public, and their deliberations are daily made known to the public, by means of the press. The members of the logthing form, together with the highest judicial authorities, the supreme court of the kingdom, which decides on charges, preferred by the *odelstthing*, against the members of the council of state, or of the members of the superior courts, for violations of their official duties, or members of the *storting*, for any offences which they may have committed in that capacity. In this tribunal the logthing presides. Against a sentence pronounced by this supreme tribunal, no pardon avails, except in cases where the punishment is death. See *Storting*.

LOGWOOD. This important article of commerce is the wood of the *hamatoxylon Campechianum*, a small straggling tree, belonging to the family *leguminosæ*, which grows wild, in moist places, along the western shores of the gulf of Mexico.

\* Goethe, in his celebrated *Faustus*, makes use of this passage of St John to plunge *Faustus* deeper into his despondency. He endeavours to translate *λογος* by *word*, *mind*, *power*; nothing will do: at last he chooses *deed*, and is satisfied. Though this agrees well enough with the character of the hero, the poet ought to have considered that if *Faustus* understood Greek, he must have known that *λογος* never means *deed* or any manifestation of reason by action.

From its abundance in some parts of the bay of Campeachy, it is sometimes called *Campeachy-wood*. The leaves are pinnate; the flowers small, yellowish, and disposed in axillary racemes at the extremity of the usually spinous branches. The wood is red, tinged with orange and black, so heavy as to sink in water, and susceptible of receiving a good polish; but it is chiefly employed in dyeing. The black and purple colours are very much used, but they are not so permanent as some obtained from other substances. Though cultivated to some extent in Jamaica, the logwood of commerce is chiefly obtained from Honduras, where the cutting of it forms an extensive, but unhealthy, branch of business.

LOHENSTEIN, DANIEL CASPAR VON, a German poet of the Silesian school, was born 1635, in Silesia, and died 1683, at Breslau. He wrote a great deal, particularly tragedies and comedies; and we mention him merely as a model of bad taste. His bombast is pushed to the furthest extravagance, and as an instance of aberration from taste, is not uninteresting in the history of the human mind. His dramatic *extravaganzas* are collected in his *Trauer- und Lust-gedichte* (Breslau, 1680, 1689; Leipsic, 1733).

LOIR-AND-CHER; a department of France, so called from the two rivers which cross it; the former in the south part, and the other in the north. See *Department*.

LOIRE (*Liger*), the largest river of France, rises in the Cevennes, in the department of the Ardèche, and empties into the Atlantic ocean below Nantes in Bretagne. Its length is about 520 miles. It is shallow in many places, but is navigable for large merchant ships to Nantes, for smaller ones to Briare, and for boats to Boanne. The levee upon the Loire is one of the most stupendous works in France. It extends from Angers to Orleans, and was constructed to confine the river within its banks, and to exclude the waters from a tract of country which is said formerly to have been a morass one hundred miles in length, and thirty or forty in breadth. Its base is about forty feet wide, and its elevation nearly twenty-five from the adjoining level; and its upper surface, which is paved with large stones, is just capacious enough to admit three carriages abreast. By the new division of France, since the revolution, three departments have received their name from the river—the Loire, and the Upper, and Lower Loire. In 1815, the river became of historical importance. The French army, which, after the battle of Waterloo, had fallen back to the walls of Paris, having, by the terms of capitulation made by the provisional government, retired without further hostilities, under the command of Davoust, beyond the Loire, it was called the *army of the Loire*.

LOIRE, LOIRE UPPER, and LOIRE LOWER; three French departments. See *Department*.

LOIRET; a French department. See *Department*.

LOIZEROLLES, M. DE, was a barrister at the time of the French revolution, and was arrested, with his father, in 1793, on suspicion, and conveyed with him to the prison of St Lazare. On the 7th of Thermidor, two days before the fall of Robespierre, the messengers of the revolutionary tribunal arrived at the prison with a list of the prisoners who were to be tried, and called for Loizerolles, the son. The young man was asleep, but the father, with a heroic wish to sacrifice his life for the preservation of his son, allowed himself to be taken to the Conciergerie, and appeared before the judges. The clerk, perceiving the error in point of age, substituted the name of Francis for John, the word father for son, and the age of sixty-one for twenty-two, and thus the father was led to the scaffold, though no charge or crime was

alleged against him! M. Loizerolles, junior, has since celebrated this act of paternal affection in a poem, in three cantos, with historical notes (1820, 1817).

LOK. See *Northern Mythology*.

LOKMAN is a name that figures in the *proverbs* and traditions of the Arabians. The period in which he lived is very differently stated, so that it is even doubtful if there were not two of the same name at different periods. According to tradition Lokman was a scion from the stock of Ad, and was once sent, with a caravan, from Ethiopia to Mecca, to pray for rain in a time of great drought. But God's anger destroyed the whole family of Ad, except Lokman, the only righteous one; whereupon the Creator of the world gave him his choice, to live as long as the dung of seven gazelles, which lay at an inaccessible hole in a mountain, should live, or for a period equal to the lives of seven successive rulers. Lokman chose the last, and lived for an almost incalculable length of time. There is also in the Koran an account of a Lokman, surnamed *the wise*; sometimes, also, called *Abu-Anan*, or *the father of Ananias*. This one, whether identical with the former or not, is not for us to determine, lived in the same time, and is represented as similar in many respects to the Phrygian *Esop*; and the Arabians have a great variety of fables by him, which, however, are formed upon the model of those of *Esop*, and of which the whole style and appearance are such that they cannot be referred to so early a date as the first century of the Hegira. This person had, also, a life of remarkable duration (according to some 800, according to others 1000 years), which circumstance in the accounts of them affords good grounds for the conjecture, that the Lokman of the Koran, and the one whom tradition ascribes to the race of Ad, are one and the same person, whose history, in the course of ages, has been thus fancifully adorned. The fables of Lokman were, for the first time, made known to Europe through the press, by *Erpenius*, in 1625. They were first published in Arabic, with a Latin translation, were afterwards appended to an Arabic grammar, published by *Erpenius*, at Leyden, and have since gone through many editions, some of which, however, are free from errors. Among the Oriental nations, these fables, owing to their brevity and tasteless dress, are held in little respect, and, on the whole, are not worthy of the reverence which they have, for a long time, sustained with us. In 1799, during the occupation of Egypt by the French, Marcel superintended an edition of *Fables de Lokman*, at Cairo, which was republished in Paris in 1803; but the best is that prepared by *Voltaire* in 1818, for the use of the pupils at the *École Normale*. The editor of Galland's translation of the *Baron de Nameh*, or *Fables of Bidpai*, is mistaken in regarding these Indian fables as Lokman as well as Bidpai. The most complete manuscript of the fables of Lokman is in the library of the Vatican, in Persia.

LOLLARDS. See *Requiers*, *Protestants* and *Oldcastle*.

LOLLI, ANTONIO; a celebrated vocalist born 1729, or according to some, 1730, at Bergamo in the Venetian territory. In 1762—73, he was in the service of the duke of Wurtemberg. He afterwards went to Russia, and his performance pleased the empress Catharine II. so much, that she presented him with a bow, on which she had herself written the words, "This bow, made by Catharine, with her own hands, is intended for the unequalled Loli." In 1775, he travelled in England, France and Spain. In Madrid, besides other perquisites, he received 5000 reals from the director of the theatre for each concert. In 1780, he returned to Italy, and died at Naples in 1794. Loli endeavoured to unite the execution of

the schools of Nardini and Ferrari. He had acquired an astonishing facility on his instrument. He was called the *musical rope-dancer*. None of his predecessors had attained such perfection on the finger-board; but, at the same time, he lost himself in wild and irregular phantasies, in which he often neglected all time, so that the most practised player could not accompany him.

LOLME, Dz. See *De Lolme*.

LOMBARD HOUSE, LOMBARD (*mons pietatis*, *mont de piété*); a public institution, at which every person, but especially the poor, may obtain money for a short time, at a moderate rate of interest, on depositing sufficient pledges (pawns), and are thus saved from the necessity of having recourse to usurers. The chief difference between Lombards and pawnshops is, that the former are established by public authority, for the relief of the poor, while the latter are established by private individuals, for their own profit. After a given time, the pawns, if not redeemed, are sold by public auction, and the surplus, after deducting interest and costs, is given to the former owner; or, if he cannot be found, retained for him one year. If he does not then appear, the sum is given to charitable institutions. The Lombard gives a certificate, stating the time of deposit, the sum received, the name of the pawn, the article pawned, the page of the book in which it is entered. The bearer of this certificate may redeem the articles within the time fixed, unless the owner has apprised the Lombard that it was lost, &c.

The origin of these establishments has been, with much probability, referred, by Dorotheus Ascionius (i. e. Matthew Zimmermann, who died in 1639, and who was superintendent in Meissen\*), to the time of pope Pius II. or Paul II. (1464—1471). Barnabas Interamnensis, however, a Minorite friar, established the first Lombard house in Perugia, in the States of the Church, before 1464, or in that year, though it did not receive pope Paul II.'s confirmation before 1467. A lawyer in Perugia, Fortunatus de Copolis, rendered much assistance in the execution of the plan. Another Lombard was soon after erected in Orvieto. In 1472, Sixtus IV. confirmed one, established at Verbo, in 1469, by a Minorite, Franciscus de Verbo, and, in 1479, another at Savona, his native place. Lombards were thus gradually established in almost all Italian cities during the fifteenth and sixteenth centuries. (See Beckmann's *History of Inventions*, vol. iii., 3d part.) The first Lombard in Germany was established in Nuremberg, in 1498, on an imperial privilege. In the Netherlands, France, and England, whither the rich Lombard merchants emigrated, on account of the struggles of the Guelphs and Ghibelines, they lent their money for interest; whence such establishments were, and still are, called *Lombards*. In some large cities of Germany, the Lombards are very extensive, but do not always attain the object for which they were originally intended, as the following statement will prove.

The following statistical facts, relative to the *mont de piété* in Paris, framed by the prefect of the police, are interesting, as they show that there is a serious class of persons who can with difficulty find the means of existence; and that half of the inhabitants of the capital are obliged to have recourse to the pawn-broker, at some time of the year, though they are forced to pay usurious interest. In the year 1826, there were 1,200,104 pledges of different articles, upon which the sum of 24,521,157 francs was lent. The number of pledges redeemed in the year amounted to only 1,124,221, and the sum

to 21,569,437 francs; so that 75,883 remained at the *mont de piété*; and there was in its hands the sum of 2,951,720 francs. As it is the principle of the *mont de piété* not to lend more than about a quarter of the value upon articles pledged,—though the law for its formation, dated in 1777, directs that the borrower shall receive two-thirds of the value of his pledge,—we may estimate the value of the 75,883 unredeemed pledges, upon which nearly 3,000,000 of francs were lent, at 12,000,000. Supposing the sale of these articles to be effected, and all the reductions of excise, registry, &c., made, there would be returned to the proprietors of them the half of these 12,000,000. It would result, that 6,000,000, at least, are thus annually levied upon the least affluent class of society—that which approaches the nearest to the description of persons for whom the *dépôts* for mendicity were created. Independently of these 6,000,000, inevitably lost to the unfortunate borrowers, we must add the interest of twelve per cent. per annum, taken upon the 24,521,137 francs lent by the *mont de piété*; that is to say, 2,942,536 francs, adding nearly 3,000,000, which, with the 6,000,000 already spoken of, constitute a total of 9,000,000. 9,000,000, divided among 437,500 inhabitants, half of the 875,000 composing the entire population of the capital, give twenty francs, twenty centimes, or, omitting the fraction, twenty francs for each inhabitant. In a family composed of four persons, the average will be nearly eighty francs—an immense sum for a family which can with difficulty procure daily necessities!

LOMBARD SCHOOL. See *Italian Art*, in the article *Italy*, and *Painting*, *History of*.

LOMBARD STREET, a well-known spot in the gigantic metropolis of the British empire, is situated in the city, and received its name from having been the residence of the Lombards, the money-lenders of former times, whose usurious transactions caused their expulsion from the kingdom in the reign of Elizabeth. It is now chiefly occupied by bankers, and is a place of much importance in the London commercial world.

LOMBARDS, LONGOBARDI, or LANGOBARDI. Some derive the name from the long *bards* or spears, by which this nation is said to have been distinguished from the other northern tribes; others from the long strips of land (*barde*) which they inhabited, on both sides of the Elbe, from Lüneburg to Magdeburg. They are generally considered a German tribe (but Paulus Diaconus calls them Scandinavians), of the tribe of the Hermiones or Suevi, which dwelt below the Istævones. Their most ancient seats were on the east side of the Elbe, in the eastern parts of the principality of Lüneburg, and in the Altmärk, or the *Bardengau*, so called, which, most probably, takes its name from them. Here Tiberius found them, on his expedition to the Elbe, and fought a battle with them. Strabo narrates that Tiberius drove them beyond the Elbe; but Velleius Paterculus, who himself accompanied the expedition, makes no mention of it. The Lombards afterwards appear in the Marcomannic league, under Maroboduus, with whose despotism being dissatisfied, they concluded a league with the Cherusci. They appear, at this time, to have left their settlements on the Elbe, and to have approached nearer the Cherusci. The latter tribe, having been weakened by a series of misfortunes, the Lombards improved the opportunity to spread themselves farther, and humiliate the Cherusci, took possession of all their settlements north of the Harz mountains, and became the most powerful of the nations there. According to the accounts of Ptolemy, they now spread between the Weser and the Rhine, in the territories of the

\*superintendent, in the north of Germany, is a superintendant minister.

former Angrivarii, Tubantes, Marsi, and Cherusci. They maintained themselves in these territories till the new Frankish confederacy, formed of the ancient Cheruscan league, enforced against them the ancient rights of the Cherusci, and, in all probability, drove the Lombards back to their ancient seats on the Elbe. For 200 years, we hear nothing more of them, till, at the close of the fifth century, they appeared again on the north side of the Danube, and, after having obtained a part of Pannonia from the Greek emperor Justinian II., aided by the Avari, put an end, under their king Alboin, in 566, to the empire of the Gepidae, in Transylvania. Meeting with little resistance, they conquered, two years after, under the same king, in connexion with 20,000 emigrant Saxons, all Upper Italy (which was now called the kingdom of the Lombards, subsequently Lombardy (see Lombardy), together with a great part of Middle Italy. Their king, Liutprand, an able sovereign, from 713 to 726, extended the Lombard dominion in Middle Italy. But, having become too formidable to the popes, the latter solicited the aid of the Frankish kings, and Charlemagne took the Lombard king Desiderius prisoner, in 774, after a six months' siege, in Pavia, and destroyed the Lombard kingdom. (See Henry Leo's *History of Italy*, vol. i. (from A. D. 568 to 1125), in the *Geschichte der Europäischen Staaten*, by Heeren and Uckert (Hamburg, 1829). A political history of Italy, and of the social condition of the people under the dominion of the Lombards, by C. Troya, of Naples, has been announced.

LOMBARDY, in the sixth century, when the Lombards had conquered a great part of Italy, comprehended the whole of Upper Italy. At a later period, the Austrian provinces in Italy (the duchies of Milan and Mantua) have been called *Austrian Lombardy*. These, with other countries, were formed by Bonaparte into the Cisalpine, then into the Italian republic, and, lastly, in 1805, into the kingdom of Italy, and the name of *Lombardy* ceased to be used. By the peace of Paris, in 1814, Austria came into possession of much of that part of Upper Italy which had constituted the kingdom of Italy, and in 1815, it formed of its Italian provinces a Lombardo-Venetian kingdom. In this are comprehended the territories of the former republic of Venice (with the exception of Istria, and the canton of Cividà, which are united to the new kingdom of Illyria), the Austrian portion of the duchy of Milan, Mantua, a small part of Parma, Placentia, and the papal territories, and those formerly belonging to Switzerland, viz. the Valteline, Bormio, and Chiavenna. It is bounded by Switzerland, Germany, the Adriatic sea, the Papal States, Modena, Parma, and Sardinia. It contains 17,600 square miles, and 4,176,000 inhabitants, among whom are 66,500 Germans, 5600 Jews, and some Greeks. It is watered by the Tagliamento, the Piave, the Brenta, the Adige, the Po, Ticino, Mincio, and Adda. The principal lakes are those of Como, the Lago Maggiore, and the lakes of Iseo and Garda. Its canals are also numerous. The country is, for the most part, level, but towards the north, it is broken by spurs of the Alps, and to the west of Padua, lie the Euganean mountains, mostly of volcanic origin, and from 1700 to 1800 feet in height. This province is, in most parts, well cultivated, and resembles a garden. The climate is cool in the northern districts, near the Alps; but is, in the remaining parts, warm, mild, and healthy, although not free from frosts in winter; and, on this account, it sometimes happens that the olive, orange, citron, and other tender plants, as well as the vineyards, are injured by the cold, and the rivers frozen. Even the lagoons at Venice are sometimes frozen so hard, that

you may walk a considerable distance, or even the carriages upon them. The animals of the country are neat cattle, tolerable horses, sheep with coarse wool, numerous birds, and fish. The silk worm also raised. Agriculture is the chief dependence of the inhabitants. The soil is fertile, and so productive in maize, and other species of grain, leguminous plants, garden fruits, flax, &c. Land that are swampy are devoted to the cultivation of rice, of which part is consumed in the country, a part exported to Germany. The production of wine and wine is also much attended to. Besides the fruits above-named, chestnuts, almonds, figs, &c. many other fruits grow here. A considerable quantity is carried on in figs, oranges, and chestnuts. The mineral kingdom produces iron, copper, marble, &c. There are some mineral waters. Manufactures longer sustain the rank which they once held. The principal are those of glass, silk, and iron. The production and manufacture of silk are attended to throughout the country. All kinds of silk and ribbons, hose, and sewing-silk are exported. The manufacture of glass at Venice and Murano was once important, and their mirrors much celebrated; but even now, artificial pearls, and glass works of all kinds, are executed in great perfection. The manufactures of steel and iron are chiefly to be found at Brescia, where many fire-arms, muskets, &c. are made. The manufacture of woollens has much declined. The gold and silver works at Venice and Milan are celebrated; porcelain, pottery, crystal paper, many articles of luxury, as masks, garden flowers, pomatum, confectionery, perfumes, sugar-candied fruits, vermicelli, and preserved cheese are also produced. Cremona is noted for violins, flutes, &c. The exports exceed the imports. This country is dependent upon the Austrian government, but, in April, 1815, the emperor gave it a constitution. (See article *Constitution*.) It is governed by a viceroy, who resides at Milan, and is divided into the governments of Lombardy and Venice. The administration of each is intrusted to a governor, or a council, dependent upon the highest authorities at Vienna. The government of Lombardy contained nearly 2,200,000 inhabitants, on 5270 square miles territory, and its capital is Milan. Venice is the capital of the government of the same name, which contains 2,000,000 inhabitants, upon 5320 square miles. The sub-divisions are called *delegations*. With the authorities are connected permanent colleges, composed of individuals from various classes.

LOMENIE DE BRIENNE, *Strenuous Cardinal*, cardinal, archbishop, and minister of state in France, born at Paris, in 1727, embraced the career of religion, in which his active spirit, and the powerful influence of his connexions, enabled him to rise rapidly, although his connexion with the revolution of the age (D'Alembert, Morellet, &c.) caused him to have been very agreeable to the court and the clergy. In 1754, he published, with Turgot, *Le Constitution ou Lettres d'un Ecclesiastique à un Magistrat*, which was intended to quiet the difficulties then existing between the parliament and clergy, and which afterwards several times republished by Camille Dupont de Nemours, and others. In 1758, he was at Rome, in the capacity of confessor of Cardinal Luyne, in the conclave which raised Clement XIV. to the papal throne. In 1760, he was appointed bishop of Condom, and, three years after, to the archbishopric of Toulouse, in which situation he obtained the praise of those who were opposed to the old hierarchical and monkish establishments. When he attempted to reduce the power and wealth of the monasteries, he was liberal in assisting all who were in need; he caused the Garçons to be maintained

the canal of Caraman, by a lateral canal, which still bears his name; he established institutions for education, also hospitals, and several scholarships at the military school at Toulouse. In 1770, he was made a member of the academy, and, when Beaumont, the archbishop of Paris, died, he would have obtained that elevated situation, but for his attempts at a general reform of the monasteries, which the bigots at court could not forgive. At the first breaking out of the discontents in France, Brienne was among the most active. He was the first to raise his voice against the administration of Calonne; and, after the dismissal of that minister, the partisans of Brienne induced Louis XVI. to place him, as his successor, at the head of the finances. His brother, the count de Brienne, was, at the same time, (1787), appointed minister of war. The new financier shortly fell short of the most moderate expectations; and, if some excuse is found for him in the almost inextricable confusion which reigned in the affairs of France at this period, still his warmest defenders must allow that, for once, at least, they were deceived in him. The confusion increased daily, and the minister, whose ambition had raised him to the rank of prime minister, at this stormy period, showed himself destitute of ability and resources. Complaints were soon raised against him on all sides, and, in August, 1788, the king found himself compelled to dismiss him, and to appoint Necker in his place; who, however, as is well known, was himself unable to quell the storm. Brienne had previously been nominated archbishop of Sens, in place of the cardinal De Luynes, and, to console him for the loss of his place as minister, Louis gave him some abbies, and obtained for him, from Pius VI., a cardinal's hat. Brienne also took a journey to Italy, but without visiting Rome, and returned, in 1790, to France, to make arrangements for the settlement of his debts, which, notwithstanding his immense income, were so considerable as to compel him to dispose of a portion of his valuable library. The cardinal de Lomenie, as he was now called, took the oath prescribed to the clergy by the constitution, and, in March, 1691, he asked his dismissal from the college of cardinals—a favour which Pius willingly granted. Brienne had hoped, by this step, to save himself from the persecutions of the revolutionary party; but he was arrested at Sens, in November, 1793, was released, and, subsequently, again arrested, and, upon the morning of Feb. 16, 1794, was found dead in his prison. The ill treatment and abuse which he had suffered from his brutal guards, together with an indigestion, had brought on an apoplexy, of which he died, in the sixty-seventh year of his age.—His brother, the minister of war, Athanasius Louis Marie de Lomenie, count de Brienne,—whose successor in the ministry was De la Tour du Pin,—fell, the same year, beneath the axe of the executioner. There is an *Oraison funèbre du Dauphin* (Paris, 1766), by the cardinal de Brienne.

LOMONOSOFF, MICHAEL WASILOWITZ; the creator of the modern poetical language of his country, and the father of Russian literature; born in 1711, near Cholmogory, in the government of Archangel, in the village of Denisowskaina, where a monument was erected to his memory, in 1825, though the influence of Neophytus, bishop of Archangel. His father was a fisherman, whom he assisted in his labours for the support of the family. In later a clergyman taught him to read. A poetical spirit and a love of knowledge were awakened in the boy by the singing of the psalms at church, and the reading of the Bible. Without having received any instruction, he conceived the plan of celebrating the wonders of creation and the great deeds of Peter I., in songs similar to those of David. But, hearing that

there was a school at Moscow, in which scholars were instructed in Greek, Latin, German, and French, he secretly left his father's house, and went to the capital to seek that instruction which his inquisitive spirit demanded. He was then sent to Kiev, and, in 1734, to the newly established academy of literature at St Petersburg, where he studied natural science and mathematics. Two years later, he went to Germany, studied mathematics under Christian Wolf, in Marburg, read the German poets, and studied the art of mining, at Freyberg. On his journey to Brunswick, he was seized by Prussian recruiting officers, and obliged to enter the service; but, having made his escape, he returned, by the way of Holland, to St Petersburg (1741), where he received a situation in the academy, and was made director of the mineralogical cabinet. Soon after, he published his first celebrated ode (on the Turkish war and the victory of Pultawa). The empress Elizabeth made him professor of chemistry (1745), and, in 1752, he received the privilege of establishing a manufactory for coloured glass beads, &c. As he had been the first to encourage an attempt at mosaic work in Russia, the government confided to him the direction of two large pictures in mosaic, intended to commemorate the deeds of Peter I. In 1760, the gymnasiums and the university were put under his inspection; and, in 1764, he was made counsellor of state. He died April 4, 1765. Catharine II. caused his remains to be deposited with great pomp in the monastic church of saint Alexander Newski. Besides odes and other lyric pieces, he wrote *Petride*, a heroic poem on Peter I., in two cantos, which is the best work of the kind that Russia has yet produced. Lomonosoff also wrote a Russian grammar, and several works on mineralogy, metallurgy, and chemistry. His Grammar, and his Sketch of Russian History, have been translated into German and French. The Russian academy published his works in 6 vols., 4to. (2d edit., 1804, 3 vols.). Admiral Tschitschagoff has written a *Life of Lomonosoff*. See Bowring's *Russian Anthology*.

LOMUS, in Indian mythology; the first being created by Brama, which, to give itself up entirely to the contemplation of divine things, buried itself in the earth, and whose life will last longer even than that of Brama. In order to indicate the enormous duration of the life of Lomus, the Indians say, that Lomus has a body more than ninety miles long, covered with hair. Each time that a Brama dies, who lives 360 days, each day being equal to 4320 human years, Lomus pulls out a single hair from his body; and when, at last, all the hairs are gone, and even Vishnu and Mahadeva have ceased to live, then the whole universe is dissolved, and all returns to chaos, so that nothing remains but the eternal, original being; because with the last hair Lomus also dies.

LON, or LUN; a Gothic word, signifying *wood*. *London* has been derived from it.

LONDON, the metropolis of the British empire, stands in lat. 51° 31' N., and lon. 5° 37' W. from the observatory at Greenwich. It is situated in the counties of Middlesex and Surrey, about sixty miles west from the sea, on the banks of the Thames, the mean width of which, at London, is about a quarter of a mile, and its average depth about twelve feet. The northern bank slopes gently upward, and its soil is chiefly gravel and clay, with a mixture of loam and sand. On the southern or Surrey side, the surface is almost uniformly flat. The buildings on the northern, or Middlesex shore, follow the natural bend of the river, and rise somewhat amphitheatrically, from east to west, stretching northward, on an average length, to three miles from the river; and those on the southern or Surrey side, forming the

chord of the semicircle, penetrate southward to an extent varying from one to three miles. The extent of this vast aggregate, from east to west, i. e. from Hyde Park Corner to Mile End or Poplar, may be taken at seven miles and a half, and from south to north, or from Newington-Butts to Islington, nearly five miles. Its circumference may be estimated at thirty miles; and its area, extending over 11,520 square acres, of which the river occupies 1120, is about twenty miles. Fashion and convenience have united to furnish various modes of designating the several parts of the colossal mass. Thus the ideal line, which is progressively moving more and more westerly, separates the world of fashion, or the West End, from the world of business. The city, so called, includes the most ancient and central division of the metropolis. It is rapidly being depopulated; as the chief traders and merchants occupy merely counting-houses and warehouses in the city, and, in proportion as wealth accumulates, flow towards the western regions of fashion. In the East end are found the docks and warehouses connected with ship-building and commerce, and every collateral branch of naval traffic. Southwark, or the Borough, on the southern bank of the Thames, the *trans Tiberim* of London, abounds with huge manufactories, breweries, iron-foundries, glass-houses, &c. It is the abode chiefly of workmen, labourers, and the lower classes of society, but interspersed with some considerable buildings, hospitals, prisons, and charitable foundations. The city of Westminster, including the houses of lords and commons, the law courts, royal palaces, and many government offices, may be designated as the Court End of London. The remaining portion can hardly be classified, or specifically denominated. It is a nondescript accumulation of streets, crescents, polygons, terraces and squares, occupying the northern portions of the metropolis, along the line of the new road.

*Historical Sketch.* Many of the important events that have occurred in London belong rather to the history of the country than the capital, and will accordingly be found narrated in the historical portions of the articles *England* and *Britain*. In this place, it is only necessary to take a brief view of its rise and progress, and of such incidents as have more particularly marked its history as a city.

The origin of London is involved in deep obscurity; but it certainly was a strong-hold of the Britons before the Roman invasion. The etymology of its name is variously traced; the most probable supposition deriving it from two British words, *llyn* and *din*, signifying the town on the lake. Its Roman designation, *Augusta*, marks it as the capital of a province; and Tacitus speaks of *Londinium* or *Colonia Augusta*, as a commercial mart of considerable celebrity in the year 61. It was subsequently noted as a large and wealthy city, in the time of the emperor Severus, and regarded as the metropolis of Great Britain. A few vestiges of the original walls are still discoverable in London wall, in the courts between Ludgate hill and the Broadway, Blackfriars, and in Cripplegate churchyard. It had four principal gates, opening to the four great military roads, and others were subsequently formed, but their names alone commemorate their existence. After the Roman forces had been withdrawn from Britain, in the fifth century, London fell successively under the dominion of the Britons, Saxons, and Danes. It was nominated a bishop's see, on the conversion of the Saxons to Christianity, in 604, and a cathedral church was erected in 610, where St Paul's now stands. Its importance in the year 833, appears from a *Wittenagemot* having been held here; and under the reign of Alfred, who gained possession of it in 884, its municipal govern-

ment was planned, which has since been preserved moulded into the form described in a preceding part of this notice. Its wealth seems to have been increased during the reign of Edward the Confessor, and, on the conquest by William I., a title was assumed that station which it has ever since maintained as the metropolis of the kingdom, having received from that monarch a charter, still preserved in the city archives, and beautifully written in four characters. The privileges of the city were later extended by a charter of Henry I. in 1102, and early in the reign of Richard I. the title of mayor was substituted for that of *burgess*, which had previously designated the chief magistrate of London. In the reign of Edward III. (1348), it was smitten by a pestilence, during which 50,000 persons perished in the ground now forming the present site of the Charter house. The year 1380 was marked by an insurrection headed by Wat Tyler, and quelled by the courage of Sir William Walworth, mayor of London. A similar, but equally unsuccessful insurrection, threatened the safety of the metropolis in the year 1450, when it was assailed by Jack Cade, a powerful body of malecontents. During the reign of Edward IV. we have the earliest record of persons being employed in the building of houses in London. Cisterns and conduits for water were reserved, and the city was generally lighted at night by lamps. A dreadful visitation, called the *peste*, desolated the city in 1603, and the accession of Henry VII., during whose reign the river Fleet was made navigable to Holborn, and the splendid chapel, called after that monarch, was appended to Westminster abbey. Many valuable improvements in the municipal regulations of the city, its police, streets, markets, &c., were effected during the reign of his successor, Henry VIII. To the reign of Edward VI. witnessed the establishment of Christ's hospital, Bridewell, and St Thomas's hospital, and, under the sway of Elizabeth, the metropolis increased with surprising rapidity, in commerce, enterprise and general prosperity. The plague renewed its ravages soon after the accession of James I. in 1603, when upwards of 30,000 persons fell victims to it. Sir Hugh Middleton, about the same time also, commenced his great work of supplying the inhabitants with water from the New river, and the pavements were improved for the comfort of pedestrians. The reign of Charles I. was marked by a recurrence of the plague, which cost the lives of 35,000 of the inhabitants. It returned in the year 1665, with unparalleled fury. This awful visitation swept away 100,000 of the inhabitants within thirteen months. It was shortly after followed by a great fire, which broke out on the 2d September 1666, and raged with irresistible fury, until it consumed eighty-nine churches, 13,200 dwelling houses, and 400 streets, the city gates, Guildhall, many public structures, hospitals, schools, libraries, and stately edifices, leaving a ruined space of 60 acres from the Tower to the Temple church, and from the north-east gate, along the city wall, to Fleet bridge, and destroying property to the enormous amount of £10,000,000. Within less than ten years after this terrible calamity, the city was wholly rebuilt, in a style of far greater security, commodiousness, and salubrity. After the revolution of 1688, the metropolis rapidly expanded, and, in 1711, the population was found to have greatly increased, that an act of parliament passed for the building of fifty new churches. The winter of 1739, 40 is memorable for the occurrence of the most intense frost recorded in the annals of the land; it continued for eight weeks, and the Thames above London bridge, became a solid mass, on which

thousands of the citizens assembled daily as to a fair. The reign of George III. witnessed a great extension of the splendour, comforts and elegances of social life in London. The north of the metropolis became covered with spacious streets, squares, churches and public edifices. The thoroughfares were rendered safe and clean; the enormous signs and protruding incumbrances of the shops were removed. Blackfriars, Southwark and Waterloo bridges, Somerset house, Manchester, and other squares, at the West End, were erected, and the vast parish of Marylebone almost covered with buildings. In 1780, an insurrection, headed by Lord George Gordon, but composed of the lowest rabble, threatened very alarming consequences to the peace of the city. The insurrection arose from a petition of the Protestant Association against the Roman Catholics. The prisons of Newgate, the King's bench, and the Fleet, besides some Catholic chapels, were burned, and military interference was necessary to quell the disturbances. In 1794, a dreadful fire broke out in Ratcliffe highway, and consumed 700 houses. The jubilee of George II.'s accession was commemorated on the 25th Oct. 1809, and the grand civic festival to the emperor of Russia, king of Prussia, and other distinguished reigniers, was given, by the corporation of London, at Guildhall, at an expense of £20,000. In the year 1814, the winter of which was memorable for a frost of six week's continuance and extreme intensity. During the regency and reign of George IV., the grand avenue of Regent Street, the unfinished palace (Buckingham house, the splendid terraces on the site of Carlton gardens, the widenings of Charing Cross, Pall Mall, and the Strand, wrought a great change in the West End of the metropolis. Much curious information regarding London will be found in the works of Stowe and Maitland, in Pennant's *Some Account of London*, and in the work of Gayley, Brewster, and Nightingale, entitled "*London, Westminster and Middlesex described*." See also the Supplement to Leigh Hunt's "*London Journal*," for very interesting literary details regarding the streets of the metropolis.

*General Description*.—London is intersected by two grand lines which cross each other near the spot which seems to have been regarded as the centre, and from this point, the standard in Cornhill, the distances of various places were calculated. One of these lines of streets extends from Stoke Newington and Kingsland, on the north, through Shoreditch, Finsbury, Bishopsgate Street, Gracechurch Street, Fish Street Hill, High Street, Southwark, and Newington Butts, Walworth, and Camberwell on the south; and the other from the West End on the east, through Whitechapel, Aldgate, Fenchurch Street, Cornhill, the Poultry, to the west end of Cheapside, where the line diverges into two branches, one proceeding on the north, through Newgate Street, Skinner Street, Holborn, High Street, Fleet Street, and Oxford Street, to its termination in the bridge road; and that on the south passing by St. Dunstons Churchyard, Ludgate Street, Fleet Street, the Strand, Pall Mall East, the Haymarket, and Piccadilly, towards Knightsbridge, and Kensington, on the western road. The streets eastward of the bridge require no particular notice; but the Commercial Street, from Whitechapel to Blackwall, may, probably at no distant period become a very handsome and extensive street. The principal or more remarkable streets in the city, besides those mentioned above, are Thames Street, Fenchurch Street, Eastcheap, and Old London Street, the two last chiefly on account of the collections of times of yore, connected with them. Broad Street, formerly the principal residence of the nobility and now of bankers, Broad Street, Al-

dersgate Street, Bridge Street, Blackfriars, and Farringdon Street. Northward of the city are several good streets, together with Finsbury Circus, and Finsbury Square. In that district which has been termed the northern suburb, between Gray's Inn Lane and Tottenham Court Road, are various handsome modern streets and squares; among the latter are Bloomsbury Square, and Russell Square. At the west end of the town is Regent Street, consisting of splendid ranges of buildings, reaching from Waterloo Place, Pall Mall, to Langham Place, north of Oxford Street, whence it is continued by Portland Place to Park Crescent, on the south side of the Regent's Park. In this part of the metropolis also are Pall Mall, St James's Street, Arlington Street, Albemarle Street, Bond Street, Harley Street, Wimpole Street, Stratford Place, Baker Street, Gloucester Place, and Connaught Place, with several noble squares, among which are Hanover Square, Grosvenor Square, Cavendish Square, and Portman Square. There are also some handsome ranges of buildings on both sides of the New Road from Islington to Paddington; and on the north of that road is the Regent's Park, so named in honour of the Prince Regent, afterwards George IV. It is tastefully laid out, with a canal, plantations, and roads, and comprises, besides detached villas and other edifices, various magnificent ranges of buildings, denominated from the titles of members of the royal family, as the terraces of Ulster, York, Cornwall, Clarence, Hanover, Chester, Cumberland, and Cambridge, and Sussex Place. Hyde Park, extending from the western border of the metropolis to Kensington Gardens, is a noble enclosure, which became the property of the crown in the reign of Henry VIII.: it has a canal, called the Serpentine River, formed by order of Queen Caroline, in 1730; and great improvements have recently been made in it, by the erection of a bridge over this piece of water, by the substitution of iron rails for the dead wall by which the park was partly encompassed, and by building handsome lodges at the entrances. The Green Park, on the south side of Piccadilly, is bordered on the east by several noble mansions. St James's Park, communicating with the preceding, was enclosed and planted by Henry VIII., but greatly improved in the reign of Charles II., when the trees were planted, which form the grand avenues on each side of the canal; and under George IV. beautiful plantations were formed by Mr Nash. London contains about 9000 streets, lanes, terraces, &c.; eighty squares, twenty-four market-places, and more than 180,000 houses. The buildings were formerly composed chiefly of wood-work and plaster, a mode of construction still observable in a few ancient houses remaining in some of the suburbs, and which must, when generally practised, have contributed in no small degree to occasion those destructive fires which are recorded in the annals of the metropolis. Such disasters have given rise to legislative enactments for the prevention of their recurrence. But notwithstanding all precautions, fires are of by no means unfrequent occurrence, and sometimes cause extensive damage. The buildings of London are now principally of brick, often, however, ornamented with stuccoed fronts, in imitation of stone. Hence there is much more apparent solidity than real strength in these structures; and those who have watched the progressive elevation of ranges of handsome shops and dwellings, must have frequently remarked the insecure appearance of the naked walls and pillars, which when finished, present a widely different aspect. This mode of building must be attributed chiefly to the nature of this kind of property, houses being generally erected on ground taken on building leases, for terms varying from sixty to ninety-nine years, and

the edifices are therefore constructed in such a manner as to become ruinous about the period of the expiration of the lease. Such motives do not exist in the case of public buildings, which, whether of brick or stone, are seldom deficient in strength and durability.

All the streets of London are paved with great regularity. The carriage-road is either laid with cubes of granite, accurately jointed and embedded in clay, or else *Macadamized*. Macadamizing is greatly in vogue in the squares and wider outlets of the West End, but it seems to have failed in the narrower and more cart-trodden streets of the city. The number, variety and magnificence of the squares in London deserve a cursory notice. The largest square in London is Lincoln's Inn Fields, its area being computed equal to 770 square feet; but, the tide of fashion having long set westward, this square is chiefly occupied by members of the legal profession. The college of surgeons forms a prominent object on the southern side, and the eastern is adorned (with the intervention of a garden) by the range called *stone buildings*, part of Lincoln's Inn. Russell square is nearly equilateral, each side being about 670 feet long. The houses are spacious. It communicates with Bloomsbury square by a street, at the northern extremity of which is a colossal bronze statue of the late duke of Bedford, by Westmacott, opposite to which, at the southern end, is a similar statue of Charles James Fox, by the same artist. Belgrave square, begun on the estate of earl Grosvenor, at Pimlico, in 1825, is one of the most splendid in architectural decoration. The squares chiefly distinguished by residences of the nobility are Berkley, Cavendish, Grosvenor, Hanover, St James, Manchester, and Portman squares.

Within the last twenty years, the use of coal gas, instead of oil, in lighting the streets and public edifices of London, has become almost universal. The consumption of coals, by three of the gas companies, amounts to 32,700 chaldrons per annum, and their length of main pipe extends nearly 200 miles, communicating with more than 40,000 lamps. There is not a street, lane or alley, in this vast metropolis, which is not perforated, so to speak, with arched excavations. Every house communicates, by one or more drains, with the main sewers, which again empty themselves into larger tunnels, and ultimately into the Thames. London is plentifully, though not very purely, supplied with water. The New River company was incorporated under James I., in 1619. Mr Hugh Middleton, a goldsmith and citizen of London, after many obstructions, succeeded in conveying a stream from a spring at Chadwell, near Ware, twenty miles from London, by a devious course of forty miles in length, terminating in two capacious basins, which cover five acres, and average ten feet in depth. These reservoirs are eighty-five feet above low-water mark; but, by means of siphons and steam-engines, water can be raised sixty feet above that level. It is chiefly conveyed by main and branch pipes of cast metal, which communicate with the houses by leaden pipes of an inch diameter. The total supply to 177,100 houses, is 28,774,000 gallons per day. M. Dupin observes, that the water distributed by one of these companies (the New River company) costs the consumer about 2d for every 6300 pints; and that the system of pipes, for water and gas lighting jointly, stretches out in a line exceeding 400 leagues in extent, beneath the pavement of London. Fuel is sufficiently abundant, but extravagantly dear, in London. Since the great fire of 1667, a duty was imposed on coal, in order to assist the rebuilding of public edifices, and has ever since continued, to enable the corporation to execute improvements in the

city. The government duty, however, upon a sea-borne coal was repealed in 1830. The average price of coals in London, winter and summer, is, to the consumer, about 30s per chaldron 28½ cwt. About 2,000,000 chaldrons per annum is consumed in Middlesex and Surrey, and, considering the vast supplies required for the steam-engines in manufactures of London, perhaps nearly two thirds of that quantity are devoted to the metropolis and The coals brought to the London market are chief from Newcastle, in Northumberland, in certain vessels, to the number of 4500. The average consumption of the principal articles of food in London has been calculated as below:

Oxen, . . . . .	100,000	Annually sold
Sheep, . . . . .	1,500,000	in the metropolis
Calves, . . . . .	21,000	market etc.
Hogs, . . . . .	7,000	
Milk, . . . . .	6,000,000	gallons.
Butter, . . . . .	11,000	tons.
Cheese, . . . . .	13,000	do.
Wheat, . . . . .	1,000,000	quarters, of which

4-5ths, made into bread, form 15,000,000 quarters bread.

By a return from the corn exchange, it appears that the quantity of British and foreign corn and flour bond, on the first June, 1830, was as follows:

Wheat, . . . . .	280,000	quarters.
Oats, . . . . .	43,218	do.
Flour, . . . . .	173,000	cwt.
Foreign ditto: . . . . .		
Wheat, . . . . .	71,120	quarters.
Oats, . . . . .	13,000	do.

The value of poultry, annually consumed, amounts to nearly £80,000, exclusive of game, the supply which is variable. The principal market for cattle is at Smithfield, held every Monday and Tuesday. The markets for country-killed cattle, pigs and poultry, are Leadenhall (where skins and snuff also, are exclusively sold); Newgate, on Monday Wednesdays, and Fridays; and Fleet (now Fenchon) market rebuilt on a large scale, and opened in 1829. The supply of fruit and vegetables is equal abundant. The chief mart is Covent garden, where ranges of handsome shops have lately been erected on the estate of the duke of Bedford. There are at least 2000 acres, in the immediate vicinity of London continually under spade cultivation as kitchen-gardens; which by judicious management, yield on a terminable succession of valuable crops. It has been calculated, that the cost of fruit and vegetables consumed annually in London, exceeds £1,500,000 sterling. The fruit-gardens, exclusive of those belonging to private residences, are computed to occupy about 3000 acres, chiefly on the banks of the Thames in Surrey and Middlesex. Few cities are more abundantly supplied with fish of every description and quality. Turbot and brill of the best quality are procured from the coast of Holland, salmon in profusion from the great rivers of Scotland and Ireland, and, occasionally, from the Thames mackerel, codfish, lobsters, and oysters, from the south of France. A calculation makes the supply of fish at Billingsgate, in the year 1828, as follows:

Fresh salmon, . . . . .	65,000
Plaice, skate, &c., . . . . .	30,734
Turbot, . . . . .	10,000
Cod (fresh), . . . . .	60,000
Herrings, . . . . .	1,200,000
Haddocks, . . . . .	500,000
Mackerel, . . . . .	1,000,000
Lobsters, . . . . .	1,000,000

And the number of fishing-vessels engaged in obtaining this supply, was registered, in the same year at 3827. The consumption of ale and porter can be estimated from the following facts. It appears by the annual statement of the London brewers, for the year ending July 5, 1830, that the quantity of porter brewed by the ten principal houses amounted

to 1,077,285 barrels. The ale annually brewed, by the six principal ale-brewers, amounts to about 80,000 barrels. In 1827, the quantity returned, by the ten principal brewers, was 1,129,772 barrels. The decrease within these years is owing, perhaps, partly to the deteriorated quality; for it appears, that, while the quantity actually brewed throughout England amounted, during the last ten years, to 6,170,000 barrels, the actual quantity of malt used decreased annually in a remarkable degree. But, besides this, the comparative cheapness, and more rapid excitation produced by ardent spirits, especially that deleterious compound called *English gin*, have induced the most destructive habits of intemperance among the lower classes. It is stated that there are about 11,000 public houses, i. e. houses for the sale of beer and spirituous liquors, in London alone. The total consumption of gin, in London, is about 24,000,000 gallons!

**Public Buildings.** The public buildings of London are numerous, but many of them being encircled by houses, or not advantageously exposed, they do not form a prominent feature of the metropolis. St James's Palace, at the west end of Pall Mall, the principal town residence of royalty, is an irregular brick building, with nothing attractive in its exterior, but very magnificently decorated within. It was originally erected by Henry VIII. The Banqueting Hall of Whitehall Palace (being all that remains of that palace, which was destroyed by fire in 1697,) is an elegant structure, designed by Inigo Jones. It consists chiefly of one room, of an oblong form, forty feet high, which has been converted into a chapel, where divine service is regularly performed by the royal chaplains. The ceiling is decorated with paintings by Rubens. Buckingham-house, in St James's Park, was erected in 1703, but, between 1825 and 1830, the whole of the building was remodelled at an enormous expense, and is now called the King's Palace in St James's Park. Besides these, there are Kensington Palace, the residence of the duchess of Kent, and Lambeth Palace, the residence of the archbishop of Canterbury. Among the town mansions of the nobility are Northumberland House, in the Strand, erected chiefly in the reign of James I.; Burlington House, Piccadilly; Uxbridge House, Burlington Gardens; Cleveland House, St James's Place; Devonshire House, Piccadilly; Apsley House, Hyde Park Corner, the town residence of the duke of Wellington; Grosvenor House, Park Lane. Public structures, rarely ornamental, are extremely rare in this metropolis. The Monument, on Fish Street Hill, is the only work of architecture deserving notice, strictly pertaining to this class. It was erected by Sir Christopher Wren, between the years 1671 and 1677, in commemoration of the great fire of London, on the site of the ancient church of St Margaret, destroyed in that conflagration. It consists of a noble Ionic column, 202 feet in height, surmounted by a fluted urn, in the centre of which rises a flaming vase of gilt bronze; and the sides of the pedestal of the monument display emblematic sculpture and various inscriptions. The other principal detached public monuments are the fine equestrian statue of Charles I. at Charing Cross, cast in bronze by Hubert Le Sueur, in 1633, and placed in its present situation in 1693; and the colossal statue of Achilles, in Hyde Park, cast by R. Westmacott, R.A., erected in 1822, in honour of the duke of Wellington and his companions in arms, by their country-women. The ancient gates were entirely removed in 1760. Temple Church was erected by Sir Christopher Wren, in 1671, to mark the boundary between London and Westminster. On the east side are niches, containing the

statues of queen Elizabeth and James I.; and on the west, others with the statues of Charles I. and Charles II. The only ancient gate remaining is St John's Gate, west Smithfield, a relic of the priory of the Knights Hospitallers of St John of Jerusalem. Buckingham Stairs water-gate is a deservedly-admired production of Inigo Jones. The beautiful gate at Hyde Park Corner, ornamented with Ionic columns and sculpture on the entablature, and connected with the richly decorated iron railing in front of Apsley House, was recently erected from the designs of Decimus Burton, Esq. On the opposite side of the road is a noble gateway, or triumphal arch, leading into the grounds belonging to the new palace at Pimlico, (Buckingham-house) with appropriate architectural decorations, and richly ornamented bronzed gates. For the bridges, see *Bridge*.

The Tower of London is situated at the south-eastern angle of the city, and the oldest part, called the White Tower, is supposed to have been built in the reign of William I., by Gundulph, bishop of Rochester, a distinguished Norman architect, but it was renovated or rebuilt in 1638, and various additional structures and fortifications have been erected at different periods. The present extent of ground within the walls is more than twelve acres, and the circumference outside the ditch 1052 feet. This fortress was anciently the principal palace of the kings of England; but it has long been used as a state prison; and it also includes a menagerie of wild beasts and an armoury. Within its walls likewise is the church of St Peter in Vinculis, a Gothic structure, founded by Edward I. The Mint, Tower Hill, for the coinage of the United Kingdom, is a large and handsome building, erected partly from the designs of R. Smirke, R.A. The Trinity House, Tower Hill, originally founded at Deptford, as the office of a corporation for the management of certain naval affairs, was built under the direction of Samuel Wyatt, Esq., and opened in 1795. The Guildhall, or City Hall of the Corporation, King Street, Cheapside, was founded in the reign of Henry IV.; the interior was destroyed by the fire in 1666; and the ancient front was rebuilt in 1789, by George Dance, Esq. In the Great Hall are sculptural monuments in honour of William Pitt, earl of Chatham; William Pitt, the son of that great statesman; admiral Lord Nelson; and William Beckford, lord mayor in 1762 and 1769. In the Council Chamber and other apartments, there are a considerable number of historical paintings and portraits. Near Guildhall, on the site of Blackwell Hall is the office of the commissioners of Bankrupts, erected in 1820; to the south of which stands a range of building comprising the London Land-tax Office, the Irish Chamber, and the City Court of Requests. The mansion house of the lord mayor, near the west end of Lombard street, is a spacious structure, with a Corinthian portico in front, built between 1739 and 1753, from the designs of George Dance, sen. Somerset House, so called from a palace erected by the Protector Somerset, the uncle of Edward VI., was rebuilt in 1775, under the authority of an act of parliament, from the designs of Sir William Chambers, the front facing the Strand being ornamented with Corinthian columns and various sculptures. The interior includes several government offices, and apartments appropriated to the use of the Royal Academy of Arts and the Royal Antiquarian Societies. Part of the new university called King's College forms the eastern wing of Somerset House. The Duchy of Lancaster Office, on the western side of Wellington street, in the Strand, is a handsome and extensive modern edifice, for the transaction of the affairs of that duchy. The Admiralty Office, Whitehall, has in front a handsome

screen of Portland stone, designed by Robert Adam. The War Office, usually called the Horse Guards, is a substantial structure, built by W. Kent, about 1730. The Treasury, with various government offices, forms a range of buildings with an ornamented front opposite Privy Gardens, designed by John Soane, R.A. Westminster Hall, between the Abbey and the Thames, was built by William Rufus, and was altered and enlarged, if not rebuilt, in the reign of Richard II.: it was also completely repaired, and the front was renovated in 1822. Parliaments were formerly held in this hall, and it is still appropriated for coronation feasts. On the western side of the hall, and communicating with it, are the new Courts of Chancery, King's Bench, Common Pleas, and Exchequer, erected by Mr Soane. The House of Lords, Old Palace Yard, and House of Commons, adjoining, were burned in 1834. In the Old Bailey is the sessions' house for the city of London; on the south side of Clerkenwell Green stands the County Hall, or sessions' house for Middlesex, a spacious detached edifice; and in Portugal Street, Lincoln's Inn Fields, is the Insolvent Debtors' Court, a commodiously arranged modern structure. In connexion with the buildings for the use of the legislature and the administration of the laws, may be mentioned the Inns of Court, designed for the education of lawyers. The Temple, consisting of a number of quadrangles, passages, and buildings, on the south side of Fleet Street and the Strand, is divided into two establishments, the Inner Temple, and the Middle Temple, under the government of their respective societies, the principal officer, being a clergyman, called the master of the Temple. These buildings, comprising the Temple Church, were anciently the residence of the Knights Templars, from whom they were transferred in 1524, to the students of the common law. Lincoln's Inn, on the west side of Chancery Lane, stands on the site of a mansion anciently belonging to the Laceys, Earls of Lincoln; its buildings include a spacious hall, and a chapel, designed by Inigo Jones; it is governed by a society established in 1310. Gray's Inn, on the north side of Holborn, is so called, because it anciently belonged to the noble family of Grey or Gray de Wilton; and in 1541 Henry VIII. granted it to the students of law. There are other Inns of Court in the vicinity of the preceding, as Sergeant's Inn, Clement's Inn, Staple's Inn, &c. The Royal Exchange, Cornhill, was originally founded for the congress of merchants, by Sir Thomas Gresham in 1567, and having been burned down in 1666, it was rebuilt probably from the designs of Sir Christopher Wren, at the expense of nearly £100,000, and opened in 1669. The present tower is of recent erection, and consists of a spacious quadrangle, encompassed by a colonnade, above which, arranged in niches, are statues of the kings of England from Edward I. to George III.; on a pedestal in the central area is a statue of Charles II., and under the piazza or colonnade are those of Sir T. Gresham, and Sir John Barnard. The Bank of England, Threadneedle Street, belonged to a chartered company, established in 1693, under the management of a governor, a deputy-governor, and twenty directors, was built in 1732, its concerns having been previously transacted at Grocers' Hall, in the Poultry. The East India House, Leadenhall Street, was built in 1726, and enlarged in 1799, by the addition of the portico and east wing. The Auction Mart, Bartholomew Lane, is a spacious and commodious building, erected in 1810. The Commercial hall, Mincing Lane, for the sale of colonial produce, was built in 1811. The Corn Exchange, Mark Lane, is a handsome edifice, erected in 1827. The Custom House Lower Thames

Street, was originally founded in the reign of queen Elizabeth, and having been repeatedly destroyed by fire, was rebuilt on a most extensive scale, in 1814, but the foundation having given way in 1823, the front next the Thames has been since rebuilt. The Excise Office, Broad Street, is a spacious structure, erected in 1768, on the site of Graham College. The General Post Office, the business of which was formerly carried on in Lombard Street, is a noble structure, the principal front of which is known as Martin's-le-Grand. It is a building of great extent, consisting of a central portico of fluted columns of the Ionic order. It was erected in 1828.

*Civil government.*—The chief civil officer of London is the lord mayor, annually elected from among the aldermen on the 29th September. The powers and privileges of this officer are very extensive. The court of aldermen consists of twenty-six members. They are chosen for life by the householders of the twenty-six wards into which the city is divided, each being the representative of a several ward. They are properly the subordinate governors of their respective wards, under the jurisdiction of the lord mayor and preside in the courts of Wardmote for the redress of minor grievances, removing nuisances, &c. assisted by one or more deputies, nominated by them from the common council of the respective wards. Such as have filled the office of lord mayor, become justices of the quorum, and all others are justices of the peace within the city. The sheriffs, two in number, are annually chosen by the livery, or general assembly of the freemen of London. When once elected, they are compelled to serve, under a penalty of £100. The common council is a court consisting of 300 representatives, returned by (twenty-five of the wards in proportion to their relative extent: the remaining six, or *Bridge Ward Without*, being represented by an alderman. The general business of the council is to legislate for the internal government of the city, its police, revenues, &c. It is convened early on Mondays from the lord mayor, who is an *ex officio* member of the court, as are the aldermen *ad hoc*. The decisions are, as in other assemblies, dependent on a majority of voices. The recorder is generally a barrister of eminence, appointed, for life, by the lord mayor and aldermen, as principal magistrate and adviser to the civic magistracy, and one of the justices of Oyer and Terminer, for which services he is remunerated with a salary of £2000 per annum from the city revenues. The subordinate officers are the chamberlain, town clerk, common serjeant, city muncipaler, sword-bearer, &c. The livery of London is the aggregate of the members of the several city companies, of which there are ninety-one, embracing the various trades of the metropolis. They constitute the elective body, in whom resided the sovereign, and only of all the civil officers, but also of the free members who represented the city in parliament. The local jurisdiction of Westminster is partly vested in civil, partly in ecclesiastical officers. The high steward has an under-steward, who officiates for him. Next in dignity and office are the high bailiff and the deputy bailiff, whose authority resembles that of a sheriff, in summoning juries and acting as returning officers at the election of members of parliament, of whom the city of Westminster returns two. These officers are chosen by the dean and chapter of Westminster, and appointed for life. The lord mayor of Southwark is one of the city wards, and

\* The Municipal Reform Bill, recently passed, has effected an entire revolution in the constitution of the city and boroughs. In that bill, however, London is treated as if it is intended to be the subject of a special enactment. Meanwhile, therefore, we can only give the present state of the metropolis as it has existed and still exists.

*Bridge Ward Without.* It is subject to the jurisdiction of the lord mayor. It returns two members to parliament. The military force supplied by London comprises two regiments of militia, amounting to 2200 men, whom the city is authorised to raise by ballot; the officers being appointed by the commissioners of the king's lieutenancy for the city of London, according to a parliamentary act in 1794. The year 1829 witnessed the almost entire remodelling of the ancient system of police and nightly watch. These latter guardians of the public were heretofore appointed by the several wards in the city district, and by the parochial authorities in other parts of the metropolis. But a recent act of parliament established a body of metropolitan police, divisioned and disciplined somewhat like the *gens d'armes* of France, and subjected to the control of a board, consisting of three commissioners, who superintend and are responsible for all acts of their inferiors. The metropolis being subdivided into sections, each has a station or watch-house, and a company of police, consisting of one superintendent, four inspectors, sixteen sergeants, and 144 police constables. They are dressed in a blue semi-military uniform, and are on duty at all hours, night and day. This new police commenced its duties, in several of the parishes of Westminster, on September 29, 1829. But the city retains its special establishments, under the control of its own magistracy. It comprises marshmen, day and night patrols, constables, watchmen, and streetkeepers, altogether amounting to 800 or 900 men, appointed by the several wards. The principal city police offices are at the Mansion-house and Guildhall, where aldermen preside in rotation. In the districts not within the city jurisdiction, there are eight different offices, presided over by twenty-seven magistrates, usually selected from among the barristers. There are also one hundred foot-patrols, and, in winter, fifty-four horse-patrols, the former continually, the latter only by night, protecting the streets and environs of the metropolis. Independent of these is the Thames police, established in 1798, for the protection of persons and property connected with the shipping, from Vauxhall bridge to Woolwich. The chief office is at Wapping, and the importance of such an establishment may be estimated, by considering that there are upwards of 13,000 vessels of various sizes engaged on this river, annually discharging and receiving more than 3,000,000 packages of goods of very description. The chief prison for criminals is Newgate in the Old Bailey. It is the common goal for London and Middlesex. The number of its inmates varies from 900 to 350. The Compter is situated in Giltspur street, close to Newgate, and destined for the reception of vagrants and persons committed previous to examination, or as a house of correction for the confinement of persons sentenced to hard labour or imprisonment. Clerkenwell prison in Spafelds, receives prisoners of every description, for the county of Middlesex. Its average number of inmates is about 200. The Fleet prison, in what was lately Fleet market, is a receptacle for debtors and persons guilty of what is technically called contempt of the court of chancery. It is intended to remove this nuisance, and to build a substitute in St George's fields, in the Borough. The prison usually contains 250 indwellers, and keeps on foot of about sixty out-patients, i. e. prisoners privileged to live within the rules. The King's Bench prison is a spacious goal for debtors and minor criminals. It has about 200 separate apartments. The other prisons of note are in Southwark, viz. Newmonger lane or the Surrey county goal, appropriated to felons and debtors; the Borough Com-

pter, for various classes of offenders; the New Bridewell, erected in 1820, near Bethlehem hospital, as a house of correction, in which the prisoners are chiefly employed at the tread-mill; and the Marshalsea prison in Blackman street, for persons committed by the Marshalsea court. The principal houses of correction are the Bridewell hospital, Cold Bath fields, and the penitentiary at Millbank.

*Churches, Charities, Societies, &c.* The ecclesiastical division of London comprises ninety-seven parishes within the walls, seventeen without, ten in Westminster, besides twenty-nine out-parishes in Middlesex and Surrey. It contains one cathedral (St Paul's), one collegiate church (Westminster abbey), 130 parish churches, and seventy Episcopal chapels; nearly 200 places of worship belonging to Protestant Dissenters; eighteen churches or chapels of foreign Protestants, viz. one Armenian, one Danish, two Dutch, five French, seven German, one Swiss, and one Swedish; six meeting-houses of the Friends (or Quakers); ten British Roman Catholic chapels; five ditto for foreigners of that persuasion, viz. one Bavarian, one French, one German, one Sardinian, one Spanish; and six Jewish synagogues, one of which is for Portuguese, and another for German Jews. (Westminster abbey and St Paul's cathedral are described in separate articles.) London owes not merely its magnificent cathedral, but fifty-three other churches, to Sir Christopher Wren. The multiplication of churches has nearly kept pace with the rapid extension of the metropolis. The commissioners, appointed for the purpose, are gradually removing the stigma upon an opulent church establishment, that religious accommodation was unprovided for the poor. Many of the churches possess much architectural beauty. There are, in London, forty-five free schools, endowed in perpetuity, for educating and maintaining nearly 4000 children, seventeen for pauper or deserted children, and about 240 parish schools, in which clothing and education are supplied to about 12,000 children. The chief public endowments, of the first description, are, St Paul's school, Christ's hospital, Westminster school, Merchant Tailors' school, and the Charter house. St Paul's school, founded in 1509, bestows a classical education upon 153 pupils. Christ's hospital, founded by Edward VI., in 1547, can accommodate about 1100 children of both sexes, who are clothed, boarded, and educated for seven years. Some of the boys are prepared for the university, most of them for commerce. Westminster school, founded in 1560 by queen Elizabeth, receives a large number of pupils of high rank and respectability. Merchant Tailors' school, founded by the company of merchant tailors in 1561, educates about 300 pupils at a very low rate of payment. The company nominate to forty-six fellowships in St John's college, Oxford. The Charter house endowed in 1611, supports and educates scholars for the university (where they receive a liberal annuity), or for commerce, besides instructing about 150 other pupils. Many other charitable institutions for education are supported by voluntary contribution, as are, also, the parochial schools, which usually provide clothing and elementary instruction for the poor children of the respective parishes. The children of these schools are annually assembled in the vast area of St Paul's on the first Thursday in June. The central national school, with its forty subsidiary schools in London, educates there about 20,000 children. The British and foreign school society, at its central and subsidiary schools, of which there are, in London, forty-three, educates about 12,000 children. The Sunday schools, taught by about 5000 gratuitous teachers, instruct between 60,000 and 70,000 children. The founding hospital is capable of

receiving about 200 children. There are also orphan asylums, an asylum for the deaf and dumb, one for the indigent blind, and many others. Alms-houses are numerous. There is a small debt relief society, a mendicity society, a philanthropic society for giving employment to the industrious poor, a prison discipline society, &c. There are also various hospitals; St Thomas's, with 490 beds; St Bartholomew's, capable of accommodating between 400 and 500 patients; Guy's hospital, with 400 beds; St George's, with 350; Middlesex hospital, able to contain 300 patients; the London hospital; small-pox hospital; various lying-in hospitals, &c. The Bethlehem hospital, and St Luke's hospital receive insane patients. The humane society has eighteen receiving-houses in different parts of London, with apparatus for restoring suspended animation. Dispensaries relieve more than 50,000 patients annually. There are at least thirty of them, besides twelve for the sole purpose of vaccination. The college of physicians and the college of surgeons examine candidates for the professions of physic and surgery, in the metropolis and the suburbs. The museum of the latter body contains the collections of the celebrated John Hunter, amounting to 20,000 specimens and anatomical preparations. The British museum is a spacious brick structure, in the French style of architecture. It was originally, the palace of the first duke of Montague, built in 1677; its dimensions, 216 feet in length, by 70 feet in depth, and 57 feet in height. The ground floor is appropriated solely to the reception of the library of printed books. The principal or upper floor contains the miscellaneous articles of curiosity for public inspection; such as collections of minerals, lavas, volcanic productions, shells, fossils, and zoological specimens, British and foreign, and also various articles from the South sea islands, and North and Western America, &c. The ground floor is connected with a more modern building, called the *gallery of antiquities*, divided into fifteen apartments, in which are distributed nearly 1000 pieces of sculpture, Greek and Roman, a fine collection of *terra cotta*s, Roman sepulchral urns, *cippi*, *sarcophagi*, &c. In a temporary room are deposited the Elgin marbles, purchased by government for £35,000. The upper floor of this gallery contains the collections of Herculanean and Pompeian antiquities made by Sir William Hamilton, cabinets of coins and medals, and also a rare collection of prints and engravings by the most eminent artists. The present building is destined to be razed to the ground as soon as a splendid edifice, now constructing, is completed. There are various other public libraries. King's college (q. v.) was founded in 1528. The London university, founded in 1825, is not a chartered institution. Its course of instruction comprehends languages, mathematics, physics, ethics, law, history, political economy, and medical science, communicated in public lectures, examinations by the professors, &c. The front, to Gover-street, is a handsome façade, adorned with the noblest portico in London, of twelve Corinthian columns, ascended by a flight of steps, surmounted by a dome and lantern. On the principal floor is a spacious examination hall, a museum of natural history, a museum of anatomy, professors' apartments, a grand library, 120 feet by 50, and a smaller library, 41 feet by 22; and at each end is a semicircular theatre for lectures, 65 feet by 50. The ground floor is portioned into lecture-rooms, cloisters, two theatres, chemical laboratory, museum, offices, and council-room. The number of students, in this university, in the year 1829, was 680. The royal society of literature was instituted in 1823; the royal society for improving natural knowledge, in 1663; the society of anti-

quaries, in 1572; the royal institution, in 1780, for diffusing mechanical knowledge, and the application of science to the various purposes of life; the society of arts, in 1574, to award premiums and bounties to useful inventions and discoveries; the royal academy, in 1768, for the promotion of the fine arts. It provides students with busts, statues, pictures, and painting models, and has professors of painting, architecture, anatomy, perspective, and sculpture. The annual exhibition of new paintings, drawings, sketches, sculptures, &c., the admission to which is one shilling per head, averages £1000 per annum, and supports all the expenses of the establishment. There are several other societies for the promotion of the fine arts, and the private collections of works of art are numerous and splendid. The number of theatres and amphitheatres is twelve, of which the principal are, the King's theatre or Italian opera-house, Drury lane and Covent garden theatres. Vauxhall gardens are a favourite place of summer resort for the lovers of music, singing, and fireworks. The principal promenades are St James's park, Green park, Hyde park (q. v.), (which comprises nearly 400 acres), Kensington gardens, and the Regent's park, which is laid out in shrubberies and rich plantations, adorned by a fine park of water, studded with villas, and intersected by roads and promenades. The Zoological garden, in the garden, contain many different sorts of animals, a paddocks, deers, or aviaries.

**Manufactures.** London may be considered a more a commercial than manufacturing city. Its manufactures are of a very miscellaneous description. The chief is the Spitalfields silk manufacture, which is not, however, in a flourishing condition. In household furniture, especially cabinet work, the artisans of London greatly excel. Among other business prosecuted to a great extent may be mentioned clock and watch making, with their subsidiary trades and operations; engraving in all its branches, printing, bookbinding, type founding, and other are connected with literature; carving and gilding, and the manufacture of picture-frames and window-glasses; embossing, chasing, making gold and silver plate, and the works of the lapidary and jeweller, coach and carriage building, &c.; the manufacture of all kinds of musical instruments; and deep-sea diving and equipping and storing vessels for the service. There are other arts and manufactures prosecuted on an extensive scale, or distinguished by their importance or ingenuity. The number of the public breweries in London, in 1825, was eighty-four; of the retail breweries, eighty-four. Of the intermediate breweries, eight; and there were still licensed victuallers, of whom seventeen only brewed their own beer. There are likewise various iron and brass foundries and bell foundries, distilleries, drug-mills, oil-mills, sugar-refineries, glass-works, saw-mills, shot-manufactories, establishments for refining saltpetre, and for making vinegar and nitric acid, aquafortis, and oil of vitriol. In London are made agricultural machines and implements, engineers' instruments, artificial hands, legs, and steam-engines, copying-machines and printing-needles, for the manufacture of which Birmingham was formerly noted, fishing-tackle, gun and powder works in ivory, tortoiseshell, and mother of pearl, scagliola and ornamental stone-work, artificial flowers and feathers, optical and astronomical instruments, &c.

**Commerce.** The commerce of London can be traced back to a very early period. It is the noble emporium of the island, the great resort of merchants, and, although not a city in that period, yet as a city celebrated for its commerce.

mercial intercourse. After this, little is known of its trade, until the close of the second century, when it is again mentioned as having become "a great and wealthy city." In 359, it is said of England, that its commerce was so extended, that 800 vessels were employed in the port of London for exportation of corn only. Three centuries after, Bede styles it "an emporium for many nations repairing to it by land and sea." Fitz-Stephen, who lived in the reign of Henry II., says, "that no city in the world exports its merchandise to such a distance as London." He does not, however, inform us what goods were exported, or to what countries they were carried. But among the imports, he mentions gold, spices, and frankincense, from Arabia; precious stones from India, and palm-oil from Bagdad. In 1296, the company of Merchant adventurers was first incorporated by Edward I. The Hanse merchants also received considerable privileges about the same time.

It was not, however, till the reign of Elizabeth that England began to feel her true weight in the scale of commerce. She then planned some settlements in America, particularly in Virginia. About this period the civil dissensions in Flanders caused multitudes of families to flock to London, and to bring with them their trades and their riches. This great addition to the population of the city, and the consequent increase of its commerce, led to the erection of the Royal Exchange, by Sir Thomas Gresham. In 1579, the Levant or Turkey company, and also the Eastland company, were established. On the 31st December, the queen granted the first patent to the East India company. The first adventure proving successful, the company continued its exertions, and hence has arisen the most splendid and powerful mercantile association that probably ever existed in the world. Assurance and insurance companies were now established in London; and the company of Spanish merchants was likewise incorporated. In the reign of James I., the foreign trade rapidly increased. Many of the patents granted by Elizabeth were annulled, and the trade thrown open. Among the circumstances which occasioned the vast increase of trade during this reign, may be reckoned the colonization of America and the West India islands. The new discoveries, likewise, which were every day made in different quarters of the world, had a powerful effect in stimulating numbers of peopling persons to commercial exertion and enterprise.

During the peaceful part of Charles I.'s reign, the commerce of the metropolis still continued to make rapid progress. The augmented commerce of its port may in some measure be estimated by the quantum of *ship-money*, which this monarch imposed on the city in 1634. About this time *Prices current* were first printed; and in 1635, an order was issued by the king in council to "the post-master of England and foreign parts," requiring him to open a regular communication, by running posts, between the metropolis and Edinburgh, Ireland, and a variety of other towns. Previous to 1640, it was usual for the merchants to deposit their money in the Tower mint. At this deposit lost all its credit by the ill-advised measure of a forced loan, which the king thought proper to make. The merchants, in consequence, were obliged to trust their money to their apprentices and clerks. The circumstances of the times and opportunity holding forth great inducements to many masters lost at once both their servants and their money. Some remedy became necessary. Merchants now began to lodge cash in the hands of goldsmiths, whom they commissioned also to receive and pay for them. Thus originated the

practice of *Banking*; for the goldsmiths soon perceived the advantage that might be derived from possessing disposable capital, and began to allow a regular interest for all sums committed to their care; and at the same time they commenced the discounting of merchants' bills, at an interest superior to that which they paid. In 1651, the celebrated *navigation act* was passed, the provisions of which greatly contributed to promote the naval and commercial greatness of Britain. This year coffee was introduced into London by a Turkey merchant named Edwards. The sugar trade was now likewise established, and upwards of 20,000 cloths were sent annually to Turkey, in return for the commodities of that country. The plague, in 1665, almost wholly suspended the commerce of London, so that scarcely a single foreign vessel entered the port for the space of three years. The great fire also occasioned incalculable loss to many of the most opulent merchants. Notwithstanding these disastrous events, the spirit of the survivors was roused to uncommon exertions, and in the course of a few years the city rose from its ashes with greater magnificence and splendour. Indian muslins were first worn in 1670, and soon became prevalent. In this year also, the Hudson's-bay company was established, with very extensive powers. The Greenland fishing company was incorporated in 1693, and the institution of the Bank of England rendered the following year justly memorable in the commercial annals of the metropolis. The great progress that commerce made in a few years may be inferred from the following statement:—the number of vessels belonging to the port of London in 1701, amounted to 560, carrying 84,882 tons, and 10,065 men. In 1710, the customs of this city are stated at £1,268,095, and those of all the out-ports only at £346,081.

During the reign of George I., the trade of London made little, if any, progress, owing to the South-Sea scheme, the rebellion of 1715, and the Spanish war. But in 1732, commerce began to revive: its advances, however, were comparatively slow, till the peace of Aix-la-Chapelle in 1748, after which it extended with uncommon rapidity. The next check it sustained was occasioned by the American war. But no sooner was peace signed, than it proceeded with renewed vigour; for so early as 1784, the value of exports to America only had increased to £3,397,500, considerably above the greatest amount in any year before the war. The net sum of duties levied in the port of London, and paid into the exchequer this year, rose to the vast sum of £4,472,091. From this period to 1790, the commerce of London continued uniformly increasing. In that year, however, in consequence of the commencement of the war, the value of exports was upwards of £2,000,000 less than the preceding year, though the imports scarcely suffered any diminution. Numerous bankruptcies consequently took place, but the timely interference of the legislature, and the voting of exchequer bills to the amount of £5,000,000, for the use of such persons as could give sufficient security, soon checked the growing distress. In the course of three succeeding years, the appearance of things was entirely changed. In 1796, the exports of London amounted in value to £18,410,499, and the imports to £14,719,466. The number of British ships that entered the port amounted to 2007, carrying 436,843 tons; and 2169 foreign vessels carrying 287,142 tons. The total, entering coastwise, was 11,176, including repeated voyages, which made a tonnage of 1,059,915. The following year, some alarm was spread among the merchants, by the stoppage of bank-payments in specie; but, through the intervention of parliament, confidence was soon restored. The net amount of the customs was

£3,950,608. In 1798, the importations of sugar and rum far exceeded those of any preceding year, as did likewise the revenue of the customs, which amounted to the sum of £5,321,187; in 1799, it had increased to £7,226,353, West India 4½ per cent. duty included; but next year it fell to £6,408,655. The official value of the imports in 1800, was £18,843,172, and of the exports £25,428,922, of which £13,272,494 was in British merchandise. Their real value exceeded £68,000,000, nearly two-thirds of the value of the trade of the whole kingdom. The number of vessels belonging to the port in that year was 2666, carrying 568,268 tons, and 41,402 men. Comparing this number with the number returned in the beginning of the last century, the increase is truly astonishing.

log. On the quantity of tonnage it is nearly a proportion of six to one; and on the number of ships, upwards of four to one. The East India Company's ships alone carry more burden by tons, than all the vessels of London and a century ago. In 1806 the value of the imports and exports of London was £36,527,000; in 1819 £46,220,000; in 1825 it had increased to 96,956,000; and in the year ending January, 1829, to £107,722,000. The number of coasters which entered the port in 1810 was 15,139, in 1821, 18,915, and in 1827, 19,717. Of vessels employed in the foreign trade there were 4012 British, and 1534 foreign. The following Table exhibits

A RETURN of the NUMBER and TONNAGE of SHIPS that have Entered the Port of London with Cargoes from Foreign Ports distinguishing the Countries whence they have arrived, during the Years 1820, 1821, and 1822.

COUNTRIES.	1820.				1821.				1822.			
	British.		Foreign.		British.		Foreign.		British.		Foreign.	
	Ships.	Tonnage.	Ships.	Tonnage.	Ships.	Tonnage.	Ships.	Tonnage.	Ships.	Tonnage.	Ships.	Tonnage.
Russia	479	165,290	25	16,330	641	183,294	51	11,880	281	87,392	29	1,275
Sweden	19	3,850	62	14,396	29	3,116	36	11,864	3	113	22	1,275
Norway	2	377	89	30,116	1	425	121	40,125	1	79	29	1,275
Denmark	56	6,144	147	11,792	44	4,498	178	16,392	35	3,895	29	1,275
Prussia	237	33,339	253	61,417	122	21,226	280	61,633	115	15,000	29	1,275
German States	286	46,648	185	16,776	234	37,194	146	16,226	216	27,774	29	1,275
Netherlands	442	49,583	283	27,053	120	56,523	253	91,007	209	26,779	29	1,275
France	193	26,586	66	7,265	209	19,551	198	19,241	157	26,196	29	1,275
Portugal, Azores, and Madeira	275	26,477	5	372	338	31,315	15	1,774	346	24,072	4	1,275
Spain and Canaries	241	27,079	29	3,925	334	35,223	59	5,658	380	27,079	29	1,275
Italian States	127	18,080	5	812	165	25,650	39	7,280	191	24,411	4	1,275
Ionian Islands	18	2,545	—	—	31	4,845	—	—	39	4,410	—	—
Turkey and Continental Greece	47	6,781	—	—	72	19,195	—	—	67	8,700	—	—
Greece and Greek Islands	4	652	—	—	10	1,295	—	—	15	1,765	—	—
Egypt	6	1,509	—	—	15	3,441	—	—	9	2,000	—	—
Tripoli, Barbary, and Morocco	19	569	—	—	12	1,178	—	—	9	587	—	—
Foreign Possessions in Africa	—	—	—	—	—	—	—	—	—	—	—	—
Foreign Possessions in Asia	11	4,106	1	370	9	3,351	—	—	8	1,822	1	370
China	22	27,782	—	—	21	27,989	—	—	20	27,782	—	—
United States of America	16	2,941	56	13,374	21	3,776	58	22,851	43	1,233	56	13,374
European West Indies	32	6,533	9	2,358	39	7,776	9	2,295	43	8,211	29	1,275
Foreign Continental Colonies in America	83	13,345	1	270	105	26,778	1	169	70	24,864	4	1,275
Totals	2,680	466,436	1,267	268,265	2,872	451,633	1,524	265,336	2,415	339,226	241	10,000

The port of London extends from London Bridge to Deptford, a distance of four miles. The West India Docks, stretching across the isthmus forming the Isle of Dogs to the Middlesex side of the river, were opened in 1802. They consisted originally of an import and an export dock, the former containing about thirty and the other about twenty-five acres of water, exclusive of basins. To these have recently been added the South Dock, formerly the City Canal. The warehouses at the West India Docks are of vast extent. The London Docks, also of very great extent, are situated at Wapping. The tobacco warehouse belonging to them, covers a space of nearly five acres. There are also the St Katharine's Docks, adjoining the tower; the East India Docks, at Blackwall; and the Commercial Docks, on the Surrey side of the river. Owing to the competition of the different companies, all sorts of dock charges are now reduced to the lowest level, and hardly one of the concerns can be said to be profitable. The dividend on London Dock stock in 1833 was only 2½ per cent.

**Population.**—The population of London, in general, has for a long period been rapidly augmenting, but that of the city, separately taken, and especially in the parishes within the walls, has greatly decreased since the beginning of the last century, owing to the widening of the streets and the erection of public

buildings and warehouses, instead of dwellings. In 1700, the city of London, within the walls, contained 139,300 inhabitants; in 1801, it contained more than 78,000, and the number has since diminished.

The health of the metropolis is said to have been in a gradual state of improvement since the middle of the seventeenth century. It is now more healthy than in the sixteenth century, and the plague has never been in London; and three diseases which were so epidemic there—the bloody flux, the sweating sickness, and the smallpox—have ceased for above a century. The cholera was less fatal in its ravages in London than in many places of the British empire. In 1817 the average rate of mortality in London was 21; in 1821, according to Dr Barbauld, it was more than 1 in 40. The christenings and burials in London during the year 1834, are reported to have been as follows:—

Christened	Male, 12,791	Buried	Male, 12,791
	Female, 12,613		Female, 12,613
Total, 25,404		Total, 25,404	

The following table exhibits a view of the population of the metropolis in 1700, 1811, 1821, and 1831, with the increase or decrease of the different divisions.

## POPULATION OF THE CITY OF LONDON,

WITHIN AND WITHOUT THE BILLS OF MORTALITY.

	1801.	1811.	1821.	1831.	Increase in 30 Yrs.	Decrease in 30 Yrs.
London (within the Walls)	75171	55484	56174	57695	—	17476
London (without the Walls, with the Inns of Court)	81684	65425	69260	67878	—	13810
Westminster (City)	158210	162085	182085	202085	43870	—
Southwark (Borough)	67448	72119	85505	91501	24053	—
<i>Out-Parishes, in Middlesex and Surrey, within the Bills of Mortality.</i>						
Andrew's (St) Holborn above Bars, with part of St George the Martyr	22205	23973	26492	27334	5129	—
Artillery Ground (Old)	1428	1385	1487	1411	—	17
Bermondsey (St Mary Magdalen)	17169	19539	25235	29741	12572	—
Bethnal-green (St Matthew)	22310	33619	45676	62018	39708	—
Bethnal (St) without	6153	5265	6429	2453	—	2700
Catharine (St) Aldgate, near the Tower	2652	2706	2624	72	—	2580
Charter House	249	162	144	164	—	85
Christ Church, Spitalfields	15091	16200	18650	17949	2858	—
Clement Danes (St), part of	4144	3910	4010	3864	—	280
Clerkenwell (St James's)	23396	30537	39105	47634	24238	—
Ely-place	281	274	268	216	—	65
George's (St) in the East	21170	26917	32528	38505	17335	—
Giles (St) in the Fields, & St George's, Bloomsbury	36502	43536	51793	62907	16405	—
Glasshouse-yard	1221	1343	1358	1312	91	—
Hackney (St John)	12730	16771	22494	31047	18317	—
Islington (St Mary)	10212	15005	22417	37316	27104	—
Lambeth (St Mary)	27339	41644	57628	67856	59917	—
Lincolns (St Ann)	4078	7386	9805	15695	11017	—
Luke's (St) Middlesex	26841	32545	40876	46642	19761	—
Newington Butts (St Mary)	14847	23853	33047	44526	29679	—
St John Liberty	2409	2620	2737	2682	273	—
Rotherhithe (St Mary)	10296	12114	12523	12875	2579	—
Sutton-hill and Hatton-garden	7500	7208	9002	9529	2029	—
St Sepulchre, part of	3768	4224	4740	4769	1001	—
Shadwell (St Paul)	8828	9855	9557	9544	716	—
Shoreditch (St Leonard)	34766	43930	52966	68594	33828	—
Stepney, Mile End New Town, Old Town, Poplar and Ratcliff	25260	35199	49163	67872	42612	—
Tower and Precincts, Wapping (St John)	513	1192	641	713	150	—
Whitechapel, or St Mary Matfelon	5809	3313	3078	3564	—	2325
Parishes not within the London Bills of Mortality.	23966	27578	29407	30733	7067	—
Chelsea	11664	18262	26860	32371	20767	—
Kensington	6516	10886	14428	21902	12346	—
Paddington	1801	4009	6476	14540	12659	—
St Mary-le-bone	63682	75624	96040	122206	58224	—
St Pancras	31779	46333	71838	103548	71769	—
<b>TOTAL OF THE METROPOLIS (as per Government Returns)</b>	<b>864845</b>	<b>1009546</b>	<b>1225694</b>	<b>1474069</b>	<b>569886</b>	

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**LONDONDERRY**; one of the nine counties of Ulster, Ireland, is bounded on the north by the Atlantic Ocean, on the west by Lough Foyle and the county Donegal, on the south by Tyrone county, and on the east by Lough Neagh, the river Bann, and part of the county of Antrim. It forms an irregular triangle, including an area of 798 square miles, about a fourth part of which is occupied with bleak fishlands, from 1200 to 1600 feet in elevation, running southward from the coast through the whole country. Some fertile places are interspersed between the hills. The principal rivers are the Foyle or Green River, and the Bann, or White River. The city of Londonderry or Derry, and Coleraine are the only places of consideration in the county. See *Ulster and Ireland*.

**LONDONDERRY**, or **DERRY**, a city and county of itself in Ulster, situated 150 miles S. W. from Dublin, and about four miles south of Culmore Fort, which latter is at the entrance of the river into the great estuary called Lough Foyle. It stands upon a high conical hill, crowned by the cathedral. It is a place of ancient foundation, and having been erected here in 546, by St Columba. It was plundered by the Danes, and reduced to ashes by those barbarians about the

year 783; and it was erected into an episcopal see in 1158. Upon the plantation of Ulster, in the reign of James I., this city and liberties, with other estates, were granted to the twelve corporations of London, who may be said to have built the greatest part, and given to the whole the prenominal of London. The old city is enclosed by fortifications, consisting of a thick earthen rampart, faced with limestone, and flanked with bastions, placed at short intervals. They afford, at the present day, an agreeable promenade to the inhabitants, and command extensive and beautiful views. The most conspicuous event in the history of this place, is that commonly called "the siege of Derry;" a memorable occasion, when the citizens sustained a close siege from the month of December, 1688, to August, 1689, from the whole force of the Irish army, in the interest of king James II. The besieged had to contend, not merely with fatigue and famine, but with discord and treachery within their walls. This duplicity manifested itself in the person of their governor, Lumley, whom they forthwith superseded, and substituted for him the famous George Walker, a dissenting minister, and Major Baker. Under the heroic guidance of these two persons, they held out until the breaking of the boom across the Foyle, and arrival of a British vessel with provisions and relief.

Londonderry is an episcopal see, and one of the cleanest, best built, and most beautifully situated towns in Ireland. It carries on a considerable trade with Scotland, the West Indies, and America. Population about 20,000.

LONDONDERRY, ROBERT STEWART, marquis of, the second son of the first marquis, was born in the north of Ireland, June 18, 1769, and was educated at Armagh, after which he became a commoner of St John's college, Cambridge. On leaving the university, he made the tour of Europe, and, on his return, was chosen a member of the Irish parliament. He joined the opposition, in the first place, and declared himself an advocate for parliamentary reform; but, on obtaining a seat in the British parliament, he took his station on the ministerial benches. In 1797, having then become lord Castlereagh, he returned to the Irish parliament, and, the same year, became keeper of the privy seal for that kingdom, and was soon after appointed one of the lords of the treasury. The next year, he was nominated secretary to the lord-lieutenant, and, by his strenuous exertions, and abilities in the art of removing opposition, the union with Ireland was greatly facilitated. In the united parliament, he sat as member for the county of Down, and, in 1802, was made president of the board of control. In 1805, he was appointed secretary of war and the colonies; but, on the death of Mr Pitt, he retired, until the dissolution of the brief administration of 1806 restored him to the same situation in 1807; and he held his office until the ill-fated expedition to Walcheren, and his duel with his colleague, Mr Canning, produced his resignation. In 1812, he succeeded the marquis of Wellesley as foreign secretary, and the following year proceeded to the continent, to assist the coalesced powers in negotiating a general peace. His services after the capture of Napoleon, and in the general pacification and arrangements which have been usually designated by the phrase the *settlement of Europe*, form a part of history. It is sufficient to notice here, that he received the public thanks of parliament, and was honoured with the order of the garter. On the death of his father, in April, 1821, he succeeded him in the Irish marquise of Londonderry, but still retained his seat in the British house of commons, where he acted as leader. After the arduous session of 1822, in which his labour was unremitting, his mind was observed to be much shattered; but, unhappily, although his physician was apprized of it, he was suffered to leave London for his seat at North Cray, in Kent, where, in August, 1822, he terminated his life by inflicting a wound in his neck, with a pen-knife, of which he died almost instantly. This statesman has been censured for a severe, rigid, and persecuting domestic government, and for an undue countenance of despotic encroachment and arrangement as regards the social progress of Europe. His party and supporters, in answer to these strictures, for the most part, plead political necessity and expediency, while no small portion of them defend his views on the ground of principle. He was an active man of business, and a ready, although not an elegant orator. His remains were interred, in Westminster abbey, with great ceremony, but not without an exhibition of popular ill-will. (See *Mem. of the late Marquis of Londonderry*, London, 1829.) He was succeeded in his title by his half-brother, lieutenant-colonel lord Stewart, who was for some time ambassador to Prussia, and afterwards to Vienna. His lordship is author of a *Narrative of the Peninsular War* (second edition, London, 1828), and a *Narrative of the War in Germany and France*, in 1813 and 1814, and is a member of the British house of peers.

LONGCHAMP; a promenade of the Parisian fashionables, on the right bank of the Seine, about four miles below the capital. It was once a convent, founded by Isabella, sister of St Louis, where she spent her last years, and terminated her life, Feb.

22, 1269. The convent was then called the *Abbaye de l'humilité de Notre Dame*, and the credulity of times ascribed to the bones of Isabella, who was buried there, such miraculous powers, that she canonized her in 1521. 116 years after the death of Isabella, with the permission of Urban VIII were collected in the presence of the archbishop of Paris, and, like other relics, set in gold and silver. Two other princesses of France also died there. Blanche, daughter of Philip the Long, who lived ended his life at this place, Jan. 3, 1321, and Jean of Navarre. Previous to the revolution, Longchamp was a place of resort to the Parisian *beaux monde* to the English. It is still related, that is then when it was a part of *bon ton* to repair there (Wednesday, Thursday and Friday of *Pâques* week) some of the English carried their luxury so far as to make the shoes of their horses and the trim of the coach wheels of silver, on these promenades. At the beginning of the revolution, when the abbey Longchamp, like the monasteries of France, general, was abolished, and the buildings were demolished, the splendour of this place was destroyed; but under the consulate, when wealth dared to display itself openly, Longchamp recovered its ancient brilliancy, and again offered the Parisian ladies an opportunity of exhibiting their *châles*, *Tallien* and *Rocamier* were then the stars in the firmament of fashion and beauty. Under the present government, the splendour of Longchamp was somewhat diminished, owing partly to Napoleon's contempt for frivolous exhibitions, partly to the wars, which withdrew great numbers of rich men from the capital. After the restoration, the promenade of Longchamp was almost neglected. But more recently, it has again recovered some of its former splendour.

LONGEVITY. The extreme limit of human life and the means of attaining it, have been a subject of general interest, both in ancient and modern times, and the physiologist and political economist are equally attracted by the inquiry. It is but the earliest of biblical antiquities to decide in what sense we are to understand the word *year* in the scriptural statement of the antediluvians; whether it signifies a revolution of the sun or of the moon, or whether the extreme longevity is only the creation of tradition, in the sense which we now give to the word. The accounts would make the constitution of man in the period referred to, very different from what is at present, or has been, at any period from which observations on the duration of human life have been transmitted to us. The results of all these observations, in regard to the length of life in given circumstances, do not essentially differ. Pliny furnishes us valuable statistical information, if accurate, regarding the period at which he lived, obtained from an official, and, apparently, authentic Roman census, directed by the emperor Vespasian in the year 76 of the Christian era. From this we learn that, at the time of the computation, there were the part of Italy comprised between the *Apennines* and the *Po*, 124 individuals aged 100 years and upwards, viz. 54 of 100 years, 57 of 110, 2 of 120, 130, 4 of 135 to 137, and 3 of 140. At *Parma* there was living aged 120, and 2 aged 130; at *Verona*, female aged 132; and at a small town near *Patavia*, called *Velleiacium*, lived 6 persons aged 100 years each, and 4 of 120. These estimates, however, do not accord with those of *Ulpian*, who seems to have taken especial care to become acquainted with the facts of the case. His researches prove that the expectation of life in Rome, at that time, was not less than it now is in London, or in any of our cities. *Hufeland*, indeed, in his *Macrobiorum*, asserts that the

tables of Ulpian agree perfectly with those afforded by the great cities of Europe, and that they exhibit the probabilities of life in ancient Rome to have been the same as those of modern London. But Doctor F. Bisset Hawkins, in his Elements of Medical Statistics (London, 1829), says that the tables, kept by the censors for 1000 years, and constituting registers of population, sex, age, disease, &c., according to Ulpian (who was a lawyer, and a minister of Alexander Severus), refer only to free citizens, and that, to draw a just comparison between Rome and London, it would be necessary to take, among the inhabitants of the latter city, only those who were similarly circumstanced, viz. those whose condition was easy, in which case, the balance would be greatly in favour of modern times. Mr Finlayson has ascertained, from very extensive observation on the decrement of life prevailing among the nominees of the annuities, and other life annuities, granted by the treasury of parliament, during the last 40 years, that the expectation of life is above 50 years for persons so situated which affords the easy classes of Britain a superiority of 20 years above even the easy classes among the Romans. The mean term of life among the easy classes of Paris is, at present, 42 years, which gives them an advantage of 12 years above the Romans. In the third century of the Christian era, the expectation of life in Rome was as follows:—From birth to 20, there was a probability of 30 years; from 20 to 25, of 28 years; from 25 to 30, 25 years; from 30 to 35, 22 years; from 35 to 40, 20 years; from 40 to 45, 18 years; from 45 to 50, 15 years; from 50 to 55, 9 years; from 55 to 60, 7 years; from 60 to 65, 5 years. Farther than this the expectation did not extend. The census taken from time to time in Britain affords us information of an unquestionable character. The first actual enumeration of the inhabitants was made in 1801, and gave an annual mortality of 1 in 418. In France, the annual deaths were, in 1781, 1 in 29; in 1802, 1 in 30; in 1823, 1 in 40. In the Pays de Vaud, the mortality is 1 to 49; in Sweden and Holland, 1 to 48; in Russia, 1 to 41; in Austria, 1 to 38. Wherever records have been kept, we find that mortality has decreased with civilization. Perhaps a few more persons reach extreme old age among nations in a state of little cultivation; but it is certain that more children die, and the chance of life, in general, is much less. In Geneva, records of mortality have been kept since 1500, which show that a child born here has, at present, five times greater expectation of life than one born three centuries ago. A like improvement has taken place in the salubrity of large towns. The annual mortality of London, in 1700, was 1 in 25; in 1751, 1 in 21; in 1801, and the four years preceding, 1 in 35; in 1811, 1 in 38, and in 1821, 1 in 40, the value of life having thus doubled, in London, within the last 80 years. In Paris, about the middle of the last century, the mortality was 1 in 30; at present, it is about 1 in 32; and it has been ascertained that, in the fourteenth century, it was one 16 or 17. The annual mortality in Berlin has increased during the last 50 or 60 years, from 1 in 28 to 1 in 34. The mortality in Manchester was, about the middle of the last century, 1 in 20; in 1750, 1 in 25; 80 years afterwards, in 1831, the annual deaths were diminished to 1 in 44; and, in 1821, they seem to have been still fewer. In the middle of the last century, the mortality of Vienna was 1 in 20; it has since, however, improved in the same proportion as some of the other European cities. According to recent calculation it is, even now, 1 in 22, or about twice the proportion of that of Manchester, or Geneva. Many years ago, Mr Finlayson drew up the following table, to exhibit the difference in the

value of life, at two periods of the seventeenth and eighteenth centuries. Had it been calculated for 1830, the results would have been still more remarkable.

Age.	Mean Duration of Life, reckoning from		Number the Increase of Years, &c. in the Average Ratio of 100 to
	1600.	1700.	
Years.	Years.	Years.	
5	41.7	51.7	120
10	34.4	44.4	144
15	31.0	41.0	120
20	27.7	36.9	121
25	24.7	33.9	101
30	21.1	30.1	123
35	17.2	26.2	128
40	13.0	22.0	160

The following is the annual mortality of some of the chief cities of Europe and North America:—

Philadelphia,	1 in 45.08
Glasgow,	1 in 44
Manchester,	1 in 41
Geneva,	1 in 41
Boston,	1 in 41.20
London,	1 in 40
New York,	1 in 37.83
St Petersburg,	1 in 37
Charleston,	1 in 36.50
Baltimore,	1 in 35.44
Lisbon,	1 in 35
Berlin,	1 in 34
Paris, Lyons, Barcelona, and Strasbourg,	1 in 33
Nice and Palermo,	1 in 31
Madrid,	1 in 30
Naples,	1 in 29
Brussels,	1 in 26
Rome,	1 in 25
Amsterdam,	1 in 24
Vienna,	1 in 22

From Dec. 12, 1828, to Dec. 15, 1829, in London, the whole number of deaths was 23,520. The proportion of deaths, in different ages, was as follows:—

Under two years of age,	6710
Between two and five,	2347
Five and ten,	1019
Ten and twenty,	949
Twenty and thirty,	1563
Thirty and forty,	1972
Forty and fifty,	2094
Fifty and sixty,	2004
Sixty and seventy,	2153
Seventy and eighty,	1811
Eighty and ninety,	749
Ninety and one hundred,	90
One hundred and one,	1
One hundred and eight,	2

On the average of eight years, from 1807 to 1814 inclusive, there died annually within the city of Philadelphia and the liberties, the following proportion of persons, of different ages, compared with the total number of deaths:—

	Per Cent
Under one year,	20.07
From one to two years,	10.71
Two to ten,	17
From ten to twenty,	10.00
From twenty to thirty,	8.61
From thirty to forty,	10.00
From forty to fifty,	7.00
From fifty to sixty,	5.00
From sixty to seventy,	4.00
From seventy to eighty,	3.00
From eighty to ninety,	1.00
From ninety to one hundred,	0.00
One hundred to one hundred and ten,	0.00

Another question of interest is the inquiry in what degree the various trades and professions are favourable to human life, or the contrary. Several statements have lately been published respecting this subject, but further and more copious observations are required, to afford satisfactory results. Literary

\* The Literary Gazette gives in a tabular form, the results of a work on this subject, from the pen of Mr Theobald,

occupations do not appear to be more injurious to long life than many others. Many of the first literati, most distinguished for application throughout life, have attained old age, both in modern and ancient times. In the ancient authors, numerous instances of this kind are recorded, many of which may be found collected in the work of Hufeland, alluded to.

There are several essential circumstances which must combine, to give any individual a chance of exceeding the usual period assigned to human existence. These may be comprehended under the following heads: a proper configuration of body; being born of healthy parents; living in a healthy climate and good atmosphere; having the command of a sufficient supply of food; constant exercise; a due regulation of sleep; a state of marriage; and due command of the passions and temper.

Most of these particulars seem to be so well established, and are, in themselves, so apparent, that it seems hardly requisite to do more than mention them, to obtain the assent of the mind to their immediate reception. Thus, a deformed person can hardly expect a very long life, nor one born of unhealthy parents; neither can a person inhabiting an unhealthy city or district, expect to escape the dangers with which he is perpetually surrounded. There are some districts, both in Europe and America, where the inhabitants scarcely ever survive

thirty-five or forty years. And it is well known that some counties in England, particularly Shropshire, Devonshire, Warwickshire, and Yorkshire, are much more healthy than the rest; whilst Essex, Lancashire, and some parts of Kent, are, from the swamps rendered particularly noxious to human life. Tracts liable to be visited by severe epidemics, have seldom produced instances of long life.

It has been remarked, also, that certain families are gifted by Heaven with better stamina and strength, and, therefore, live longer. Quakers and persons of moderate passions, may be expected to be longer lived than others; but these, in the decline of life, are subject to accessions of low spirits and melancholy, so that they become infirm, and do not resist the attacks of disease. One very curious fact, and well established, is this, that no unsexed person has ever been known, at least in Great Britain, to exceed the age of 100 years. Keepers to the passions under due control, and bearing, with fortitude and resignation, the evils of life, is a good means of attaining long life. Longevity is not confined to any nation or country, for instances of it are to be found all over the world; but they are more abundant in cold and temperate climates. Heat seems to relax and enfeeble the body as much; the heart, it may be conceived, is made to beat too rapidly, and the vital power is too soon expended. The vegetable diet, too, of hot countries

an eminent surgeon, of Leeds.—*Out-of-door occupations.* Butchers are subject to few ailments, and these the result of plethora. Though more free from diseases than other trades; they, however, do not enjoy greater longevity: on the contrary, Mr. Thackeray thinks their lives shorter than those of other men who spend much time in the open air. Cattle and horse-dealers are healthy, except when their habits are intemperate. Fish-mongers, though much exposed to the weather, are hardy, temperate, healthy and long-lived; cart-drivers, if sufficiently fed, and temperate, the same. Labourers in husbandry, &c., suffer from a deficiency of nourishment. Brickmakers, with full muscular exercise in the open air, though exposed to vicissitudes of cold and wet, avoid rheumatism and inflammatory diseases, and attain good old age. Paviers are subject to complaints in the loins, increasing with age, but they live long. Chaise-drivers, postillions, coachmen, guards, &c., from the position of the two former on the saddle, irregular living, &c., and from want of muscular exercise, in the two latter, are subject to gastric disorders, and, finally, to apoplexy and palsy, which shorten their lives. Carpenters, coopers, wheelwrights, &c., are healthy and long-lived. Smiths are often intemperate, and die comparatively young. Rope-makers and gardeners suffer from their stooping postures.—*In-door occupations.* Tailors, notwithstanding their confined atmosphere and bad posture, are not liable to acute diseases, but give way to stomach complaints and consumption. The prejudicial influence of their employment is more insidious than urgent: it undermines rather than destroys life. Stay-makers have their health impaired, but live to a good age. Milliners, and dress-makers and straw-bonnet-makers are unhealthy and short-lived. Spinners, cloth-dressers, weavers, &c., are more or less healthy, according as they have more or less exercise and air. Those exposed to inhale imperceptible particles of dressings, &c., such as frizors, suffer from disease, and are soonest cut off. Shoemakers are placed in a bad posture. Digestion and circulation are so much impaired, that the countenance marks a shoemaker almost as well as a tailor. We suppose that, from the reduction of perspiration, and other evacuations, in this and similar employments, the blood is impure, and, consequently, the complexion darkened. The secretion of bile is generally unhealthy, and bowel complaints are frequent. In the few shoemakers who live to old age, there is often a remarkable hollow at the base of the breast-bone, occasioned by the pressure of the last. Curriers and leather-dressers are very healthy, and live to old age. Saddlers lean much forward, and suffer, accordingly, from headache and indigestion. Printers (our worthy co-operators) are kept in a confined atmosphere, and generally want exercise. Pressmen, however, have good and varied labour. The constant application of the eyes to minute objects gradually enfeebles these organs. The standing posture, long maintained here, as well as in other occupations, tends to injure the digestive organs. Some printers complain of disorder of the stomach and head, and few appear to enjoy full health. Consumption is frequent. We can scarcely hear or hear of any compositor above the age of fifty. The exhalation of the types is injurious. Book-binders, in a healthy employment. Carvers and gilders look pale and weakly, but their lives are not abbreviated in a marked degree. Clock-makers are generally healthy and long-lived; watch-makers, the reverse. House servants, in large smoky towns are unhealthy. Colliers and well-sinkers,—a class

by themselves,—seldom reach the age of fifty.—*Impurities producing dust, odour, or gas over the system.* Those who are injured, if they arise from animal substances, or from the use of wine or spirits. Tobacco manufacturers do not appear to suffer from the floating poison in their atmosphere, but making is more pernicious. Men in oil-mills are generally healthy. Brush-makers live to a great age, because in hostlers inspire ammoniacal air, and are robust, healthy, and long-lived. Glue and size boilers, exposed to the most noxious stenches, are fresh-looking and robust. Tallow-renderers also exposed to offensive animal odour, attain considerable age. Tanners are remarkably strong, and exempt from consumption. Corn-millers, breathing an atmosphere loaded with dust, are pale and sickly, and very rarely attain old age. Millstone cutters live long and must leave the trade in middle life. Tanners suffer from the dust, especially of green tree; but the injury is not permanent. Coffee-roasters breathe ammonia, and are subject to headache and indigestion. Paper-makers, when they cannot endure the effect of the dust from rotting, stop the work. The author suggests the use of machinery in this process, to the west and rear and tear of the mists, there are not much affected, but live long. Masons are short-lived, dying common before forty. They inhale particles of lime, and dust, of heavy weights, and are too often intemperate. Wheelwrights, Machine-makers seem to suffer very little from dust they inhale, and the consequent bronchial irritation. To (iron) sizers are almost all unhealthy men, and resemble short-lived. Foundries (in brass) suffer from the inhalation of the volatilized metal. In the fumes of a hot iron bath, a particular, the evolution of oxide of zinc is very great. The seldom reach fifty years. Copper-smiths are much affected by the fine scales which rise from the volatilized metal, and by the fumes of the sulphur, or other brass. The men are generally unhealthy, suffering from disorders similar to those of the brass-founders. Foundry workers are subjected to fumes from materials of iron, and sulphurous exhalations from the coke which they use. The exhalations, however appear to be unwholesome, rather than injurious, as the men are tolerably healthy, and live to a considerable age. Tinners, also, are subjected only to temporary inconveniences from the fumes of the soldering. Foundries exposed to the volatilized metal, and to the fumes of the sulphur, and the process of casting. They are weakly in appearance, and short-lived. House-painters are unhealthy, and do not generally attain full age. Chemists and druggists, in London, are sickly and consumptive. Pottery, suffered through pores of the skin, become paralytic, and are remarkable subject to constipation. Hatters, grocers, bakers, and distillers (sweepers (a dull association) also suffer through the skin, although the irritation occasions & worse, they are not short in the last class, fatal. Dyers are healthy and long-lived. Brewers are, as a body, far from healthy. Under a similar often florid appearance, they conceal chronic disease of the abdomen, particularly a congested state of the vena porta. When these men are accidentally hurt or wounded, they are more liable than other individuals to severe and dangerous effects. Cooks and confectioners are subjected to constant heat. Their common evils are more numerous than those of the inside. Their diet is organic, and their frequent vomiting, and are subject to headache, and their breath is rendered unwholesome. Glass-workers are healthy. Glass-blowers often are subject

does not seem so well calculated for giving the necessary degree of strength and elasticity to the fibre; for although in warm countries more children live to be men and women, yet, as the age of pubertiness is very early, they seldom exceed sixty years. This fact was ascertained, in China, in 1784, when Kien Long ordered all the oldest men in the empire to be brought before him, when, out of a population of two hundred millions, only four persons could be found, whose ages exceeded a hundred; whereas, in Russia, Norway, and other cold countries, instances of longevity are frequent. Thus, in Norway, in 1761, of 1759, who died, 63 were 100 years old and, in Russia, in 1801, of 729,278 persons, who died, 216 were 100 years old, and 220 had exceeded that age; and one, indeed, was more than 150. The districts of Arcadia, Attolia, and other parts of Greece, were formerly celebrated for instances of long life; and many of the most distinguished Greeks, such as Pythagoras, Plato, Sophocles, Pindar, &c., attained to a very advanced period of life.

In Italy, when a general census of the inhabitants was made in the year 79, by order of the emperor Augustus, Lord Bacon says there were then living, between the river Po and the Apennines,

34 of 100	35 of 100
37 - 110	1 - 125
9 - 110	1 - 131
6 - 110	6 - 110
4 - 100	4 - 100
7 - 110	1 - 137
3 - 120	1 - 130

The bills of mortality, in Pinnak, in Russia, showed, as follows:—

3 persons and	110
1 - - - -	114
4 - - - -	120
1 - - - -	124
1 - - - -	128
1 - - - -	130

The climate of the British islands is very friendly, in general, to the human body; and, in proportion to their size and population, show almost more instances of long life than any other country. Carew, the historian of Cornwall, says, that in that country its inhabitants frequently reach 90 with unimpaired strength of body and mind: but these are the farmers; for the miners seldom live more than 40 years, the fumes of the sulphur, copper, and arsenic, and the damp, killing them all of consumption. But Brown, the Cornish beggar, lived to be 120; and a man, called Polemou, to 130. In Scotland, old age is common; 12 persons, in the lower parts of Galloway, were living, a few years ago, of from 100 to 115 years of age. Old William Marshall, a tinker, walked through that county, at 118, with all his faculties perfect. In Montrose, too, in 1812, there were five persons alive from 100 to 110. Small islands and peninsulas, if quite free from mardies, are generally very favourable to long life, and in all latitudes. In the Bermuda islands, many natives reach 100 and more; and in the hurricane at Barbadoes, in 1789, four people were killed who were above 100, and one of 115. Madeira has always been noted for its healthy climate; and a new born infant's chance of life, is there about thirty-nine years, or about a third more than that of one in London. Martin, in his description of the Western islands, speaks of a person in the island of South Uist, aged 130, retaining his appetite and understanding; and also of one Gilbert McCraw, in the island of Jura, who spent 180 Christmases in his own house.

Here follows a list of the names of some of the best known instances, with the domiciles, and authorities annexed.

[illegible]

NAME.	AGE.	PLACE.	DATE.	AUTHORITY.
John Jacob . . . . .	121	Mount Jura . . . . .	1790	All the public prints
Mrs. Sands . . . . .	120	Staffordshire . . . . .	—	Fuller's Worthies
Mr. Dirrane . . . . .	120	Aron, Galway . . . . .	1817	Blackwood's Magazine
— Brown . . . . .	120	Cornwall . . . . .	—	Carew's Cornwall
Will. Portell . . . . .	120	France . . . . .	—	Bacon's History
Will. Marshall . . . . .	118	Galloway . . . . .	—	Statistical Account
Cath. McKenzie . . . . .	117	Fowles, Ross. . . . .	—	—
Coras, Mudgon . . . . .	117	Clare, Ireland . . . . .	1812	Edin. Ann. Register
— Carrol . . . . .	117	Kilkenny . . . . .	—	Blackwood's Magazine
John Urszulach . . . . .	116	Lemberg . . . . .	1812	Edin. Ann. Register
John Wilson . . . . .	116	Suffolk . . . . .	1732	General Gazetteer
Will. Ruthven . . . . .	116	Avondale . . . . .	1814	Ed. Ann. Register
Christ. Robertson . . . . .	115	Glenisla . . . . .	1810	Do. Do.
Sal. Wian . . . . .	115	Lebury . . . . .	—	Plom. Fund. Med. Cap. 1
Belinda Crawford . . . . .	115	Galway . . . . .	1812	Edin. Ann. Register
Robert Blakeney, Esq. . . . .	114	Armagh . . . . .	—	General Gazetteer
Isabella Sharpe . . . . .	114	Gateshead . . . . .	1812	Edin. Ann. Register
Ann Rudock . . . . .	113	Cornwall . . . . .	1812	Do. Do.
Mary Harris . . . . .	113	New Falmouth . . . . .	1812	Do. Do.
J. Sugar . . . . .	112	Lancashire . . . . .	1724	Phil. Transactions
James Kayley . . . . .	112	Middlewich . . . . .	1781	—
Will. Walker . . . . .	112	England . . . . .	—	—
James Beatty . . . . .	112	Meath . . . . .	1814	Edin. Ann. Register, &c.
Thos. Gaughan . . . . .	112	Mayo . . . . .	1814	Do. Do.
Mrs. King . . . . .	111	Dent, Yorkshire . . . . .	1817	Blackwood's Magazine
Card. De Gardis . . . . .	110	Seville, Spain . . . . .	1717	Easton on Longevity
Thos. O'Brien . . . . .	110	Limerick . . . . .	1812	Edin. Ann. Register
John Garrow . . . . .	110	Northumberland . . . . .	1814	Do. Do.
Edmund Morgan . . . . .	110	Merionethshire . . . . .	1817	Blackwood's Magazine
M. Charlotte Curio . . . . .	109	Hoppl. Namur . . . . .	1818	Do. Do.
Morgan Crosslett . . . . .	109	Glamorganshire . . . . .	1812	Edin. Ann. Register
Democritus . . . . .	109	Abdera . . . . .	361	Bacon's History
Janet Taylor . . . . .	108	Fintray . . . . .	1780	—
Charles Craig . . . . .	108	Dundee . . . . .	1817	Blackwood's Magazine
Janet Mulley . . . . .	108	Crinan . . . . .	1817	Do. Do.
Catherine Prescott . . . . .	108	Manchester . . . . .	1817	Do. Do.
Will. Gillespie . . . . .	108	Ruthwell . . . . .	1818	Do. Do.
Thomas Garrick . . . . .	108	Flitshire . . . . .	1799	—
Christiana Howell . . . . .	107	England . . . . .	1817	Blackwood's Magazine
J. Brown, Esq. . . . .	107	Fowles, Ross-shire . . . . .	1782	—
Margaret of Winchester . . . . .	106	Hampshire . . . . .	—	Baker's Chronicle
C. F. Gordon . . . . .	106	Buckland, Hants. . . . .	1817	Blackwood's Magazine
Mrs. Ann Eason . . . . .	106	Eason Lodge, England . . . . .	1818	Do. Do.
James Carrol . . . . .	106	Kilkenny . . . . .	1817	Do. Do.
Margaret Neyton . . . . .	106	Liverpool . . . . .	1815	Edin. Ann. Register
Will. Wilson . . . . .	106	Edinburgh . . . . .	1815	Do. Do.
Arnes Milbourne . . . . .	106	St. Luke's Workhouse . . . . .	—	—
Eliz. Bell . . . . .	106	Whitehaven . . . . .	1813	Edin. Ann. Register
M. E. Jeffs . . . . .	105	Greel, Worcestershire . . . . .	1812	Do. Do.
Helen Gray . . . . .	105	Flitshire . . . . .	1791	—
Dr. Gen. Mickrelsy . . . . .	105	Warsovia . . . . .	1818	Blackwood's Magazine
Jane Robertson . . . . .	105	Thornton, Yorkshire . . . . .	1817	Do. Do.
Ann Cockbolt . . . . .	105	Northampton . . . . .	1773	—
J. Montgomery . . . . .	105	Killad . . . . .	1818	Blackwood's Magazine
J. Bright . . . . .	105	Ludlow . . . . .	—	Lynche's Health
Owen O'Toole . . . . .	105	Wicklow . . . . .	1817	Blackwood's Magazine
Sarah Codenham . . . . .	105	Norfolk . . . . .	1815	Edin. Ann. Register
Mrs. Isabel Taylor . . . . .	105	Edinburgh . . . . .	1818	Blackwood's Magazine
Barbery Dodgson . . . . .	104	Gainsborough . . . . .	1818	Do. Do.
Donald McLeod . . . . .	104	Isle of Sky . . . . .	1792	His Memoirs
Alexander Ewart . . . . .	104	Dumfriesshire . . . . .	1789	—
John Reid . . . . .	104	Nam . . . . .	1818	Blackwood's Magazine
Henry Cohen . . . . .	104	Jews' Hospital, Mile End . . . . .	1817	Do. Do.
James Magree . . . . .	104	Scitfield . . . . .	1815	Edin. Ann. Register
Hippocrates . . . . .	104	Isle of Cos . . . . .	358	Lynche's Health
Lachlan McQuarrie . . . . .	103	Isle of Mull . . . . .	1817	Blackwood's Magazine, &c.
Jane Reeves . . . . .	103	Essex . . . . .	1781	St. James's Chronicle
Lachlan McBain . . . . .	102	Edinburgh . . . . .	1818	Blackwood's Magazine
J. Borrie . . . . .	102	Dunkeld . . . . .	1817	Do. Do.
J. Fraser . . . . .	102	Knockbane . . . . .	1817	Do. Do.
Sarah Foster . . . . .	102	Whittles . . . . .	1817	Do. Do.
Cath. Richard . . . . .	102	England . . . . .	1818	Do. Do.
Janet McFarlane . . . . .	102	Pasley . . . . .	1815	Edin. Ann. Register
Jane Thomson . . . . .	102	Dumfries . . . . .	1815	Do. Do.
John McBain . . . . .	101	Alberdeenshire . . . . .	1817	Blackwood's Magazine
Anne Dinsdale . . . . .	101	Durham . . . . .	1817	Do. Do.
Lewis Cornaro . . . . .	100	Venice . . . . .	—	Bacon's History
Susan Hilliar . . . . .	100	Paddington . . . . .	1781	Northampton Mercury
Kenneth Munro . . . . .	100	Ross-shire . . . . .	1775	—
Countess London . . . . .	100	London . . . . .	1779	—
Margaret Seal . . . . .	100	Josburgh . . . . .	1818	Blackwood's Magazine
John Williams . . . . .	100	Walsinghampton . . . . .	1818	Do. Do.

**LONGIMETRY**; the measuring of lengths or distances, both accessible and inaccessible. Accessible distances are measured by the application of some measure a certain number of times, as a foot, chain, &c. And inaccessible distances are measured by taking angles, &c., by means of proper instruments, as the *circumferentor*, *quadrant*, *theodolite*, &c. This embraces a great number of cases, according to the situation of the object and observer.

**LONGINUS**, Cassius; a Platonic philosopher and

celebrated rhetorician of the middle of the 3d century, A. D. According to some accounts he was born at Emesa, in Syria; according to Rabbat, Athens was his birth-place. Greek literature was the principal subject of his studies. At Athens, Athens, etc., he attended the lectures of the most distinguished scholars. He studied the Stoic and Peripatetic systems of philosophy, but ultimately became an ardent adherent of the Platonists, and annually celebrated the birthday of its founder, by a

baquet. His principal attention was directed, however, to the study of grammar, criticism, eloquence, and antiquities. At the invitation of queen Zenobia, he went to Palmyra to instruct her in Greek learning and to educate her children. He was likewise employed by her in the administration of the state, by which means he was involved in the fate of this queen. For when Zenobia was taken prisoner by the emperor Aurelian, and could save her life only by betraying her counsellors, Longinus, as the chief of them, was seized and beheaded, A. D. 273. He suffered death with all the firmness of a philosopher. Of his works, among which were some philosophical ones, none is extant, except the treatise *On the Sublime*, which goes under his name, and has in it a taste of mutilation. It illustrates, with great sentences and taste, the nature of the sublime in thought and style, by rules and examples. The first editions are those of Pearce (1724), of Toup and Kuhnken (Oxford, 1778). Benj. Weiske's edition appeared at Leipzig, 1800. There is an English translation of it by Wm. Smith. Longinus is usually called *Dionysius*, but this has arisen from the negligence of editors. The manuscript copy of the treatise *On the Sublime*, in Paris, and one in the Vatican, bear the inscription in Greek, *By Dionysius or Longinus*, which appeared in the first printed copies as *Dionysius Longinus*. The Florence manuscript bears the inscription *Anonymous*. Some critics have ascribed the work to Dionysius of Halicarnassus, others to another Longinus, while others confess that the author is uncertain.

**LONG ISLAND, or NASSAU ISLAND;** an island belonging to the state of New York, extending 20 miles in length, and varying from ten to twenty miles in breadth. On the west, it is divided from Staten Island by the Narrows, and from Manhattan Island by the East river. On the north, East river and Long Island sound separate it from the mainland. Its eastern extremity is Montauk point. On the south, it is washed by the ocean. Lon  $71^{\circ} 47' 53''$  W.; lat.  $40^{\circ} 34'$  to  $41^{\circ} 10'$  N. Like other insular positions, its climate is more mild than that of the adjacent continent. The island is divided into three counties—King's, Queen's and Suffolk. Its principal port is the city of New York. The south side of the island is flat land, of a light, sandy soil, bordered, on the sea coast with large tracts of salt meadows. The soil, however, is well calculated for raising grain, especially Indian corn. The northern part of the island is hilly, and of a strong soil, adapted to the culture of grain, hay, and fruits; and the western part is remarkably adapted to the growth of wheat, and supplies, in great part, the city of New York with this article. This ridge forms Brooklyn and other heights, known in the revolutionary war, to be principal towns and villages on the island are Brooklyn, Jamaica, Sag Harbor, Flatbush, Flushing, Jamaica and Huntington.

**LONG ISLAND SOUND;** a bay, from three to six miles broad, and about 120 long, extending the whole length of Long Island, and dividing it from Connecticut. It communicates with the ocean both ends, and may be considered as extending from New York on the west to Fisher's Island on the east. On its northern shore are the towns of Greenwich, Stamford, Fairfield, Bridgeport, Milford, New Haven, Saybrook, New London, Stonington, &c. on the Connecticut, Housatonic, Thames, and other rivers.

**LONGITUDE, geographical;** the distance measured, according to degrees, minutes, seconds, upon the equator, or a parallel circle, from one place to another, which is called the first, or prime meridian. Longitude is divided into eastern

and western. It is altogether indifferent through what point we draw the first meridian, but it must be settled what point we adopt. In Germany, the Island of Ferro (q. v.) is generally adopted; in France, the observatory at Paris; in Britain, that of Greenwich; in Berlin, that of Berlin; in the United States, the meridian of Washington is sometimes taken as a first meridian. Some geographers reckon from the first meridian 180 degrees west, and the same number east; others, on the contrary, reckon the longitude from the west to the east, the whole length of the equator, to 360 degrees. The longitude of any place, together with the latitude, is requisite for the determination of the true situation of the place upon the earth. From the form of our earth, it follows that the degrees of longitude must always decrease towards the poles. The degrees of latitude, on the contrary, are all taken as equal to each other, and each amounts to sixty geographical miles. The measure of a degree of longitude upon any parallel of latitude is found by multiplying the length of a degree on the equator by the co-sine (taking radius equal to 1) of the latitude of the parallel. The longitude shows the difference of time between any place and the first meridian. The sun performing his apparent revolution in twenty-four hours, a place which lies fifteen degrees farther to the west than another, will have noon one hour later. Places whose difference of longitude amounts to  $180^{\circ}$  have opposite seasons of the day, since in the one place it is mid-day, and in the other, at the distance of  $180^{\circ}$ , it is midnight at the same moment. The difference in longitude of any two places may be also determined by observations of the time of certain celestial phenomena, taken at both places, such as eclipses of the moon, occultations of fixed stars, and, in particular, the eclipses of Jupiter's satellites; and, *vice versa*, we can, from the difference of longitude of two places, accurately ascertain the difference of their time.  $15^{\circ}$  upon the parallel circle corresponding to one hour,  $1^{\circ}$  gives 4' of time,  $15'$  give 1' of time,  $15''$  give 1" of time, &c. The difference of longitude between Boston and London may serve as an example. This difference is  $71^{\circ} 47' 0''$ ; consequently, noon at London is four hours, forty-four minutes, and six seconds earlier than at Boston. The determination of longitude at sea, at any moment, is highly difficult and important. The British parliament, in 1714, offered a reward of £20,000 for an accurate method of finding the longitude at sea, within one half of a degree; but this act was repealed July 15, 1828. A watch which should preserve a uniform motion, was the most suitable means that could be afforded to the navigator, who might, from the difference of the time of noon on board the ship, and the time by the watch immediately determine the difference between the longitude of the place for which the watch was regulated, and that wherein the ship then was. Harrison was the first who invented a chronometer of the requisite accuracy. Upon the first voyage, it deviated only two minutes in four months. Other artists followed, namely, Kendall, Mudge, Berthoud, Le Roy, &c.; and Arnold and Emery have lately prepared such accurate chronometers, that they have been used for the determination of longitude upon land, as well as at sea, with great success. Nevertheless, astronomical observations furnish the most exact methods of determining longitude. As eclipses and occultations are comparatively rare, and are somewhat difficult of calculation, the distances of the moon from the sun or some of the fixed stars have been adopted for the calculation of longitude, because these can be measured almost every night, and an accurate knowledge of the moon's orbit is the only thing requisite thereto.

*Longitude* in the heavens, as that of a star, &c., is an arc of the ecliptic comprehended between the first of Aries, and a circle perpendicular to the ecliptic, passing through the place of the star. The computation is made according to the signs of the ecliptic. The longitude of a star is found by means of its right ascension and declination. It changes on account of the precession of the equinoxes. See *Equinox*, and *Precession*.

LONGUS, author of a Greek pastoral romance, the subject of which is the loves of Daphnis and Chloe probably lived in the time of Theodosius the Great. Nothing is known of the circumstances of his life, nor is he mentioned by any of the ancients. His work is interesting by its poetical spirit, graphic description, and style. The earlier editions, of which Villosion's is the best, do not contain the work in so complete a state as that of Courier (Paris, 1810). He supplied, from a Florentine manuscript, an important omission, but, having taken a copy of it, was careless or mean enough to render the page of the manuscript which contained that narration, illegible by an enormous ink-spot. This spot, the librarian, Del Furia, justly indignant, has laid before the eyes of the public in an engraving, with an account of the whole affair.

LONGWOOD. See *St Helena*.

LOO-CHOU, or LIEOU-KIEOU, or LEW-CHEW; a group of islands in the Pacific ocean to the south of Japan and east of China, to which they are tributary. Lat.  $20^{\circ}$  to  $27^{\circ}$   $40'$  N.; lon.  $127^{\circ}$   $10'$  to  $129^{\circ}$  E. But little was known to us of these islands until they were visited by Maxwell and Hall, on their return from the embassy to China. (See Hall's *Voyage to Corea and Loo-Choo*.) They are represented as having a mild climate and an excellent soil, abounding in fruits and vegetables. The voyagers who have touched have been allowed to land only under the most jealous precautions, and have never been permitted to enter the country. In other respects, they have been kindly treated and supplied with provisions, for which the islanders have uniformly refused to receive pay. Captain Hall paints the islands as a new Arcadia, in which the use of arms, money, and punishments is unknown. It is manifest that little reliance is to be placed on the accounts of travellers, who were ignorant of the language of the Loo Chocans, and whose intercourse with them was evidently subject to all the restraints of a most vigilant and despotic police. In fact, the statements of Captain Hall on several points have been contradicted by the last voyager who has visited these islands (Beechey, *Voyage in the Pacific*, London, 1831), who asserts that the Loo-Chocans have arms and money, and inflict the most severe and cruel punishments. As for the supplies, they appear to have been furnished by authority, and not by individuals, and the refusal to receive compensation is easily accounted for, on the ground that the government which shows such an aversion to strangers is unwilling to suffer any traffic between them and its subjects. They were for some time subject to Japan, but, in 1372, were conquered by China.

LOOK-OUT; a cape on the coast of North Carolina, in lat.  $34^{\circ}$   $34'$  N.; N. E. of cape Fear, and S. W. of cape Hatteras.

LOON (*Columbus*; large aquatic birds, common to both Europe and America. They seldom visit Britain, but are met with in the north of Europe and Asia. In America, they are most numerous about Hudson's bay, but are also found farther south. In Pennsylvania, they are migratory, making their appearance in the autumn. They are commonly seen in pairs, and procure their food, which is fish, by diving and swimming under water for a length of

time. They are very wary, and are seldom killed, eluding their pursuers by their great dexterity in plunging beneath the water. They are very restless before a storm, always uttering loud cries on its approach of a tempest. They are not eaten, their flesh being rank and fishy. Some of the tribes of the Russian empire tan the skin which covers the base of this fowl, and form dresses, &c. of it, which are very warm, and imbibe no moisture. The sea-landers also make the same use of them. The male measures two feet ten inches from the tip of the bill to the end of the tail, and four feet six inches in breadth: the bill is strong, of a ebony black, an four inches and three quarters long, to the corner of the mouth. The head and base of the nape of the neck are of a deep black, with a greenish and purple reflections; this is succeeded by a line consisting of interrupted white and black transverse, which encompasses the neck, and tapers to a point at its fore part, without joining; below this is a band of dark glossy green and black, which is blended behind with the plumage of the neck. The whole of the upper parts are of a deep black, water-glossed with green, and thickly spotted with white in regular transverse or semicircular rows, one on the end of each feather; the lower parts are all white, with a slight dusky line across the vent. The outside of the legs and feet is black, the inside is colour. The leg is four inches in length; both the feet are marked with five-sided pycnogon, each about eight to ten pounds. The female is somewhat smaller than the male, and differs in her colour. The young do not attain their perfect plumage until a second or third year. It should be remarked, however, that Temminck and the prince of Mangos state that the two sexes are alike in plumage, with men who reside on the coast where there is plenty, insist, on the contrary, that the males of the sexes may always be distinguished by their plumage. The female lays two large brownish eggs, and generally builds at the edge of small islands or the margins of lakes and ponds. In swimming and diving the legs only are used, and not the wings, as in a guillemot and auk tribes; and, from their being situated far behind, and their weight descending on the line of the body, the bird is enabled to push itself through the water with great velocity.

LOOS, DANIEL FRIEDERICH, a celebrated draftsman, was born at Altenburg, in Saxony, in 1734. Stieeler, the royal die-cutter, took him as an apprentice, but kept him back from January 1750, and never, finally went to Dresden, where he worked at the mint, but his merits were here also kept back by his employer. After many complaints he was employed in the Prussian service at Vangerow, where he was unable to maintain his family, and spent some time in poverty, in Berlin. His poverty was last acknowledged. In 1787, he became member of the academy of fine arts, and produced a great number of medals. Purity of style and drawing were not so much required in medals as in portrait painting in Germany, but his successors have hardly surpassed him in technical skill. Loos died in 1818. He is one of the chief officers of the Berlin mint.

LOPE DE VEGA (*Don Lope Felix de Vega Carpio*; Frey, as he is often called, sometimes celebrated dramatic poet, was born at Madrid, September 25, 1562. When a child, he displayed a lively taste for poetry, made verses before he knew how to write, and, as he himself avers, had composed several theatrical pieces, when scarcely seven years of age. About this time, he ran away from home with a comrade, for the purpose of seeing the world, but was stopped in Alcala, and sent back, by the authorities of the place, to Madrid. Lope early in

his parents, but was enabled, by the assistance of Alva, bishop of Alcalá, to complete his studies. He afterwards found a patron in the duke of Alva, at Madrid. Encouraged by this Alarcón, whose secretary he became, he composed his *Arcadia*, a heroic pastoral in prose and verse, of which Montemayor had given an example in his *Diana*. The *Arcadia* is an idyl, in five acts, in which the shepherds, with their *Dulcineas*, speak the language of Amadis, and discuss questions of theology, grammar, rhetoric, arithmetic, geometry, music, and poetry. Inscriptions are also introduced upon the pedestals of the statues of distinguished men in a saloon, in which a part of the action takes place. This work proved the various acquisitions of the author. Conceits and quibbles are frequent in this, as in Lope's other writings. In general, he is one of those writers who set a dangerous example of that false wit, a taste for which extended almost all over Europe. Marino particularly introduced it into Italy, and acknowledged, with lively expressions of admiration, that Lope had been his pattern. After the publication of his *Arcadia*, Lope married. He appears, however, to have cultivated the poetic art with increasing zeal. A nobleman of rank having made himself merry at Lope's expense, the poet revenged himself upon this critic, and exposed him to the laughter of the whole city. His opponent challenged him, and was dangerously wounded in the encounter, and Lope was obliged to flee to Valencia. After his return to Madrid, the loss of his wife rendered a residence in that place insupportable to him. In 1584, therefore, he served in the unavailing armada, the fate of which is well known. During this expedition he wrote *La Hermana de Angelica* (the Beauty of Angelica), a poem in twenty cantos, which continues the history of this princess from the time in which Ariosto left it. By this work he hoped to do honour to his country, in which, as he learned in Turpin, the succeeding adventures of the heroine occurred. In addition to the peril of rivalry with Ariosto, the difficulty of success was increased by the appearance of a poem upon the same subject, by Luis Borbono de Soto, under the title *Las Lagrimas de Angelica*, which passed for one of the best poems in the Spanish language, and was honourably mentioned in Don Quixote. In 1590, Lope returned to Madrid, and again entered the married state. In 1598, he obtained one of the poetical prizes, offered on the occasion of the canonization of St. Isidore. This prize poem he published with many other poems, under the name of *Tomo de Burguillos*. About this time, he also composed a great number of pieces for the theatre. His literary fame increased, and his domestic situation made this the happiest period of his life. But he lost his son, and soon after his wife, and had only a daughter left. He now sought consolation from religion, and became a priest and secretary of the inquisition. His devotion, however, did not interfere with his poetical studies, and he still endeavoured to maintain the distinguished rank which he had taken upon the Spanish Parnassus, and to repel the attacks of his foes and his rivals, among whom Luis de Gongora y Argote was the most distinguished. Lope, who had been attacked in his satires, and who was indignant at the corruption of taste produced by him, allowed himself to ridicule his obscure and affected style, and that of his pupils, although, in his poem *Laurel de Apolo*, he acknowledges the talents of Gongora. But Gongora's corrupt taste infected even his opponents, and it must be confessed that Lope's last works are not entirely exempt from it. Another yet more distinguished assailant was Cervantes, who publicly advised him, in a sonnet, to

leave the epic poem, upon which he was then engaged—*Jerusalem conquistada*—unfinished. Lope parodied this sonnet, and published his poem, the weakest of his performances. He accompanied it with many remarks, which are all found in the last edition of 1777. Cervantes acknowledged his merits, however, in the following verses:

"Poeta insigni, a cuyo verso o prosa  
Ninguno le aventaja ni aun le llega."

(A distinguished poet, whom no one, in verse or prose, surpasses or equals.) Cervantes died soon after (1616), in poverty, in the very city in which his rival lived in splendour and luxury, and in the possession of the public admiration. How differently has posterity judged of these two poets! For 200 years, the fame of Cervantes has been increasing, while Lope is neglected in his own country. About the time of Cervantes' death, the enthusiasm of the Spaniards for Lope approached to idolatry, and he himself was not wise enough to reject it. The number of his poetical productions is extraordinary. Scarcely a year passed in which he did not print a poem, and, in general, scarcely a month, nay, scarcely a week, in which he did not produce a piece for the theatre. A pastoral, in prose and verse, in which he celebrates the birth of Christ, established his supremacy in this branch; and many verses and hymns on sacred subjects bore testimony to his zeal for the new calling to which he had devoted himself. Philip IV., who greatly favoured the Spanish theatre, when he ascended the throne, in 1621, found Lope in possession of the stage, and of an unlimited authority over poets, actors, and the public. He immediately loaded him with new marks of honour and favour. At this time Lope published *Los Triunfos de la Fe*; *Las Fortunas de Diana*, novels in prose, imitations of those of Cervantes; *Circe*, an epic poem, and *Philoctetes*, an allegory, in which, under the character of the nightingale, he seeks to revenge himself upon certain critics, whom he represents under that of the thrush. His celebrity increased so much that, auspicious with respect to the enthusiasm which had been shown for him, he printed the work *Soliloquios a Dios*, under the assumed name, N. P. Gabriel de Valdecoque (an anagram of Lope de Vega de Carpio), which likewise obtained great applause. He afterwards published a poem on the subject of Mary Stuart, viz. *Corona tragica* (the Tragic Crown), and dedicated it to pope Urban VIII., who had also commemorated the death of this queen. The pope wrote an answer to the poet with his own hand, and conferred on him the title of doctor of theology; he also sent him the cross of the order of Malta—marks of honour which, at the same time, rewarded his zeal for strict Catholicism, on which account he was also made a familiar of the inquisition. All this contributed to support the enthusiasm of the Spaniards for this "wonder of literature." The people for whom he wrote, without regard to criticism (for he says in his strange poem, *Arte de hacer Comedias*, that the people pay for the comedies and, consequently, he who serves them should consult their pleasure), ran after him whenever he made his appearance in the street, to gaze upon this prodigy of nature (*monstruo de naturaleza*), as Cervantes called him. The directors of the theatre paid him so liberally, that at one time he is said to have possessed property to the amount of more than 100,000 ducats; but he was himself so generous and charitable, that he left but little. The spiritual college in Madrid, into which he had been admitted, chose him president (*capellan mayor*). In common conversation, any thing perfect in its kind, was called *Lopean*. Until 1635, he continued without interruption to produce poems and

plays. At this period, however, he occupied himself with religious thoughts, and devoted himself strictly to monastic practices, and died August 26 of the same year. The princely splendour of his funeral, of which the duke of Susa, the most distinguished of his patrons, and the executor of his will, had the direction, the great number as well as the tone of the panegyrics, which were composed for this occasion, the emulation of foreign and native poets to bewail his death, and to celebrate his fame, presented an example altogether unique in the history of literature. The splendid exequies continued for three days, and ceremonies in honour of the Spanish Phoenix were performed upon the Spanish stages with great solemnity.

The number of Lope's compositions is astonishing. It is said that he printed more than 21,300,000 lines, and that 800 of his pieces have appeared upon the stage. In one of his last works, he affirmed that the printed portion of them was less than those which were ready for the press. The Castilian language is, indeed, very rich, the Spanish verses are often very short, and the laws of metre and rhythm are not rigid. We may, however, doubt the pretended number of Lope's works, or we must admit, that, if he began to compose when thirteen years of age, he must have written about 900 verses daily, which, if we consider his employments, and the interruptions to which, as a soldier, a secretary, the father of a family, and a priest, he must have been subject, appears inconceivable. What we possess of his works amounts to only about a fourth of this quantity. This, however, is sufficient to excite astonishment at his fertility. He himself informs us that he had more than a hundred times composed a piece and brought it on the stage within twenty-four hours. Perez de Montalvan asserts that Lope composed as rapidly in poetry as in prose, and that he made verses faster than his amanuensis could write them. He estimates Lope's plays at 1800, and his sacramental pieces (*Autos sacramentalos*) at 400.

Of his writings, his dramatic works are the most celebrated. The plots of those that approach nearest to the character of tragedy, are usually so extensive, that other poets would have made, at least, four pieces of them. Such, for instance, is the exuberance found in *La Fuerza lastimosa*, which obtained the distinction of being represented in the seraglio at Constantinople. In fertility of dramatic invention, and facility of language, both in prose and verse, Lope stands alone. The execution and the connexion of his pieces are often slight and loose. He is also accused of making too frequent and uniform a use of duels and disguises (which fault, however, his successors committed still more frequently), and of freedom in his delineations of manners. Some (lord Holland, for instance) have attributed to him also the introduction of the character termed *gracioso*, upon the Spanish stage. In those irregular pieces which Lope composed for the popular taste, we find such bombast of language and thought, that we are often tempted to conclude that he intended to make sport of his subject and his hearers. The merit of the elaborate parts of his tragedies consists particularly in the rich exuberance of his figures, and, according to the Spanish critics, the purity of his language. In judging of his boldness in treating religious affairs, we must take into consideration the character of the nation, and the nature of the Spanish stage. Many foreign dramatic writers, we may add, have imitated Lope, and are indebted to him for their best pieces and touches. Schlegel, in his lectures on the drama (*Vorlesungen über dramatische Kunst*), says of Lope—"Without doubt, this writer, sometimes too much extolled, sometimes too much undervalued, appears

in the most favourable light in his plays; the defect was the best school for the correction of his two capital faults, viz. defective connexion, purity, and a useless display of learning." In some of his pieces, especially the historical, which were founded upon old romances and traditions, a certain rudeness of manner predominates, which is by no means correct of character, and seems manifestly to have been chosen for the subjects. Others, which derive their manners of the time, display a cultivated taste. They all contain much humour and interesting action, and probably there are few which, with our notions, would not be well received, even at the present day. Their general faults are the same—carelessness of plot and negligent execution. They are deficient in depth, and in those fine qualities which constitute the mysteries of the art. A volume of *las Obras sueltas asi en Prosa como en Verso de Lope*, &c., appeared at Madrid, 1776, 4to. This does not contain his plays, however, which were published at an earlier date, viz. 1740. Concerning his life, of which his poems hardly give, perhaps, the most valuable information of writings, consult the work of lord Holland, *Account of the Life and Writings of Lope de Vega Carpio* (London, 1817, 2 vols., 8vo.).

LORD; of uncertain etymology; a title of honour or dignity, used in different senses. In the best times, lord (*seigneur*) was the granter or proprietor of the land, who retained the dominion or property of the feud or fee, the use only being granted to the tenant. A person who has the fee of a manor and consequently the homage of his tenants is called the lord of the manor. In these cases, the lord or barony was connected with the superior right of jurisdiction. The superior lord is styled a lord paramount, and if his tenants again grant a parcel of land to other persons, they being tenants in fee to the lord paramount, and lords in reference to their own tenants, are called *mesne* or *intermediate lords*. Lord is also a mere title of dignity annexed to certain official stations, which are hereditary, but sometimes only official or personal. Those who are noble by birth or creation, that is, in the peerage of Britain, are called lords; the five nobles constitute the lords temporal, a distinction from the prelates of the church, who are lords spiritual, both of whom sit together in the lords. (See *Peers*.) It is sometimes applied to a title, as *lord advocate*, *lord mayor*, &c. It is also applied, but only by courtesy, to the heads of families and marquises, and to the eldest sons of peers.

In Scripture, the word *Lord*, when joined to names, is the Hebrew *Adonai*, which the Jews were accustomed to substitute in reading, and even in writing, for the ineffable name *Jehovah* (q. v.). In the New Testament, it is applied to Jesus Christ, the term, as the Greek, being *agios* (owner, master).

LORDS, HOUSE OF. See *Parliament* in article *Britain*.

LORD'S SUPPER; a ceremony among Christians by which they commemorate the death of the founder of their religion, and make, at the same time, a profession of their faith. Jesus Christ instituted the rite when he took his last meal with his disciples. The bread, which he broke after the manner of a supper, was a fitting symbol of his body, which was to be broken; and the red wine (the prophets had used this kind of wine, which is the same now in Palestine) was a significant symbol of his blood. In all the churches founded by the apostles, the usage was introduced. In the first and second century, this rite was celebrated on every Sunday and on the *agape* (q. v.) or *love-feast*. After the third century,

when the congregations became more numerous, the *agapes* ceased, and the Lord's supper was from thence celebrated on the occasion of every divine service in the churches, in such a way that all present could partake, with the exception of catechumens (i. e. Christians not yet baptized), and of unbelievers. These were obliged to withdraw when the celebration of the Lord's supper commenced, because communion was considered as a mysterious act, which was to be withheld from profane eyes. Christians soon began to ascribe supernatural power to the rite, and to take the consecrated bread and wine for more than bread and wine, and to maintain that the body and blood of our Saviour were united with them. From this originated the doctrine of transubstantiation, which was started by Parrhasius Radbertus, in the ninth century. Though this doctrine was at first opposed (see *Berengarius*), yet it was soon generally received, and, in 1215, solemnly confirmed by pope Innocent III., in the fourth Lateran council. From the new doctrine sprang the adoration of the host (in which God was present, according to the new belief), as well as the custom of refusing the cup in the communion to the laity, because it was supposed, that, where the body of Christ was, his blood must be too (*concomitance*), whence the use of the wine was not necessary for the reception of the communion. This refusal was, also, partly owing to a desire of avoiding every occasion whereby the blood of Christ might be incautiously spilled, and become profaned; and partly to the efforts of the clergy to establish a distinction in their own favour. Even before the origin of the doctrine of transubstantiation, the Lord's supper had begun to be represented as a sacrifice. From this sprang the private mass. (See *Mass*.) After the notion of purgatory had become prevalent, this doctrine was connected with the above-mentioned conception of the communion as a sacrifice, and now masses were said chiefly for the purpose of delivering the souls of the deceased from purgatory. As early as the seventh century, private masses were celebrated in various places; after the ninth century, they were in use every where. Thus the Lord's supper had become, in the course of time, something quite different from the design of its founder. This had been contended previous to the reformation, by some parties dissatisfied with the ruling church, especially by the Hussites (see *Hussites*, in article *Huss*), in the fifteenth century, to whom indeed the council of Bale was obliged to allow the use of the cup in the communion. The reformers renewed the complaint, that the church had deviated, in the celebration of the Lord's supper, from the purpose of Christ, and the example of the apostolic age, and both the German and Swiss reformers agreed in rejecting the doctrine of transubstantiation and the mass, and maintaining, that the Lord's supper ought to be celebrated before the whole congregation, and with the administration of both bread and wine. In explaining the words by which the supper was instituted, Luther and Zuinglius differed, and their different opinions on this subject formed the principal subject of the unhappy dissension between the Lutheran and Calvinistic churches. Luther took the words, "This is my body," &c., in their literal sense, and thought that the body and blood of Jesus Christ were united, in a mysterious way, with the bread and the wine, so that the communicant receives, with and under (*cum et sub*) the bread and wine, the real body and real blood of the Redeemer. Zuinglius, on the other side, understood the words in a figurative sense, and supposed that Jesus Christ meant to say, "The bread and the wine represent my body and my blood," and maintained, therefore, that the bread and wine were mere signs of the body and the blood of Christ.

From this difference of opinion arose a violent dispute between Luther and Zuinglius, which, in later times, has been continued between the Lutheran and Calvinistic divines. The opinion advanced by Calvin, by which a spiritual presence of the body and blood of Christ is supposed in the communion, though it came nearer to the Lutheran doctrine than that of Zuinglius did, yet was essentially different, and, therefore, also met with a strong opposition from the strict adherents of Luther. Melancthon inclined to the Calvinistic notion, and so did many other Lutheran divines, who were called by the opposite party *Philippists* and *Crypto-Calvinists*. The formula *concordia*, or articles of religious peace, suppressed the Crypto-Calvinists in the greater part of the Lutheran church, and established the idea of Luther. In recent times, many Lutheran divines have inclined to the Calvinistic doctrine. The Greek church has not adopted the doctrine of transubstantiation in its whole extent; yet her doctrine comes nearer to this dogma than to that of the reformed church. The Oriental Christians differ also from the Western, in using leavened bread in the Lord's supper, and in administering it to children. See *Greek Church*.

[The doctrine of the Lord's supper has given rise to such long and bitter contention between Catholics and Protestants, that the following remarks, written by a Catholic, and giving the Catholic views on this subject, may not be uninteresting to our readers.] The Catholic doctrine of communion (says the writer) cannot be understood without a clear insight into the fundamental views of the Catholic church on all sacred things. He, to whom Christianity is not an external revelation of the Deity, to whom Jesus is not the incarnate God, and his doctrine not divine truth higher than all human conceptions, who regards not the church as a divine institution, and her traditions as indisputably true, cannot enter into the Catholic views on the communion. It must be particularly considered, that Catholic Christianity is of a truly mystic nature. By *mysticism* we mean not the capricious imaginations of each individual, but the universal mystical belief of the church. Of these mysteries the sacrament of communion is the highest, and is the central point of all the institutions of the Catholic church. In all religions, we find the idea of a sacrifice, which man offers to the Deity, by which he acknowledges a relation between himself and the Deity, and endeavours to represent the devout spirit of religion by an act of external worship. The purer this idea of a sacrifice is, the purer is the religion. It was reserved for Christianity to give it its highest reality and greatest purity. In the prophecies relating to the Messiah, it is said, that he shall be a priest after the order of Melchisedek (*Psalms* cx. 4); but this Melchisedek was a priest of the Most High, who offered bread and wine. (*Gen.* xiv.) How then was this prophecy fulfilled? Malachi predicted that the sacrifices of the ancient law would be abolished, and supplied by a pure meat-offering. (*Malachi* i. 11.) The incarnate God walked in the flesh among mortals, teaching and working miracles. After having performed the miracle of multiplying the loaves, he delivered a part of his mysteries (*John* vi. 48—56; *1 Corinth.* xix. 16; *Luke* xxii. 19, 20; *Mark* xiv. 22—29; *Math.* xxvi. 26—28.) It is easily perceived that this rite must have been coeval with the foundation of his religion, and that the apostles every where introduced it and made known its signification. But what the apostles have introduced and preached we learn only by tradition. This tradition, however, tells us that the ordinance of Christ was meant literally. The Lord (proceeds the writer) remained in his church: in the congregations of the Christians, the

body and the blood of the Saviour were offered and tasted in the shape of bread and wine. This was the belief of the church from the beginning; and it cannot be shown that it commenced at any particular time, or supplanted another doctrine. The clearest proof of this, that a similar doctrine, even if it be not the same doctrine of transubstantiation is to be found in all the churches, which long since separated from the Catholic. This rite is in remembrance of the death and the resurrection of Jesus. But how (says the writer) can we sin against the body and the blood of Jesus? How can we take it at all unworthily, if the whole ceremony is a mere act of commemoration? To what purpose would be the admonition, "This is in remembrance of me," if there was no meaning attached to it but that of a participation in the fruits of Jesus' death by an act of commemoration? The memory of Jesus is essentially connected with all the benefits of his religion. Further, as soon as we admit of a real presence of Jesus in the eucharist, we must be ready to concede, also that the bread and wine cease to exist in reality, though they remain still in appearance. That which really exists, is the sacramentally (not visibly) present body and blood of Christ. By a miracle of the Omnipotent, a change is effected, and this we call *transubstantiation*. It has been proved already by Leibnitz, that there is no philosophical contradiction in this, and we find it the principle of a whole philosophical school, the sceptics, to dispute the real existence of appearances. Even the oldest Christian fathers, not only in sermons, but in passages explanatory of their doctrines, and destined for the instruction of the catechumens, expressed themselves in such a way as to show us that the first Christians were not only convinced of Christ's being present through our belief, but also that the bread or wine no longer existed. Justin Martyr, endeavouring to give the emperor a notion of the religion of the Christians, after describing the ceremony of consecration, says, "We eat this not as common bread, and drink this not as common wine; but as Jesus Christ, after having been made man by the word of God, had flesh and blood, so we believe also, that the food consecrated by his words, has become the flesh and blood of the man Jesus." (*Acts 1.*) We know also, the Christians were accused, by the pagans, of eating, in their secret assemblies, the flesh of an infant—a notion which certainly took its rise from their doctrine of the Lord's supper, of which the former might have heard some obscure account. The Christians, in general (continues the writer), kept this doctrine very secret (*disciplina arcani*). If they believed that they received Christ only through faith, it is not easy to see why they made such a mystery of it. But this they did, and instructed their catechumens in this doctrine but a short time before their baptism. The dogma of transubstantiation is as old as the communion itself, and was by no means first set up by Parrisias Radbertus in the ninth century, as is commonly asserted by the Protestants. There is no reason why that real presence should be limited to the time when the Christian receives the eucharist; for Christ distinctly says, "This is my body," and tenders it, on that account to his disciples. And how could it be decided at what moment his presence commences, and when it ceases? The first Christians knew nothing about this limitation. They regarded the consecrated host with feelings of adoration; they partook of it with the utmost awe, and carried it with them in times of persecution, to encourage themselves with the enjoyment of it. Origen, a writer of the third century, says, "You, who are allowed to partake in the holy mysteries, you know how to keep the body of the

Lord you receive, with all caution and reverence (the Christians received it formerly with their hands, lest any part of the hallowed gift fall to the ground; you believe justly that you bring guilt upon yourselves when, by negligence, you drop any part of it.)" Equally strong terms are to be found in Cyril's instructions to the new converts, as well as in the liturgy of all the Oriental and Western churches, the testimony of which is of the greater importance, as it is not the testimony of a few single scholars, but the public profession of entire churches. As soon as the first times, the presbyter of the congregation performed the consecration, the peculiar view of the Catholic church, which considers the spiritual state of a congregation as a sacrificing priest, is expressed. The mass is nothing but this sacrifice, and so far, as old in its essential character as the Lord's supper, though it first received its external addition and form under Gregory the Great. The Lord's supper is a sacrament, which by an external symbol, satisfies the internal man. The Catholic view of communion pervades the whole Catholic religious and ecclesiastical system. This creed of the whole Christian church, the Greek not excepted, as it is represented here, remained uncontested until the eleventh century, when the controversy between the Greek and the Latin churches broke out, respecting the bread to be used in the communion—whether it ought to be leavened or unleavened. Respecting the doctrine of the supper, there arose no dispute till the beginning of the thirteenth century, when the priest Berengarius of Tours denied the doctrine of transubstantiation, but not that of the substantial presence of Christ. The whole church was surprised at this innovation. This gave occasion, in the sixth Lateran council, to a solemn proclamation of the old creed of the church on transubstantiation. The creed continued in full authority, and even Huss did not impeach it; nay, Huss and his adherents were filled with reverence towards the sacrament, and claimed even the cup. It had become customary in latter times, from fear of spilling some part of the blood, to give only the body to the laity, since in the body the blood was contained (doctrine of *communion*). The Hussites, however, believed that the cup was a constituent part of the sacrament, without which the sacrament would not be complete. The church condemned this opinion as a heresy, in the council of Constance, in 1415. By the reformation of the sixteenth century, the whole Catholic system was attacked, as the reformers, rejecting the traditions of the church, took the Bible alone for their guide in matters of belief, and departed, at the same time, from the Catholic theory of communion. If they had left the Catholic doctrine on communion, the priesthood and mass would necessarily have remained too. By what means could the people of the new sect obtain their consecration? It was therefore necessary to establish a new theory of communion; or, rather, it was the natural consequence, since the new church, founded on reason, by which the scripture was to be searched, must surely lose a sense of the Catholic mysteries. In the council of Trent, session 13, are pronounced the following canons, which represent the creed of the church—1. If any one denies that there is contained in the most holy sacrament of the altar, truly, really and substantially, the body and the blood, together with the soul and divinity of our Lord Jesus Christ, and consequently the entire Christ,—if such a one say, that he is contained therein only as in a symbol, *vel figura, vel virtute, anathema sit* (let him be cursed). 2. If any one says, that there remains in the most holy sacrament of the altar, the substance of the bread and wine, together with the life and the blood of

our Lord Jesus Christ, and if he denies that wonderful and miraculous transformation of the whole substance of the bread into the body, and the whole substance of the wine into the blood, whilst there remains only the shape (*species*) of the bread and the wine, which transformation is termed, by the Catholic church, *transubstantiation*—*anathema sit*. 3. If there be any one who denies that there is contained in the venerable sacrament of the altar, under both sorts, and after division has been performed under the single parts of both sorts, the whole Christ—*anathema sit*. 4. If any one says, that, after consecration has been performed, the body and the blood of Christ is not in the miraculous sacrament of the altar, but that this is only during the tasting, neither before nor afterwards, and that there is not in the consecrated host or the particles, preserved or remaining after the celebration of the Lord's supper, the true body of the Lord—*anathema sit*. 5. If any one says, either that remission of sins is the principal effect of the sacrament of the altar, or that no other results spring from it—*anathema sit*. 6. If any one says, that the only-begotten Son of God is not to be adored by external worship, in the holy sacrament of the altar, and to be revered with particular solemnity, nor to be solemnly carried about in processions, after the praiseworthy and universal usage of the church, nor to be presented publicly to the people, and that those who adore him are idolaters—*anathema sit*. 7. If any one says, it is not permitted to keep the holy eucharist in the pix, but that it must be distributed immediately after the consecration to the bystanders, or that it is not permitted to bear it reverentially to the sick—*anathema sit*. 8. If any one says, that the Christ offered in the eucharist is tasted only spiritually, and not sacramentally and really—*anathema sit*. 9. If any one denies that all Christian believers of either sex, as soon as they are arrived at years of discretion, are bound, after the command of the holy Catholic church, to communicate, at least, at Easter every year—*anathema sit*. 10. If any one says, that it is not permitted to the officiating priest to administer the sacrament to himself—*anathema sit*. 11. If any one says, that faith alone is a sufficient preparation for the enjoyment of the holy sacrament—*anathema sit*. The Catholics have still the *præsumen* numen, as a pledge that the Lord remains with their church. See *Corpus Christi*.

LORENZO DE MEDICI. See *Medici*.

LORETTO; a small town in the States of the Church, about three miles from the sea, in the Marc f Ancona, with a bishop, who is also bishop of Recanati, and 5000 inhabitants, who are principally supported by the resort of pilgrims. Pilgrimages are made to the *casa santa*—the holy house in the cathedral of Loretto, which is supposed to have been the house of the virgin Mary, and which was carried by the angels (1291) from Galilee to Dalmatia, and thence, in 1294, to Italy, near Recanati, and, finally (1295), to the spot where it now remains. His holy house, which is in the centre of the church, covered, externally, with marble, and is built of brick. It is thirty feet long, fifteen wide, and eighteen feet high, and richly ornamented. It is also being imitated at other places (for instance, Prague). Loretto formerly contained great treasures, collected from the pilgrims. The income of this house once amounted to 30,000 *scudi*, besides presents received annually. The pilgrims were estimated at 100,000 yearly. Amongst other curiosities, a window is shown in the holy house, through which the angel Gabriel appeared to Mary, when he announced the birth of the Saviour. Raphael's painting of the virgin throwing a veil over the infant beautiful. The treasures were in part, expended

in paying the contributions imposed by the French (1798); the rest was taken possession of by them. They carried the image of the virgin to Paris, but it was restored with great pomp, December 9, 1802.

L'ORIENT; a fortified and regularly built seaport of France, department of the Morbihan, on the bay of Port Louis, at the influx of the small river Scorff. The harbour is large and secure, and of easy access. It has still some trade, particularly with the French colonies, and is a place of importance, on account of its magazines for the use of the royal navy. The principal manufacture is of salt. Population, 17,115; 340 miles W. by S. of Paris; lat. 47° 45' N.; lon. 6° 2' W.

LORME, MARION DE. See *Delorme*.

LORRAINE, CLAUDE. See *Claude Lorraine*.

LORRAINE (*Lotharingia*; in German, *Lothringen*), so called from Lothaire II., to whom this part of the country fell in the division of the empire between him and his brothers, Louis II. and Charles (854), had previously belonged to the kingdom of Austrasia. It was divided into Lower and Upper Lorraine; the former including all the country between the Rhine, the Meuse, and the Scheldt, to the sea; the latter, the countries between the Rhine and the Moselle, to the Meuse. Lorraine, at a later period, was bounded by Alsace, Franche-Comté, Champagne, Luxemburg, the present Prussian province of the Lower Rhine, and the Bavarian circle of the Rhine, containing 10,150 square miles, and at present forming the French departments of the Meuse, the Vosges, the Moselle, and the Meurthe, with a population of 1,500,000 inhabitants. Its forests and mountains, among which the principal is the Vosges, are adapted for the raising of cattle, and contain much game; they also yield copper, salt, iron, tin, and some silver. Salt springs and lakes, abounding with fish, are also to be found. The soil is, for the most part, poor, and not adapted for tillage. The vine is cultivated to a considerable extent. The French and German languages are spoken. The people are of German origin. Lorraine was for centuries a subject of dispute between France and Germany. It was, for a long time, a fief of the German empire. On the death of Charles the Bold, duke of Lorraine, in 1431, without male heirs, the country was inherited by his daughter Isabella. The two grandsons of her son-in-law Frederic—Antony and Claude—founded, in 1508, the principal and collateral Lorraine lines, the latter of which spread in France (the dukes De Guise, D'Aumale, D'Elbeuf, D'Harcourt, belonging to it). From that time forward (1540), France took a decided part in all disputes relating to Lorraine. Charles of Lorraine was driven out, during the thirty years' war, on account of his connexion with Austria. He was restored in 1659, under severe conditions, and, in 1662, he consented that Lorraine should go to France on his death, the house of Lorraine being recognised as princes of the blood. He was, however, again deposed, and died in the Austrian service. His brother's grandson Leopold was recognised as duke of Lorraine by the peace of Ryswick (1697). France finally succeeded in her intentions, when Stanislaus, father-in-law of Louis XV., and the deposed king of Poland, by the peace of Vienna (November 8, 1738), received the duchies of Lorraine and Bar (with the exception of the county of Falkenstein), which, after his death (1766), were united with France. By the second peace of Paris (1815), a small part, with the fortress Saarlouis, was ceded to Germany, and now belongs to the Prussian province of the Lower Rhine. Besides the principal town, Nancy, Lunéville has been distinguished by the peace of 1801. Charles Eugene, duke of Lor-

rine-Elbœuf, born September 25, 1751, at the commencement of the French revolution, commanded the regiment *royal Allemand*, under the title of prince Lambesc, and afterwards entered the Austrian service, and died at Vienna, November 21, 1825. He was the last of the younger line. The elder line now rules in Austria, Tuscany, and Modena. See Etienne's *Resumé de l'Histoire de Lorraine* (Paris, 1825). See also *Hapsburg*.

**LORY.** This name has been given to some of the parrot tribe, from their frequently repeating the word. They have, however, no distinct characters of sufficient importance to separate them from the great genus *psittacus*. They are very active and gay, even in captivity. They are found, for the most part, in the Moluccas, and are held in great estimation in some parts of the East. The most prized is the scarlet lory, which was for a long time unknown in Europe, as the Dutch were at first wholly unsuccessful in transporting it thither; the birds generally died on the voyage. They are now, however, brought across the ocean without much difficulty, and are marked by their tenderness and attachment to their masters. The Javanese appear to have a great predilection for them, and raise them in great numbers. But the most valuable of these birds is the yellow-collared, which is of a deep red colour, with a circle of yellow around its neck. It is principally found in New Guinea. It is very docile and familiar, and has great aptness in learning to speak; this, added to its beauty, and its extreme delicacy, as well as the difficulty of rearing it, renders it very highly esteemed. A single bird has been sold in London as high as twenty guineas.

**LOT;** a river of France, which rises in the department of Lozère, and joins the Garonne, near Aiguillon; length, 150 miles. It gives name to a department. See *Department*.

**LOT;** according to the Hebrew history, a nephew of Abraham, who, to avoid dissensions between his followers and those of Abraham, went east into the plain of Jordan, towards Sodom, while his uncle dwelt in Canaan. Having been taken captive by some marauding chiefs, Lot was delivered by Abraham from their hands. Having received two angels into his house in Sodom, an attack was made upon it by night, by the inhabitants, who were struck blind, and the impending destruction of the city was announced to Lot. He escaped from the devoted spot, with his family; but his wife, looking back at the scene of devastation, "became a pillar of salt," which Josephus, and Benjamin of Tudela, declared existed in their times, and, according to some late travellers, was to be seen not long ago. The text is, by some, understood merely to signify, that she was rendered a statue, that is, motionless, by being incrustrated with salt. Lot afterwards became the father of Moab and Ammon, by his two daughters.

**LOT.** Man often finds it extremely difficult to choose between two measures, things, persons, &c. In such cases, he often allows himself to be determined by some outward impulse. This is, in part, the reason why men appeal to lot. The predominant motive, however, in very many cases, is a superstitious belief of the direct interference of the Divinity in determining the result. Hence we find the lot most frequently resorted to in ages and nations little advanced in civilization, and less guided by reason than by belief in supernatural influences; and hence, too, the religious ceremonies with which the appeal to lot is often accompanied in such a state of society. (See *Divination*.) It would be endless to enumerate the different modes of determination by lot, and the various cases in which men have resorted to this mode of resolving doubts. The Hebrews used to

draw lots before undertaking any important enterprise; also in criminal trials, to determine the question of guilt or innocence; and at the election of officers. Thus the apostle Matthew was chosen by lot. For this purpose, dice or small stones were cast, taken. The holy lot was the *Urim and Thummim*. The Greeks made use of dice, with signs, and words inscribed. These were drawn out of a vase, and interpreted by priests, or the dice were thrown as in games. Such dice were found in many places, and one at Præneste was famous on that account. The northern nations—Russians, Germans, Swedes, &c.—all had their ways of prying into the future by lot. The Moravian Brethren have resorted to the appeal to lot; they used it in the case of surgery, and appointments, in their community, &c. It must be observed that they are not determined by it.

**LOT-AND-GARONNE;** a department of France. See *Department*.

**LOTH;** a German weight, the half of a mark, or the thirty-second part of a pound avoirdupois. The lead used by navigators and mechanics is so called *Loth* in German.

**LOTHIAN, EAST.** See *Haddingtonshire*.

**LOTHIAN, MID.** See *Edinburghshire*.

**LOTHIAN, WEST.** See *Linlithgowshire*.

**LOTICHIUS, PETER** (called *Secundus*, to distinguish him from his uncle), born at Neudamm, in Hanau, 1528, studied philosophy, the sciences of languages, rhetoric, and poetry under Melissus, Casarius, and Melancthon; served in the banner of the Smalcaldic league; travelled in France and Italy; tutor to some rich young men; during the time studied medicine at the most famous universities of both countries, and afterwards received a doctorate at Padua. He died very young, while professor of medicine at Heidelberg, 1560, as it is said, in consequence of a love potion, which was given him at Bologna. His Latin poetry, particularly his epigrams, give him a place among the first modern Latin poets. There are editions of his *Poemata*, by P. Bontius (Amsterdam, 1754, 2 vols., 4to), and by Kuster (Dresden, 1773.)

**LOTION,** in medicine and pharmacy, is a way for beautifying the skin, by clearing it of the humors occasioned by a preternatural secretion. Almost all the lotions advertised for sale, contain much dangerous matter, and therefore ought never to be in recourse to.

**LOTTERY** (from *lot*); a scheme for the distribution of prizes by chance. Lotteries, like every other species of gambling, no doubt have a pernicious influence upon the character of those concerned in them. Though this influence is not so direct, and the intermediate consequences are not so disastrous, as those of some other species of gambling, which call and excite the violent passions, and stake the gambler's whole fortune upon a single chance or exercise of skill—still, as this kind can be carried on secretly, and the temptations are thrown in the way of honest men of all ages, and all descriptions of persons, it spreads more widely in a community, and may thus corrupt the sober, economical, and industrious habits of a people more extensively and deeply, than any other species of gambling which are attended with greater turbulence, and a train of other vices.

Lotteries are of different kinds. 1. *Numerical lottery*, or lotto (*lotto di Genova*); invented by the Venetians. At the elections of the councillors, the names of the candidates were cast into a vase, and then into a wheel-of-fortune, when wagers were laid upon the event of the elections; the state finally undertook the superintendence of the bank. It is said that Benedetto Gentile, a counsellor, first introduced this lottery.

1620; and, because the name *Gentile*, by chance, had never been drawn, the popular belief prevailed, that the devil had carried him off, together with his name, to punish him for this unlucky invention. Numbers were afterwards substituted instead of the names of eligible noblemen, and hence the lotto assumed its present form. The numbers from one to ninety are used; from these, on the day of drawing, five numbers are always drawn. Out of the ninety numbers, each adventurer chooses for himself such and as many numbers as he likes, and specifies with what sum and upon what kind of chance he will back each selected number; whereupon he receives a printed ticket. In this lottery, there are four kinds of chances: 1. An *estrado*, so called, which requires only one number among the five that are drawn, and in which the successful adventurers receive fourteen times the stake. By this the lotto gains sixteen per cent., because there are seventeen blanks to one prize.—2. The *wager*, in which a man lays a wager, as it were, with the lotto, that one of the selected numbers will have the first, second, third, fourth or fifth place in the order of drawing. Should this event happen in the drawing, the bettor obtains sixty-seven times the sum deposited. By this the lotto gains about twenty-five per cent.—3. The third is an *ambo*, in which, of the numbers drawn, there are two which the adventurer has pitched upon. He receives from the lotto 240 times the stake. In this case, the lotto gains thirty-seven per cent., there being 399 blanks to one prize.—4. The last is a *terno*, by which the lotto gains fifty-four per cent., there being 11,347 blanks to one prize. It requires the adventurer to pitch upon three of the five numbers drawn, in which case he wins 4800 times the amount of the stake. The *quaternes* and *quinternes* are a later invention, and seldom applied to practice, because the lotto thereby gains eighty-eight per cent. and more.

The lotto was every where patronized by the multitude, with an interest increasing almost to madness. Wise governments soon saw into the destructive tendency of the lotto, and put an end to it, or prohibited adventuring in it under a severe penalty. Though the profit of the lotto banks was evident, yet fortune, by means of *ternes* and *quinternes*, brought many of them to ruin, or, at least, to its very verge, and hence, if numbers were backed too frequently, the conductors took the precaution to secure themselves, by declaring before the drawing, that such numbers were full, and they could receive no further stake upon them. Frauds, also, were practised, by means of violent riding and carrier-pigeons, on those lottos, the under offices of which, being placed at a distance, were accustomed to sell tickets, after the drawing in the principal offices had commenced.

II. The proper lottery, called also *class lottery*, then divided into classes. Its origin is more ancient than that of the lotto. It has been referred to the *oman Congiaria*. It is more probable that it originated from the transfer of merchandise by lot, of which method the Italian merchants made use even in the middle ages, and of which we also find traces in Germany; for as early as 1521, the council at Nuremberg is said to have established lotteries for merchandise. So also in France, under Francis I., similar lotteries for merchandise were permitted to the merchants, under the inspection of government, in consideration of certain duties. A money lottery is established at Florence, in 1530. In 1571, there appears to have been a public office in Venice for the inspection of the lottery. From Italy, lotteries passed into France, under the name of *blanque* (from the Italian *bianca*, because most of the tickets were made of mere white paper, *carta bianca*). In 1582 and 1588, Louis de Gonzaga established such a

*blanque* in Paris, for providing poor girls of his estates with dowries; and, in 1656, Lawrence Tonti (from whom the Tontines derive their name) sought to establish a large *blanque royale*, which was first accomplished in 1660. Since this time there have been in France only *lotteries royales*, the income of which is commonly applied to public buildings. This iniquitous traffic has been revived of late, in France, on a much larger and more destructive scale than it has attained in any other country. In 1810—and we have no reason to believe any decrease has since taken place—lotteries were drawn twice a week at Paris, and so often at Bourdeaux, Brussels, Lyons and Strasbourg, as to afford one every other day. 12,000,000 francs were yearly produced to government by this public gambling; and it has been estimated, that at Paris, the result has been more than 100 suicides annually. In England, the first lottery occurs in 1567—1568, a printed plan of which, as distributed, belongs to the antiquarian society in London. In 1612, a lottery was granted in behalf of the Virginia company, and, in 1680, one also in behalf of the undertaker of an aqueduct to furnish London with water. In 1709, the rage for private, and, in many instances, most fraudulent lotteries, was at its height in England, and shop-keepers, of all descriptions, disposed of their goods in this way, the price of tickets being as low as half-a-crown, a shilling, or even sixpence. Towards the close of the year, an existing act of parliament was put in force for their suppression, and another to the same purpose was passed in the tenth of queen Anne. The first parliamentary lottery was instituted in 1709, and, from that time till 1824, no session passed without a lottery bill. In October, 1826, the last British lottery was drawn. They are now abolished in Britain. As early as 1549, a lottery was drawn in Amsterdam, to procure money for the erection of the tower of a church, and, in 1595, one at Delft. In 1653, one was established at Hamburg, according to the Dutch method, and, in 1699, the first class lottery, at Nuremberg, and, in 1740, the first one was drawn in Berlin. Most of the late German lotteries are drawn in classes, in order to facilitate the sale of tickets. The great lottery of Hamburg goes upon the plan of one drawing. Laterly, lotteries for merchandise of all kinds, under the inspection of government, have been frequent in Germany. The managers of the principal lotteries sell only whole tickets. Brokers, however, divide them into halves, quarters, eighths, and even sixteenths, in order to facilitate their sale. In some places, they even let out tickets and parts of tickets, upon a particular number of drawings; in which case they are not obliged to pay the prize which may fall to the ticket, unless it be drawn within the stipulated number of drawings. If the principal prizes remain for a long time in the lottery, so that the probability of being able to obtain them increases at each successive drawing, then a great profit is made in buying and selling tickets, and there are cases in which, in the last drawings, ten, and even twenty times the original price of the ticket has been demanded. Very lately, in the Austrian monarchy, in the kingdom of Bavaria, and in the duchy of Mecklenburg, estate lotteries have been got up, and manufactories, the estates of noblemen, and even whole lordships, have been disposed of by lottery, under public sanction, and, ordinarily, under the security of important mercantile houses, which undertook the disposal of the property, in order to settle the debts of the owners. A money lottery has ordinarily been combined with them.

Laterly, lotteries have been combined with state loans. When the credit of the state is low, or when the rate of interest is high, efforts have been made to

induce capitalists to put their money into the hands of the state, by means of a lottery, which gives them the expectation of a premium above the customary interest of the country. For example: If a government is uncertain of obtaining, or cannot obtain, money at seven per cent., it may, perhaps, effect its object by offering four per cent. for a loan, and dividing the remaining three per cent. among the lenders by means of a lottery; for the hope of winning the great prizes in the lottery, in addition to the certainty of disposing of their capital at four per cent., has a stronger influence on many men than the offer of seven per cent. interest. In this way, loans have been raised in Austria, Denmark, Baden and other states, and also in Prussia, in 1821. By this means, in Prussia, stocks to the amount of 30,000,000 were sold at their full nominal value, which, in the market, were current only at seventy per cent.

In most, if not all of the United States of America, lotteries, not specially authorized by the legislatures of the states, are prohibited, and the persons concerned in establishing them are subjected to a heavy penalty. In some of the states, lotteries have been very numerous. This is the case with several of the Southern States—Virginia, Maryland, and particularly Tennessee. They have also been numerous in New York. The object for which they have been granted has been generally the assistance of literary or benevolent institutions—colleges, academies, hospitals, asylums, or of public works—as roads, bridges, the improvement of the navigation of rivers, &c. Their pernicious effects have induced the legislatures of some of the United States to decline granting them in any case.

**LOTUS.** This name has been applied very vaguely to various species of plants which have been celebrated in mythology and fabulous tradition. In the ancient Hindoo and Egyptian mythological representations of nature, the lotus (*Nelumbium speciosum*, Lin.), an aquatic plant, was the emblem of the great generative and conceptive powers of the world. Several varieties are found in India under the names of *padma*, *tamara*, and *camala*. When Vishnu, says the Hindoo fable, was about to create the world, the god, swimming in the ocean of milk, produced the lotus from his navel. It unfolded its flower, and displayed Brahma, the first result of the creative energy. As an aquatic plant, the lotus was the attribute of Ganga, the goddess of the Ganges. In Egypt it was consecrated to Isis and Osiris, and was an emblem of the creation of the world from water. It was also the symbol of the rise of the Nile and the return of the sun. It is found in bas-reliefs and paintings on the Egyptian temples, in all representations of sacrifices, religious ceremonies, &c., and in tombs, and whatever is connected with death or another life. With both of these nations, it was regarded with religious veneration, and the precept of Pythagoras to abstain from beans, has been supposed to refer to the fruit of the lotus-plant. The *rhumnus lotus* is a shrub, the fruit of which is a small furinaceous berry, of a delicious taste, which is used by the natives of Africa to make a sweet cake. This shrub is found on the northern coast of Africa, and is probably the food of the *lotophagi* of antiquity. The fables of the ancients concerning them are well known. They were represented as a mild, hospitable race of men, in northern Africa, who lived on the lotus berry (hence their name *λωτοφάγοι* and *φάγος*, to eat), which had the power of making strangers who ate it, forget their native country.

**LOUDON, or LAUDON, GIDEON ERNEST, baron** of one of the most distinguished generals of Austria in the eighteenth century, was born at Tootzen, in Bohemia, in 1716, and was a descendant of an old

Scottish family, a branch of which had emigrated thither in the fourteenth century. In 1731, he entered the Russian service, and rose to the rank of lieutenant, under Munich, in the campaign against the Turks. In 1739, he was discharged in consequence of the peace, and, intending to enter the Austrian service, went by the way of Britain, where by the advice of some of his former comrades he attempted to obtain admission into the Prussian service. After being kept in suspense for a long time, he became so poor, that he was obliged to support himself by copying. When the king had allowed him to be presented, he told him that he *ne venait pas*. Loudon then proceeded to Vienna, where in 1742, he was made captain in the corps of hussars, under the partisan chief Trenk. In the battle of Saverne, he was wounded and taken prisoner; he was exchanged, and served against France in Great Britain, in the second Silesian war. Trenk again took Loudon the outrages and cruelties which he had himself committed, but the latter defended himself from the charge, and Trenk was sentenced to a prisonment in the fortress of Spillberg. After the peace, Loudon again lost his employment, and was in great poverty. He was at length appointed major in a regiment stationed on the Turkish frontier, where he married, and embraced the Catholic religion. Five years afterwards, the war was again broken out, and Loudon's name was struck from the list of officers destined to serve. This was done by his general, who commanded in Croatia, a man who hated talent; upon which he went to Vienna to complain, but found the authorities prejudiced against him, and was sent back to the frontiers, when a friend succeeded in getting him appointed lieutenant-colonel of a corps of light-infantry. Loudon soon distinguished himself, and was appointed, under the name of Hildburghausen, commander of the imperial line which were united with the French under Sutin. Thus Loudon was obliged to witness the capture of Gotha by the Prussian general Seidlitz, and the defeat at Rossbach. At this time, Frederick the Great sent him a flattering letter, with the commission of general, which his honors had also from an Austrian courier. In 1758, Loudon was made lieutenant field-marshal. He decided the victory of Cunersdorf (q. v.) in 1759, which defeated the destruction of the Prussian army, and was appointed general of artillery, with the command of 30,000 men. In 1760, he gained the battle of Landshut, and covered the retreat of the army of Prussia after the battle of Liegnitz, in so masterly a manner, that Frederic exclaimed—"We must have lost the retreat from Loudon: he leaves the field to a conqueror." In 1761, without any previous appointment, he took Schweidnitz, which was well provisioned and strongly fortified, by a most brilliant achievement for which he was on the point of being called to account before the council of war at Vienna. At the breaking out of the French war of succession, he was appointed lieutenant-in-chief and field-marshal. After the conclusion of peace, he studied diligently during his leisure. When the war with Turkey broke out, Joseph II. thought, at first, that he could conduct the campaign without the assistance of Loudon, but was soon himself obliged to resort to the aged general, and victory returned to the Austrian banner. By the conquest of Belgrade, Loudon recovered the title of the order of Maria Theresa, which was considered as brilliant, and kept in the treasury of the imperial family, and which properly belonged only to the emperor as grand-master. After Loudon's death

the emperor Leopold gave his widow 50,000 florins for it. Loudon also received the unlimited command, and the title of *generalissimo*, which had not been conferred on any one since Eugene. He died July 14, 1790, at his headquarters at New Titschein, Moravia. Loudon continued to study, even in advanced age, and his military boldness seemed rather to increase with his years. In his private life, he was moderate, and extremely modest. The duke of Artemberg, in reply to the question of the empress, if a court party, Where is Loudon? answered—*Le voit comme toujours derrière la porte, tout honteux d'avoir tant de mérite.*

LOUIS IX. (St.), king of France, eldest son of Louis VIII. and Blanche of Castile, born 1215, and baptized at Poissy (for which reason he sometimes wrote himself *Louis of Poissy*), came into possession of the government in 1226, and remained under the guardianship of his mother, who was at the same time regent of France. This is the first instance of the guardianship and regency being united in one person. The queen had, with the assistance of the pope, sought into subjection the independent barons, who, braving at war with each other, disturbed the tranquillity of the kingdom. Louis successfully pursued the enterprise of his mother, summoned to his council the most able and virtuous men, put an end to the abuse of the ecclesiastical jurisdiction, composed the disturbances in Brittany, preserved a wise neutrality in the quarrels of Gregory IX. and Frederic II., and as always intent upon promoting the happiness of his subjects. The wise management of his states enabled him to levy a powerful army against Henry I. of England, with whom the great men of the kingdom had united themselves. Louis had the good fortune, in 1241, to defeat his adversary twice in the course of six days, and to force him to a disadvantageous peace. In the year 1244, when sick of a dangerous disorder, he made a vow to undertake a crusade to Palestine; and neither his mother nor wife was able, four years after, to prevent him from fulfilling this vow. He embarked with his wife, his children, and the French chivalry, landed at Damietta, and in 1249, conquered this city. He afterwards twice defeated the sultan of Egypt, to whom Palestine was subject. He himself performed prodigies of valour, particularly in the battle of Massura (1250). But time and contagious disorders soon compelled him to retreat; his army was almost entirely destroyed, the Saracens, and himself and his followers carried into captivity. The sultan demanded for the ransom of the king and his lords the restoration of Damietta, 11,000,000 gold Byzantines. But Louis answered, "A king of France cannot allow himself to be ransomed for gold." He offered, however, to restore Damietta, as the ransom of his own person, and to pay the sum demanded for his followers. The sultan was so well pleased with this answer, that he contented himself with 800,000 Byzantines (about 100,000 marks of silver, and concluded a truce of five years. (In Napoleon's *Mémoires, Notes, et Mémoires* (vol. i.) is found a comparison between the campaign of Bonaparte in Egypt and that of St. Louis.) It was not till the year 1254, that Louis returned to France, and, in the interval, queen Blanche, who had ruled the kingdom in an extraordinary manner, had died. Louis again turned his attention to the administration of the laws, which, at this time, had been left entirely to the caprice of the barons. The subjects could now appeal from the decision of their lords to four royal tribunals, and new men were introduced into the parliaments, whose members had till now been composed of barons entirely so ignorant as to be unable to write. Louis wisely diminished the taxes, which had exhausted

the wealth of the subjects. In 1269, he drew up a pragmatic sanction, which secured their rights to the chief or cathedral churches. He, nevertheless, repressed, when occasion required, the arrogant pretensions of the clergy. The high character which Louis IX. bore among his contemporaries may be seen from this circumstance, that Henry III. and his nobles, in 1288, selected him for the arbiter of their disputes. After he had united to his dominions several French provinces which had hitherto been under the dominion of England, he determined, in 1270, to undertake another crusade. He sailed to Africa, besieged Tunis, and took its citadel. But a contagious disorder broke out, to which he himself (Aug. 24, 1270), together with a great part of his army fell a sacrifice. The instructions which he left in writing for his son, show the noble spirit which inspired this king; a spirit, which, if it had not been infected with the religious bigotry of the times, would have rendered his administration the greatest of blessings. In 1297, he was canonized by Boniface VIII. Louis XIII. afterwards obtained from the pope that the festival of Saint Louis should be celebrated in all the churches.—See Arthur Reugnot's *Essay upon the Institutions of Saint Louis* (Paris, 1821), and count Segur's *Life of Louis IX.* (Paris, 1824.)

LOUIS XI., king of France; one of those personages who live at a period when old principles are giving way to new, and whose life, therefore, becomes an epoch. But Louis XI. is a subject of great interest, not only as a representative of his age, but in his individual character. A person more ready for crime, if conducive to his ends, or a greater devotee, not for the purpose of deceiving others, but to quiet himself, is not to be found among monarchs. The life of such a sovereign can hardly be treated satisfactorily, within the limits to which we are confined, because it is not particular events, but the policy of his government, and the character of his measures, which render him remarkable. A full view of his life would be a history of France during the fifteenth century; we can give only the outlines. Louis XI. was the son of Charles VII., and was born at Bourges, July 3, 1423. He was educated in a simple manner, under the eyes of his mother, Mary of Anjou, one of the most virtuous women of her time. At the age of five years, he married Margaret of Scotland, who died seven years afterwards. Active, bold, and cunning, he was the reverse of his well-disposed but imbecile father, of whose ministers and mistress, Agnes Sorel, he soon showed himself a decided enemy. In 1440, he left the court, and put himself at the head of an insurrection at Niort, known under the name of *la Praguerie*. Charles defeated the rebels, executed some, but pardoned his son, whom he even trusted, in 1442 and 1443, with the command against the English and Swiss. Louis conducted himself with valour and prudence, and his father became entirely reconciled to him; but, having soon entered into new conspiracies, Louis was obliged to flee to Dauphiné, which Charles left at his disposal. Contrary to the will of his father, he married the daughter of the duke of Savoy, and entertained a treasonable correspondence with the king's court; he is even said to have been accessory to the death of Agnes Sorel. His father, however, obliged him to flee to Burgundy, and he lived five years at Genépe, in Hainault, in a dependent condition. He repeatedly appeared disposed to return, when the king's death seemed to be at hand, but, with the restoration of his father's health, always declined so doing. Charles VII. died in 1461, having, from fear of being poisoned by his son, hardly ventured to eat any thing, and thus lost his life by excessive care of it. Louis now hastened to Rheims to be crowned. He promised pardon



classes. His cruelties were often studied. The children of the duke of Nemours were placed under the scaffold, in such a manner that their father's blood flowed upon them; they were then thrown into dungeons, where they were exposed to great suffering, and their teeth were pulled out at intervals. There was no great man in his reign, and no virtue. Fear supplanted every other feeling. The people were as submissive as galley slaves. On the other hand, he encouraged commerce as much as the ignorance of his times allowed, was extremely active, and attended to everything. The contradictory traits of his character occasioned a singular opposition in his tastes and feelings. He was, at the same time, confiding and suspicious, avaricious and lavish, audacious and timid, mild and cruel. "Towards the end of his life," says Chateaubriand, "Louis XI. shut himself up in *Plessis-les-Tours*, devoured by fear and ennui. He dragged himself from one end of a long gallery to the other, surrounded by grates, chains, and avenues of gibbets leading to the castle. The only man who was seen in these avenues was Tristan, chief hangman, and the companion of Louis. Fights between cats and rats, and dances of young peasant boys and girls, served to amuse the tyrant. It is said that he drank the blood of young children to restore his strength. *De terribles et de merveilleuses médecines*, say the chroniclers, were compounded for him. Yet his efforts could not avert death. Louis XI. was the first French monarch who had the title of *most Christian king*." The principal counsellors of this prince were Philip de Comines, and John du Lude, called, by his master, *Jean des Habiletés*.

LOUIS XII., king of France from 1498 to 1515, called by his subjects *le père du peuple*, was born in 1462. Before his accession to the throne, which took place after the death of Charles VIII., he was duke of Orleans, and first prince of the blood. The lessons of his German mother, Mary of Cleves, and the misfortunes which he underwent at a later period, corrected the faults of his education, which had been purposely neglected, in compliance with the will of Louis XI., (q. v.) On ascending the throne, he pardoned the wrongs which he had suffered before his accession. "The king of France," said he, "must not revenge the injuries done to the duke of Orleans." He showed himself grateful towards his friends. The ambitious Georges d'Amboise, his minister, archbishop of Rouen, and cardinal Legate, enjoyed his full confidence. After the death of this minister, in 1510, Louis took the reins himself. He re-established discipline in the army, and brought the turbulent students of Paris to order—a task which was not without difficulty, on account of their great number, and the privileges which they enjoyed. He much improved the administration of justice, increased the taxes, and would never consent to decrease them, though he was engaged in many wars. The expense of these he supplied by making a number of offices venal, and selling some crown estates. He united the duchy of Brittany never with the crown, by marrying, in 1499, the widow of Charles VIII., the beautiful Anne, duchess of Brittany, the object of his love even before his separation from the excellent, but extremely plain Anne, daughter of Louis XI., whom he had been forced to marry, and who had born him no children. In order to enforce the rights which he inherited from his grandmother, Valentina Visconti, to the duchy of Milan, against Louis Sforza, called *Moro e Sforza*, he sent, in 1499, an army over the Alps, which conquered the duchy of Milan within eleven days; after which Genoa also surrendered to him. In vain did Louis Moro attempt to maintain himself by the assistance of the Swiss; he was taken

prisoner, in 1500, at Novara, and died, in 1510, in confinement at Loches in France. In 1500, Louis XII. concluded a treaty with Ferdinand the Catholic, by which the kingdom of Naples was divided between them. King Frederic of Naples proceeded to France, where Louis gave him a considerable annuity. But Ferdinand possessed himself of the whole kingdom of Naples, and retained it by the treaty of 1505. Louis had promised to marry his daughter Claude to the grandson of the German emperor, Charles of Luxemburg, afterwards Charles V., and to give her Brittany, Burgundy, and Milan as a dowry. But the estates assembled in 1506, at Tours, begged on their knees the *father of his people*, as they called him, to marry his daughter to Francis, count of Angoulême, of the family of Valois. Louis consented; the estates declared the first contract of marriage void, and contrary to the fundamental laws of the realm, and Francis married Claude. Louis now devoted himself particularly to the education of this prince, who was to succeed him (see *Francis I.*), but at first with so little success, that on one occasion he sorrowfully exclaimed, "*Nous travaillons en vain; ce gros garçon gâtera tout*." The league of Cambray (see *League*), established by pope Julius II. against Venice, in 1508; involved France in a new war. Louis now commanded the army in person, and was victorious over the Venetians, at Agnadello, in 1509, where he fought with great bravery. Julius II., however, fearing the power of France in Italy, concluded the holy league (see *League*) with Venice, Switzerland, Spain, and England, against Louis XII., in 1510. In vain did the king, in conjunction with the emperor Maximilian, assemble, in 1511, a council at Pisa, in order to reform the church, in its head and members, and to depose Julius II.; the pope laid an interdict on France, in 1512, and declared Louis XII. to have forfeited his crown. The French armies could not maintain themselves after the death of their general, Gaston de Foix; they were beaten by the Swiss at Novara, in 1513, and retreated over the Alps; after which Maximilian, son of Louis Moro, took possession of Milan, and Genoa made herself independent of France. The Swiss, at the same time, penetrated into France as far as Dijon, and Henry VIII. of England defeated the French, in 1513, at Guinegate (*Journée des Espérons*, because the French made more use of their spurs in flight, than of their swords in fight). Ferdinand the Catholic, also, in 1512, had taken Upper Navarre, which, until then, belonged, together with Lower Navarre, in France, to the house of Albert. Louis XII. now renounced the provinces on the other side of the Alps and the Pyrenees, became reconciled with Leo X., the successor of Julius II., and concluded, in 1514, a general peace with Henry VIII., whose sister Mary he married, after the death of Anne, after which he united his second daughter, Renée, to the archduke Charles (Charles V.) From love to his beautiful wife (only sixteen years old), Louis (then fifty-three years of age), changed his whole mode of life, to the injury of his health, and thus accelerated his death. He died January 1, 1515.—Louis XII. possessed many of the qualities of a good ruler. He was open, honest, economical, just, kind-hearted, and magnanimous; he was a friend of science, and attracted learned men to his country, particularly from Italy; and France owes to him its first scientific collections. He loved to read Cicero's *De Officiis*, *De Senectute*, and *De Amicitia*. Trajan was his model. France enjoyed, under him, a degree of prosperity and security which it had never possessed before. In regard to the foreign relations of the country, Louis had not sufficient talent to oppose the crafty Julius II., Ferdinand the Catholic,

and cardinal Wolsey. His generals, Trivulce, De la Tremouille, Gaston de Foix (nephew of Louis XII.), Bayard, and others, maintained, even in misfortune, the glory of the French arms.—See P. L. Roederer's *Louis XII. et François I., ou Mémoires pour servir à une nouvelle Histoire du Règne de Louis XII. et de François I.* (Paris, 1825, 2 vols.)

LOUIS XIII., surnamed the *Just*, in the early part of his reign, from what cause is not known, was born in 1601, the son of Henry IV. and Maria de' Medici. He ascended the throne May 14, 1610, after the murder of his father. Maria de' Medici, who was made guardian of her son, and regent of the kingdom, squandered the treasures of the crown in forming a party for herself, and departed from the principles of her husband, especially by forming a close alliance with Spain. The troops were dismissed, and Sully was obliged to retire from the court. The princes of the blood and the nobles took advantage of the weakness of the kingdom occasioned by these measures; they rose in rebellion, with the marshal Bouillon at their head. The government was compelled to yield to their demands, and these concessions led to still greater encroachments upon the rights of the crown and people. France became the prey of internal parties and civil dissensions, which the Florentine Concini, marshal D'Ancre, prime minister at that time, was utterly unable to suppress. The disturbances rose to the highest, when the king, in 1615, married a Spanish princess. Henry II., prince of Condé, abandoned the royal party, and took up arms in conjunction with the Huguenots. The king, too weak to oppose this attack, made peace with the prince, but sent him to the Bastille some time after, whereby another civil war was kindled, in which, however, the insurgents had no success, and the marshal D'Ancre, whom the young king hated, being murdered with his connivance, (1617), tranquillity appeared to be again restored. (See *Luynes*.) But when the king, soon after, banished his mother to Blois, new disturbances arose; for the people, who had hated Maria for her tyranny, now took compassion upon her, in her misfortune. The king was obliged to be reconciled with her, and a formal peace was concluded at Angoulême (1619), between the contending parties. But it was hardly signed, when it was again broken. Maria, at the instigation of the bishop of Luçon, again took up arms against her son. A new reconciliation took place, only to be followed by new dissensions. During these disturbances, the Huguenots rose in arms, with Rohan and Soubise at their head; and a great part of the kingdom rebelled against the king, who now delivered himself up to the guidance of the cardinal Richelieu. After victory had inclined, sometimes to one side, sometimes to the other, and both parties felt deeply the necessity of repose, peace was again concluded between the king and the Huguenots (1623). This also continued no longer than the preceding. Rochelle, the head-quarters of the Huguenots, revolted, and was supported by England. The king drove the English to the sea, conquered the island of Ré, and at last (Oct. 28, 1628), Rochelle likewise, which, under the spirited command of the mother of the duke of Rohan, had defended itself for more than a year, and contended with all the horrors of a siege. This siege cost the crown 40 million livres. Afterwards a war arose with the emperor, who had refused to the duke of Nevers the investiture of Mantua. The united forces of the emperor, Spain and Savoy, were again defeated by the French, at Vegliano (1630), and the duke of Mantua confirmed in his possessions by the peace of Chierasco (1630). The only brother of the king, Gaston of Orleans, now revolted against him, in conjunction

with the queen mother. The insurgents were nevertheless, defeated; the duke of Mantua, in alliance with Gaston, was a prisoner at the battle of Castelnaudary, Sept. 1, 1632, taken prisoner, and executed at Toulouse, October 3, of the same year. Gaston received a pardon. In the surviving war with Spain, which continued twenty-five years, being thirteen of which it was waged in Germany, and inclined sometimes to one side, sometimes to the other; yet the king was at last enabled (1659) to expel from the French dominions the Spanish army, which had landed in Provence, and the army which had penetrated as far as Bayona. The events of the following year were yet more favorable to France; but the exhausted state of the country opposed an insuperable obstacle to the progress of the French arms. In this state of weakness, Louis XIII. died, May 4, 1643. During his reign, he had (Aug. 15, 1638) put his personal arms in the kingdom, under the protection of the holy spirit, a day which was long regarded as a festival. His equestrian statue, in bronze, erected in 1702, was destroyed by the people in 1792.

LOUIS XIV., king of France and Navarre, was born Sept. 5, 1638, after a barrenness of seven years on the part of his mother. Being then considered a particular gift of Heaven, he was called *Dieu donné*. He came into the world with a tooth, on which subject Grotius has some good letters. He died Sept. 1, 1715. His mother, Maria Theresa, daughter of King Philip IV., who died July 30, 1683. In the same year he early married Frangoise d'Aubigné, widow of her (madame de Maintenon, who died April 1, 1719). His principal mistresses were Frangoise de la Vallière (see *Vallière*), the marchioness de Montespan, mother of the duke of Maine and of the duke of Toulouse (see *Rochechouart*), and Marie de d'Escorailles, duchess of Fontanges, who died in 1681.

Louis XIV. was five years of age when his father, Louis XIII., died. His mother caused herself to be declared regent and guardian. To Mazarin was entrusted the superintendence of the education of the king, which was much neglected. But although Louis learned nothing from his teacher, the cardinal Péréfixe, he observed much. A deep impression was made on him, during his minority, by the operations of the Fronde (see *Fronde* and *Retz*), and so many different characters in action. Sept. 1, 1651, Louis proclaimed his majority; he then continued at the head of the government till his death, March 9, 1661. From this time, Louis reigned fifty-four years, without any grave source of complete accordance with his own wish—*Je n'ai c'est moi!* From Mazarin he had learned an ambitious policy, and a contempt of the parliament. On one occasion, when Mazarin could not obtain his purpose, the young king, seventeen years of age, entered the hall of the parliament of Paris, armed and spurred, with his whip in his hand, and commanded an edict to be registered. From doing united to surround him with splendor. However, he has not confirmed his taste of great taste, but possessed some royal qualities, perhaps as still as requisite for show. Thus he was enabled to gratify the inclination of the French for theatrical display; he even gave this inclination a permanent duration. His reign was adorned by great statesmen, generals, ecclesiastics, and men of letters and arms. The civil wars had produced the same effect, the revolution afterwards produced, of raising both men of talent and energy, who made the military glory and the splendour of the king the object of their exertions. Louis himself had a taste for a kind

of greatness. "This was," as John Muller says of him, "the source of the benefits which he rendered to the arts and sciences, of the disturbances of Europe, of the violation of all treaties, in short, of the remarkable character of his reign." The king was unfortunately ignorant, and destitute of settled principles. *Il aimait la gloire et la religion*, says Montesquieu, *et on l'empêcha toute sa vie de connaître ni l'une ni l'autre*. His person was vigorous and noble. With handsome features and a tall form he united a peculiar dignity of language and manner. The noble and charming tone of his voice won the ear; but the loftiness of his whole demeanour inspired respect. His kindness never passed into familiarity. One look of his kept the wittling in check. The Spanish gravity, which he inherited from his mother, was tempered by the graces of French politeness. Naturally so grave, that even the oldest courtiers never recollected to have heard more than one jest from his mouth, he loved, nevertheless, gaiety in others, applauded Molière's comedies, and laughed at the witty sallies of madame de Montespan. At his court, which became a model for all the others of Europe, every thing had reference to the king, and tended to augment his dignity. The nearer you approached his person, the higher rose your awe. It was a reverence resembling worship, which was paid to the throne, the person of the king, and the pride of the nation. On the whole, to use an expression of Bolingbroke's, hardly ever as a king played his part better. But a theatrical representation he always would maintain, even in rifles; for example, in his latter years, he never appeared in the presence of any one without his great peruke. But he possessed, nevertheless, qualities which are requisite for playing well the part of a monarch. "The qualities of his mind," says Marmontel, "were justness, solidity, constancy, and application. He united therewith habitual discretion and the seriousness which conceals deficiencies. He was naturally silent, and inclined to observation." Louis had nothing of the hero, but he possessed the art of ruling those who surrounded him. He was no general, but was able to appropriate to himself the reputation of his generals. Resoluteness and energy elevated him, at times, above the restrictions of courtly etiquette. Early in life, he danced the ballets. But hearing at the theatre, when *Britannicus* was performed, the verse in which it was said of Nero, as a reproach, *Il excelle à se donner lui-même en spectacle aux Romains*, he never again danced in public. The manners of his time favoured a natural disposition to gallantry. He loved with enthusiasm, and expressed his feelings with dignity and tenderness. With an excellent memory, his judgment was sound; he knew how to say what was suitable at the right time, and with dignity and delicacy; he understood how to punish and reward with equity. Thus after the widow of Scarron, supported by many friends, had solicited in vain, for several years, her husband's pension of 1500 livres, he gave her a pension of 2000 livres, with the words, *Madame, vous m'avez fait attendre long temps, mais vous avez des amis, que j'ai voulu avoir seul ce mérite auprès de vous*. The following trait shows, that, even in generosity, he had a dash of ostentation. The marquis of Uxelles, having been compelled to surrender Cayenne, thirty-two days after the opening of the trenches, threw himself at the feet of the king, whose pleasure he feared, while he related the reasons for the surrender. "Rise, marquis," said the king; "you have defended the fortress like a man of spirit,

and capitulated like a man of sense." He intimated to the aged Boileau, who had retired to Auteuil, and appeared but seldom at court, that when his health permitted him to come to Versailles, he would always have a half an hour for him. Louis was above the praise of trifles. When De Grammont found fault with a madrigal of the king's, Louis was pleased, that the courtier, being ignorant of the author, had spoken so freely. Boileau, also, ventured to blame some verses which met the king's approbation, and Louis was by no means displeased. "He understands such things; it is his business," was his remark. Low flattery he repelled: thus he rejected the prize-question of the French academy—"Which of the virtues of the king deserves the preference?" By the esteem which he manifested for Boileau, Molière, Bossuet, Massillon, &c., he contributed to inspire the higher classes with a respect for the arts and sciences, and a taste for the society of men of learning and genius. But this was only meant to give splendour to his reign. Corneille and Lafontaine, and the meritorious scholars of the Port Royal, remained unnoticed by him. The great Arnaud, doctor of the Sorbonne, was compelled to live almost entirely concealed, from 1641, and died in exile. Louis was twenty years of age, and devoted to the pleasures of the court and chase, when Mazarin died. "To whom shall we now apply?" asked his secretaries of state: "To me," he replied with dignity; and the handsomest man of the kingdom, who had grown up in perfect ignorance, with his heart full of romantic gallantry, devoted himself sedulously to business and the acquisition of information. In the first half of his reign, he laboured daily eight hours. But his natural pride often degenerated into haughtiness, his love of splendour into useless extravagance, his firmness into despotism. Determined no longer to tolerate Calvinism in France, he said—"My grandfather loved the Huguenots without fearing them; my father feared, without loving them; I neither fear nor love them." He evinced his severity, also, in the case of Fouquet, superintendent of finance, from whom he accepted a *fête*, when he was on the point of condemning him to perpetual imprisonment, in 1661; with equal cruelty he took revenge for his offended pride, on the pope, in 1662. He was, as may be seen from his *Instructions pour le Dauphin*, a despot from religious conviction. As an absolute sovereign, he regarded himself as the proprietor of all the possessions of his subjects, but deemed himself bound to make a wise use of his power. He rarely, however, mistook the extraordinary men who signalized his age and France. He manifested an interest in the advancement of his nation; but, deceived by self-love, he submitted to the influence of others. While he believed himself free and independent, madame de Maintenon exercised the strongest power over him by her talents, piety, and virtue. His credulity went so far, that he assured the nuncio, in 1685, that whole cities, such as Uzès, Nismes, Montpellier, &c., had been converted! While the Protestants were robbed of their property and freedom, he was engaged in splendid hunting expeditions. Two meritorious naval officers, who had taken the liberty to offer some modest suggestions respecting a naval school, were imprisoned for a year, and cashiered.

The reputation of Louis is the work of his ministers and generals. (See *Turenne*, *Condé*, *Luxembourg*, *Catinat*, and *Villars*.) Feuquières raised the art of war into a science. Louvois introduced discipline into the army. Vauban greatly improved the art of fortification. Men like Estrades and D'Avaux, made diplomacy at home in France. Louis himself was capable of negotiating immediately with ambas-

\* John Kettler, of Zurich, cast an equestrian statue of Louis XIV., at Paris, in 1800.

sadors on matters of state. The splendour of the French court, the boldness displayed in the cabinet and the field, the fame of the nation in arms and arts, introduced the French language into the courts of Europe, and from the peace of Nimègue, in 1678, it gradually supplanted Latin, as the official language of states. But Colbert was the chief source of the greatness of Louis and France. That ordering, creating, and sagacious spirit originated the great standing armies of Louis, and imposed this burden on all the governments of Europe; at the same time, he maintained 100 ships of the line, and encouraged manufactures, navigation, and commerce; and the first French settlement in the East Indies was founded at Pondicherry. Colbert developed the astonishing resources of France, in population, natural riches, and national spirit. But, after his death, in 1683, Louvois and Louis plucked the fruit, while they felled the tree. The pride of the king, and the vanity of the nation, seconded the ambition of the despotic minister of war. Notwithstanding all this oppression, disaffection never found a rallying point of resistance. Such gratification did the nation experience in the splendour of a cruel and prodigal reign! Five wars, the revocation of the edict of Nantes (which Benjamin Constant has well termed *l'erreur de Louis XIV.*, *et le crime de son conseil*), the building of Versailles, the hatred of the nations, the battle of La Hogue, and the deep policy of William III. of England, overthrew the power of Louis in the Spanish war of succession. Favourable circumstances, the opinion of the age, and the consciousness of strength on the part of a people not yet corrupted, were all that preserved from downfall the tottering throne of the failing king. Death rapidly snatched away those who stood nearest him; first his only son, then his grandson, with his grandson's wife and eldest son, the hopes of France. The court intrigues, satiety, devotion, and the religious predominance of Maintenon, together with the influence of his confessor, La Chaise, and his far worse successor, Tellier, from 1703, made the heart of the aged king indifferent to the state of his dominions. The proud Louis, who imagined himself competent to every thing, who, after the death of his great minister, selected young men, whom he could guide at pleasure, was, at last, so led astray by his confessor, Tellier, that he caused the constitution *Unigenitus*, drawn up according to Tellier's plan, by three Jesuits, to be issued as a bull, in 1713, by pope Clement XI., who was equally deceived, thus giving the Jesuit party the triumph over their opponents, and, at the same time, producing commotions, which continued for forty years to agitate the church and state. Louis manifested, however, a strength of mind and firmness in death, as well as in the misfortunes which, in his last years, shook his throne and house; for Heinsius, Eugene and Marlborough humbled the pride of France before the Spanish throne was secured to the second grandson of Louis, by the death of Joseph I. and the victory of Villars at Demain. He submitted to all conditions, unless they were dishonourable, but such he rejected with scorn. When Philip was finally established on the throne at Madrid, the partition wall of the Pyrenees was not destroyed, as Louis had hoped, when he said to his grandson, on his departure, *Il n'y a plus de Pyrénées*; and France was burdened with a debt of 2,500,000,000 livres. The plan of attaching Spain to France, in order to counteract the connexion of Britain and Holland (which threatened the French commerce, navigation, and colonies), exhausted France, and laid the foundation of that revolution which was not to terminate till a century after the death of Louis XIV. Grouvelle says, therefore, of him, with justice—"We may

allow him good qualities, but not virtue. The misfortunes of succeeding reigns were, in part, his work, and he has hardly influenced posterity, except for ruin." The same judgment is passed by Madame de Staël, in her *Reflections on the French Revolution*. What is called the age of Louis XIV., as connected with Pericles, Augustus, and the Medici, was the impulse which circumstances communicated to the national genius. Louis, who was at least possessed of a great comprehensive mind, and who was much and laboriously occupied on unpractised genius only as a necessary instrument for his purposes. At Colbert's suggestion, he founded the academy of sciences and that of inscriptions, he improved the French academy, encouraged the writers to raise his reputation and the French language above the hatred of nations, and the force of his influence was wider than that of his reign. His nation gave laws to Europe, in manners and in taste. The tone of French society was a model for the courts of other nations, and corrupted the spirit of the age, while it destroyed morals. It is not, however, to be forgotten, that the expulsion of the Huguenots from France also promoted the diffusion of the French language and manners. The great art of power was the soul of all the other arts in France, and it opened to science itself the avenue to the courts of the polished classes. Pascal, who wrote with reason and delicacy, the sublime Bossuet, and Fenelon, splendid in his humility, the great Corneille, who boldly took his flight above the surrounding barbarism, the unique Molière, the inimitable *faisant*, the calm thinker and spirited satirist, Boileau, the friend of the classical Racine, kindled the love of light and philosophy in France. "Three centuries shook roused," as John von Müller, expresses himself, "the north from the monotonous studies of universities." The fine arts were not neglected. Of Lebrun's epoch of art under Louis XIV., we are reminded by thirty-four paintings by this master in the museum of the Louvre. The French school, particularly Teniers, did not please the king; Le Sueur, Poussin and Mignard were the ornaments of the French school. Girardon was distinguished among the sculptors. Le Notre laid out the splendid gardens of Versailles; Perrault built the colonnade of the Louvre, Hardouin Mansard the dome of the church. Lulli was the creator of French music. A large portion of the great monuments of France, which excite the astonishment of the traveller, had their origin in the reign of Louis. He constructed the wonderful harbours, shipyards and fortifications at Breck, Brest, Rochefort, L'Orient, Havre, Dunkirk, Cherbourg, and Toulon. At his bidding, the canal of Languedoc united the Mediterranean with the ocean.

See Voltaire's *Siccle de Louis XIV.*, the *Œuvres de Simon*, *Œuvres complètes pour servir à l'histoire du Cours de Louis XIV.*, *de la Régence et de Louis XV.*; and the *Mémoires de Dangeau*, as well as those published by madame de Genlis, as they published by Lemonney (Paris, 1818), in *Les Éaux et l'Établissement monarchique de Louis XIV.*, *les Œuvres de Louis XIV.* (vol. I.—VI., Paris, 1807), published by the diplomatist Grouvelle and the count Grimoard, and the *Considérations sur Louis XIV.*, by Grouvelle, contained in the volume, which, although too favourable, are an excellent introduction to the history of this monarch. The *Instructions pour le Dauphin*, of 1661—1688, surprised in that work, are supposed to have been taken down by Pelisson, from the mouth of the king. —The Louis himself did not practise his precepts. He warns the dauphin to beware of the influence of favourites, and still more of the love of the female sex, which tends to divert the mind from business.

These writings, besides other historical matter, contain information respecting the system of corruption practised by Louis XIV., even at German courts, e. g. at Berlin. The *Mémoires* and *Pièces militaires*, which constitute the third and fourth volumes of the work, relate to the campaigns of 1672—1678, and that of 1692. In Grimoard's preface, they are said to be not unimportant for the history of the war. The letters of Louis, in the two last vols. of this work, are mostly of little consequence. The politeness and dignity with which this proud king writes to his ministers and generals are remarkable. This delicate tone was then general, and gave to language and manners that agreeable refinement which made Paris so attractive.

*Political Occurrences during this Reign.* The most splendid period of the reign of Louis XIV. extended from the peace of the Pyrenees, concluded by Mazarin, in 1659, to the death of the great Colbert, in 1683. That peace, however, lasted only till 1665, when Louis, on the death of his father-in-law, Philip IV., king of Spain, laid claim to the Spanish Netherlands, by virtue of the right of *devolution*, as it was called (which was a private law in part of the Netherlands, but could by no means be considered the rule of succession to the government of these states). Holland, therefore, concluded, in 1668, a triple alliance with Britain and Sweden, for the preservation of the Netherlands, of which alliance, although Louis was victorious in two campaigns, the peace of Aix-la-Chapelle was the result. Louis retained, indeed, the conquered places in the Netherlands, but was compelled to abandon his intentions in the country at large, and, as he attributed this to the triple alliance, he resolved on a retaliatory war against Holland, having previously succeeded in separating Britain and Sweden from their connexion with the republic, and uniting them with himself. His war, undertaken without regard to the commerce of France, to which it was very detrimental, and in which Spain, the German emperor and Brandenburg so engaged against France, continued from 1672 till the peace of Nimeguen, concluded 1678 and 1679, in which Holland lost nothing, while Louis IV. received from Spain, Burgundy (the Franche comté), which the king of Spain had previously held, an appurtenance to the circle of Burgundy, under the sovereignty of the German empire, and sixteen places in the Netherlands. Louis lost, in this war, his two greatest generals, Turenne and Condé; the former fell at Sasbach, in 1675; the latter retired in 1690, on account of his feeble health. Louis, however, still had Catinat, Crequi, Luxembourg, Schomberg, and Vauban. After the peace of Nimeguen, would have been politic for Louis to have ceased recruiting, for a while, his plans of aggrandizement; but he renewed, immediately after, the *réunions*, as they were called. In the three treaties of peace, a number of places, with all their appurtenances, had been ceded to France, though it had not been decided what really did pertain to them. Louis, therefore, abolished, in 1680, chambers of *réunions* at Metz and Brisach, whose office it was to accord him, under the form of right, every thing that could be considered any way as belonging to those places. France, in this manner, acquired large districts on the borders of the Netherlands and of Germany. Louis would not gladly have obtained Strasburg, but, as even chambers of *réunions* could start no formal claim to this important place was quietly surrounded by soldiers, and compelled to surrender, in 1681, without blow. Spain and the German empire protested against this act, but both found it expedient, in 1684, to enter into a twenty years' truce with Louis XIV., which this monarch obtained, for that time, besides

Strasburg, all the places reunited prior to August 1, 1681. Meanwhile, Colbert had died, in 1683. From this time, France declined with the same rapidity that it had risen under his administration. The first blow it received, was the revocation of the edict of Nantes, October 22, 1685, after several years' oppressions of the Protestant party, by which measure the kingdom lost 700,000 of its most valuable subjects. To this measure the king was led by the united exertions of the two parties of the court, in other respects opposed to each other—the parties of the minister Louvois and of Maintenon, who co-operated with the generally benevolent confessor of the king, Lachaise. Colbert, to his death, had opposed the adoption of violent measures, which might induce the Protestants to emigrate. France was, soon after, involved in a new war. Several circumstances gave Louis XIV. and Louvois opportunity, in spite of the twenty years' truce, to enter the field anew. The war which Louis now waged from 1688 to 1697, against Germany, Holland, Spain, Savoy, and Britain, was terminated by the peace of Ryswick, in which Louis resigned all the *réunions*, and in addition, ceded to Germany, Brisach, Friburg, Kehl, and Philippsburg, besides all the smaller fortresses erected by France on the German side of the Rhine. Although, throughout the war, Louis was conqueror rather than conquered, he was bent on peace. The exhaustion of his kingdom, and especially the fear that a continuance of the war might frustrate his views on the Spanish succession, compelled him to yield. The death of Charles II., king of Spain, to which Louis had long looked forward, took place at the end of 1700. Louis had already concluded treaties of partition, with respect to the Spanish succession, with Britain and Holland; but Charles II., by a secret testament, had designated the grandson of Louis, Philip of Anjou, as heir of the whole monarchy, to the disadvantage of the house of Austria, in which the inheritance was legitimately vested. On the enforcement of this testament Louis insisted, after the death of Charles, and was thus involved in the Spanish war of succession, 1702—13, which he precipitated by acknowledging the British pretender (son of James II.), in violation of the peace of Ryswick. The finances of Louis were in great disorder; he had also lost many of his great men in the cabinet and field; while on the other hand, his numerous enemies—Britain, Holland, the emperor and the German empire, Prussia, Portugal, and Spain—could oppose to him two of the greatest generals Eugene and Marlborough. France suffered greatly by this war, which was terminated by the treaty of Utrecht, in 1713, and those of Rastadt and Baden, in 1714, brought about by the concurrence of several circumstances favourable to France, especially by the change that took place in the political system of Britain, in 1710, after Louis had several times proffered peace, without success, on account of the hard terms insisted on by his enemies. Louis made, indeed, some concessions to Britain, Holland, and Savoy, but saw his grandson acknowledged as king of Spain, under the name of Philip V. This, however, was connected with the condition of a renunciation, which should prevent the possibility of any future union of the Spanish and French crowns. The internal prosperity of the kingdom was totally ruined by this war, of which the expenses, in the year 1712 alone, amounted to 825,000,000 livres. The great army which he kept on foot, was what chiefly excited and nourished in Louis the love of conquest. He maintained a larger standing army than any other prince of his time. It rose from 140 to 300,000 men. Respecting the policy of Louis XIV. the following is the language of Flassan:—"The cabinet of Louis XIV., notwithstanding the

diversity of talents of his ministers, exhibits, in its most important negotiations with foreign powers, almost always the same character of lofty pretension. The spirit of his policy may be clearly seen in the manner in which he insisted on interpreting the treaties of Munster, of the Pyrenees, and of Nimeguen, and the renunciation of queen Maria Theresa. The means of imparting validity to such arbitrary explanations, were, force of arms, artful diplomacy, expert spies, and corruption. The king expended great sums in securing the favour of sovereigns—Charles II., for example, in Britain—their ministers and mistresses. Against his enemies, he employed, even in times of war, clandestine popular excitements; he encouraged the commotions in Catalonia, Sicily, Britain, Portugal, and Hungary. More than any king before him, he enlarged the boundaries of the kingdom, especially towards the north; by which means, he secured the capital against the accidents of war. Till the battle of La Hogue, May 29, 1692, in which the combined British and Dutch fleet, under admiral Russell, overcame the French admiral Tourville, he maintained the balance of power on the ocean, and made his flag respected by the natives of Barbary and by the most powerful maritime states. On the continent, he held a decided predominance till the peace of Nimeguen, so that he had no reason to fear any coalition of the other powers. To this his connexion with Sweden and some of the small German principalities mainly contributed. He subsequently fell somewhat from this high elevation, but continued to be the first sovereign of Europe, even after his defeats in the Spanish war of succession; for, after he had severed the league formed against him by the peace with Britain, neither Austria nor the German empire could long offer resistance." To this foreign policy, favoured by the weakness and political errors of his neighbours, was added an arbitrary internal administration. The system of police, organised by D'Argenson, in the last years of the reign of Louis, was, in its effects, as formidable as an inquisition.

LOUIS XV., the great grandson of Louis XIV., and son of that excellent duke of Burgundy who was educated by Fénelon, was born February 15, 1710, commenced his reign in 1715, and died May 10, 1774. He married, in 1725, Maria, the daughter of Stanislaus Leczynski (she died in 1768). The History of Louis XV., by Antoine Fantin Desodoards (Paris, year VI., three vols.), and the Age of Louis XV., by Arnoux Laffrey, published by Maton (Paris, 1796, two vols.), do not correspond to what might be expected from French writers, after Voltaire's work on the reign of this king. The memoirs of Duclos, St Simon and others, the History of France in the eighteenth century, by Lacretelle (Paris, 1811, six vols.), and the well known work *La Vie Privée de Louis XV.* (4 vols.), contain important materials for the history of this unworthy and degraded king, who, by his licentiousness, bigotry, prodigality, and despotism, rendered the evils of the state incurable. The age which educated and corrupted him, and on which he and his court reacted in a not less injurious manner, explains not only the origin, but also the spirit and malignity of the revolution. A great part, however, of this fault, falls on the regency, administered by Philip, duke of Orleans, and the cardinal Dubois, till 1723. See *Orleans, Philip of.*

The influence of the age of Louis XIV. on the religious and political notions of the cultivated classes, and especially the increasing power of public opinion in France during the reign of Louis XV., are conspicuous. The characteristic of the age of Louis XV. consists in the intellectual development of the nation, in the splendour and boldness

of new philosophic views, which had so strong an influence on society. From them proceeded the full separation of reason from morality, of the passions from rectitude, and of enlightened ideas from the forms of church and state. The immunities of pleasure, which, from the higher, descended to the lower classes, and was defended or excused by the philosophy of the day, was united with a vicious selfishness, which was awakened by the financial schemes of Law and the regret, connected with fraud, despair, and the bankruptcy of 500,000 citizens. From this love of pleasure and selfishness, proceeded most of the faults and vices of the contemporaries of Louis XV. The moral ideas spread farther and farther, and ate deeper and deeper into the roots of public spirit and every other virtue.

Louis XIV. left his great grandson and namesake with the words, "I have, against my inclinations, imposed great burdens on my subjects; he has been compelled to do it by the long war which I have been obliged to maintain. Love peace, and undertake no war, except when the good of the state and the welfare of your people render it necessary." A much deeper impression should have been made on the mind of the royal child, by the conduct of the people who accompanied the hearer of his boy with insults and the grossest expressions of joy. But what an idea must the boy of six years have formed from the *lit de justice* (the atrocious scenes of despotism), held by the regent, to confirm his regency! How different were the views of his father the noble duke of Burgundy, who intended, as he ascended the throne, to restore to the people their lost rights! In his seventh year, Louis was first placed under the care of men. But to say the marshal Villeroy, was no Montesquieu, Fénelon, or Fénelon. On one occasion, when Louis had recovered from a violent sickness, he always manifested their satisfaction by repeated remarks. The court and gardens of the Tuileries were his. Villeroy carried the king from one viceroy to another. "See them, my king! your people and this people belongs to you; all that you see is your property; you are lord and master of it." The instructor of the young king, the prudent and subtle Fleury, won the confidence of his pupil in a sure manner. A third, who had, however, less shown on the young king, was his confessor, the Jesuit Linières. The cardinal Dubois had refused his appointment to this important office against Fleury's wish and the advice of cardinal Noailles. Fleury, however, acquired the entire confidence of Louis, who, after the death of the regent, in 1723, by his advice of his instructor, appointed the duke of Bourbon chief minister of state, who could undertake nothing, however, without the knowledge and consent of the prelate, then seventy-three years of age. Till now, the king, who entered upon the government himself in 1723, but had hitherto neglected the management of affairs to the former regent, as the minister of state, had shown no will of his own. A Spanish princess of six years had been destined to his wife, and had been subsequently sent back to her parents; the marshal Villeroy had been banished from the court, and the king had married Maria Leczynski, the daughter of Stanislaus, the deposed king of Poland, indifferent and submissive to all these proceedings. But when the party of the duke attempted to get rid of the prelate, and the cardinal Fleury had retired to his country seat, the king insisted on his return with such firmness, that the duke found himself obliged to apply to the prelate, and solicit his return. Soon after, in 1726, Fleury was placed at the head of the administration. He declined the title of first minister, but was, in fact,

such till his death, in 1743. His habit of dissimulation extended itself to the king, in whose private life a great change now took place, probably favoured by Fleury himself. The noble germ which his application and some generous expressions had manifested, was stifled in sensual pleasures and the luxury of a court life. The peaceful Fleury, who endeavoured to restore order and economy, now gave the enervated monarchy a seven years' tranquillity; but he was not sufficiently enlightened to compose the controversy respecting the bull *Unigenitus*. He soon saw himself, contrary to his will, involved in a war. After the death of Augustus II., king of Poland, in 1733, Louis wished to see his father-in-law chosen successor of Augustus, and declared that the freedom of election should be interrupted by no foreign power; but the emperor Charles VI., having concluded an alliance with the elector of Saxony, and supported his election as king of Poland, Louis's plan was frustrated, and a war broke out. After two campaigns, France acquired for Stanislaus, who had fled from Dantzic in danger of his life, the possession of the duchy of Lorraine, by the preliminaries of Vienna, in 1735. After the death of Charles VI., in 1740, the project of marshal Belleisle, to dismember the Austrian hereditary states, plunged the aged cardinal into a war, the success of which was frustrated by the parsimony of the minister, then eighty-years old. The French armies fought on the side of the elector of Bavaria, who laid claim to the whole Austrian monarchy. Britain was on the side of Maria Theresa. The conquest of Bohemia was not accomplished; scarcely could Maillebois, Belleisle, and Broglie, effect the retreat of the wreck of the defeated army from Bohemia and Bavaria over the Rhine. Still greater were the losses of France by sea; for Fleury neglected the marine. After his death, in 1743, the victories of count Maurice of Saxony (see *Maurice*) gave new splendour to the French arms; and, by the peace of Aix-la-Chapelle, in 1748, France regained her lost colonies. But the state was more than ever, exhausted by an unjust and political war. Louis had himself taken a part in several campaigns, and, when he was attacked at Metz by a severe malady, received the appellation of the well-beloved (*le bien-aimé*). The affection for him by the French exceeded his deserts; for Louis became, from this time, more and more unworthy of the public respect, sinking into the gross indolence and sensuality, and abandoning the management of state affairs to the marchioness of Pompadour. (See *Pompadour*.) She was, in reality, the ruler, the monarch being absorbed in his orgies, childish amusements and despotic fears. He bowed himself, without dignity, the sport of petty passions, and the instrument of external influences. The nation, on which so powerless a government could have no effect, followed entirely its restless prices. Contests of public opinion, bold hopes, and new systems, amused and engaged all classes of society. Every one longed for a new and better state; obedience became more and more lax, the wish of change more decided; a few steps more would lead to insurrection. The sensuality of the age put him entirely in the power of the ambitious Pompadour. While she made him lead the shameful life of an Eastern monarch, she sacrificed, according to the caprice of the moment, the honour, wealth, and the prosperity of the state, to those who were able to gain access to her by their attractive abilities. She accustomed the king to the *acquits de vaillant*, or warrants for payment, which exhausted the treasury, and introduced confusion into the accounts. The cost of the *parcours-cerfs*, as it was called,—the most abominable instrument of the

king's voluptuousness,—was defrayed by such *acquits*, which, according to Lacroix, amounted, eventually, to 100,000,000fr. Louis also loved to play deep, and appropriated, for this purpose, a private chest, the losses of which he supplied from the public chest. Those who lost to him were indemnified by lucrative public offices. In order to increase this fund, he engaged in stock-jobbing and in speculations in grain. The rise and fall of the stocks, and the price of corn, interested him in a manner entirely unbecoming a king. He appropriated a capital of ten millions, from his private treasury, to this disgraceful traffic, and even allowed the name of M. Mielavand to be introduced into the state almanack of 1774, among the officers of finances, as *trésorier des grains pour le compte de S. M.* To relieve his ennui, he printed several books, and was even pleased with the celebrated physiocratical system of his physician Quesnay. He called him his *thinker* (*penseur*), listened with satisfaction when he censured the policy of his ministers, but never troubled himself about the application of his ideas. Towards women he conducted himself, in public, with the courteousness of a French chevalier, mingled in their petty quarrels, and played the part of a confidant. He was inquisitive about the intrigues of all the courts of Europe, and, to inform himself respecting them, maintained secret agents, of which his ministers, in many cases, knew nothing. The dignified, manly conduct of the dauphin, the virtues of the dauphiness, made no permanent impression on him. He sometimes, however, seemed to feel remorse, especially after the death of the queen. But he soon sought and found solace in his old pleasures. From the year 1769, he was governed by Du Barry (see *Barry*), who is said to have cost the royal treasury, in five years, 180 million livres. As Louis became older, his bigotry and apathy increased, while he sank deeper in sensuality. His secret debaucheries dishonoured innocence, and poisoned the domestic happiness of his subjects. The public contempt was expressed in satires, caricatures, and songs, to which the people had already become accustomed under the regency. The hatred of the people gave credence to the most exaggerated accusations, and Louis, from fear and aversion, withdrew himself from the public eye. With this carelessness and apathy of the king, the French levity increased continually; every one was engaged with trifles and selfish plans; the most important affairs of state, on the contrary, were neglected. France, at the same time, saw itself involved, in 1754, in a maritime war with Great Britain, on account of the forts on the Ohio, and, as if this contest was of no importance, rashly took the side of Austria against Prussia, in 1756. The shrewd Kaunitz had gained the favour of the vain Pompadour, who was offended by the sarcasms of Frederic II. By her influence, the duke de Choiseul was appointed first minister, in the stead of the abbé Bernis, and, May 1, 1756, a new alliance was concluded with Austria, at Versailles, which was unique in history. The French suffered great losses by sea and land; even their military reputation had declined since the battle of Rossbach, Nov. 5, 1757; and, after seven unhappy years, they had reason to congratulate themselves, when Choiseul concluded a peace with Great Britain at Fontenbleau, in 1762, and the definitive treaty was settled at Paris, in 1763, although France had to relinquish to Great Britain, Canada, as far as the Mississippi, Cape Breton, and the islands Grenada, Tobago, St Vincent, and Dominica, together with Minorca. Louis remained indifferent to all these events. The first time that he saw marshal Richelieu after the conquest of Mahon, in 1756, he

turned to that general, who was adored by the whole nation, with the question, "How did you like the Minorca figs?" The famous family compact of the Bourbons, by which Choiseul hoped, in the course of the war (1761), to unite for ever the policy of Spain, Sicily, and Parma with the French interest, was of no great benefit to France. After the war, Choiseul's ministry was marked by several (often violent) reforms; especially by the expulsion of the Jesuits from France, in 1764, and by the acquisition of Corsica, in 1769. Shortly after, Mme. du Barry, in connexion with the chancellor, Maupeou, effected the overthrow of the duke de Choiseul, and elevated to his post the duke of Aiguillon. The quarrel of the latter with the parliament at Rennes, which had written against him in a violent tone, as former governor of Bretagne, and the refractoriness of all the parliaments, especially with respect to the new oppressive financial edicts, induced the king, in 1771, to banish the members of the parliament from Paris, and, soon after, to abolish the parliaments entirely, which were first re-established under Louis XVI., in 1774, with certain limitations. The notorious edict which the chancellor Maupeou then issued, called the king the sole and supreme legislator of his kingdom, who permitted parliament, indeed, to protest against a new law, but, after two considerations, might demand unconditional obedience. Thus Maupeou made the absolute will of the monarch a constitutional law! A worthy counterpart of Maupeou was the comptroller-general of finances, the abbé Terrai, who impoverished the country, while he received an income of 1,200,000 livres. In proportion as the king was despised at home, the authority of France was lessened abroad. The partition of Poland took place in 1773, without the knowledge of France. After having sunk into a complete nullity, the king, whom no domestic misfortunes, not even his own attempted assassination, in 1757, by a fanatic, Damiens (see *Damiens*), nor the public misery, could restore to consciousness, died of the small-pox, caught of a young girl, by whom the countess Du Barry wished to dispel his melancholy, leaving a debt of 4,000,000,000 livres.

*Age of Louis XV.*—In proportion as the reign of Louis was weak and pernicious to the state, the spirit of the nation rose, awakened by the times of Louis XIV., and by distinguished men in the arts and sciences. In Paris, public institutions arose; palaces and churches were built (for example, the church of St Genevieve, by Soufflot, &c.); the military school of Paris, and the *Champs Elysées*, were laid out in 1751, by the minister of war, count D'Argenson; the intendant, Trudaine, prosecuted, with success, the construction of roads. The commerce of Lyons, and Bourdeaux adorned these cities with regal splendour. Stanislaus Leczynski, who died in 1776, restored the public prosperity in Lorraine, and Pigal executed a splendid monument, which was erected in Strasburg, to the marshal Saxe, who died in 1750. Of the numerous painters of this period, the best were Lemonne and Vernet. But taste degenerated under the influence of a voluptuous court, and art paid homage to luxury. It delighted in empty show, but, at the same time, carried manufactures to perfection. The ingenious Vaucanson applied his talents to the improvement of the Gobelins manufactory. (See *Gobelins*.) Louis XV. himself took an interest in the porcelain manufactory established at Sevres, by the advice of madame de Pompadour. At the same time, he is said to have suppressed, from humanity, a means of destruction, which would have been more formidable than the Greek fire; but this is not historically proved. Enterprising and intelligent men, like La Bourdonnaye, founder of the colonies of the Isle de France and

Bourbon, and even his coloniser, Duplax, extended the commerce of France. Louisiana, Canada, especially St Domingo and the Lesser Antilles, the coast on the Senegal, and the parts of the Levant, supported the French activity, and enriched the treasury. But, by the unjust measures of La Bourdonnaye, the state deprived itself of the advantages arising from the East Indies over Great Britain, and, while France lost Canada and several islands by the manner in which it carried on the war; from 1756–62, it promoted the British power in India. The time was, however, gradually acquired, by its wealth and intellectual advancement, consequence and glory. Public opinion assumed, in the age of Louis XV., the character of levity, frivolity, and blindness, and was afterwards so strongly developed in the revolution. Striking events, such as the trial of the unfortunate John Calas (q. v.), and the execution of the young chevalier De La Barre (q. v.), for many brought new opinions into general circulation. In the evil genius of France waited that the decay of morals and religion, contemporary with the abuse of arbitrary power, with prevalent prejudice and the oppressions of the priesthood, should change to a love of truth, just springing up in France, into a burning fire, and the destructive weapon of knowledge as a two-edged sword; that the *esprit de lumières* should gain possession of the territory of reason, in that brilliant wit should be more extensive than a serious purpose and a solid character. The concurrence of the public misery with women's frivolousness, stifled those improved views, and the scientific cultivation, which Montesquieu was able to whom France was indebted for its moral influence on the higher classes of society, a great part of Europe, exerted themselves to diminish. The ignorant, stupid Louis had no education or all intellectual cultivation. He feared *lumières* wars, and frequently said of them, that they would be a cause of ruin to the monarchy. He, however, followed, in the first part of his reign, the advice of cardinal Fleury, who highly esteemed the crown, and subsequently yielded to the opinion of the court, and especially of Pompadour, who took a pleasure in being denominated the patron of genius, and a man of the excellent. The most powerful and pernicious influence on the spirit of the nation was exerted by Voltaire, who commenced his epistolary career in 1716, with the tragedy of *Edipe*. Louis took an aversion to him, but the marchioness de Mouchy appointed Voltaire his historiographer and gave him the chambers. Meanwhile the performance was manifested by the court towards the poet, which inspired the author of the *Heureux* with a request to residing in Paris. Simultaneously with him, the immortal Montesquieu awoke the power of criticism and of wit in the nation. His *Lettres Persanes* (1721) kindled the spirit of public criticism, and his work *Sur les Causes de la Grandeur et de la Décadence des Romains* (1734) like his *Esprit des Loix* (1734), became a classic manual for the study of politics. About this time, the interest in science felt in scientific subjects, induced cardinal Fleury and count Maurepas to persuade the king to ascertain the truth of Newton's opinion respecting the form of the earth by the measurement of a degree at a high northern latitude and under the equator, which was undertaken in 1735 and 1736, and patronised Cassini's map of France. After 1730, La Fontaine, Rousseau, Diderot, D'Alembert, D'Alambert, and Helvétius are found in the ranks of the great writers of France. The greatest agitation of public opinion was caused by the *Encyclopédie* of Diderot and D'Alembert, against which the clergy, particularly the Jesuits, and the monarch

rose en masse. No less attention was excited by the work of Helvetius, *De l'Esprit*. Even the ladies took a very active part in the contest of philosophy. *Bureaux d'esprit* were formed, and from the philosophical circles at the houses of the baron of Holbach and Helvetius, there proceeded several works in support of materialism and atheism, especially from 1758 to 1770. The most famous of them is the *Système de la Nature*, of which the baron of Holbach is regarded as the author. Religion was shamelessly assailed by a Mettrie, D'Argens, the abbé de Prades, who, banished from France, sought refuge with Frederic II., but whose opinions found reception in France. Condemnation by the *Sorbonne* only excited opposition, and the boldness of the age loved to defend such and splendid errors, if they afforded opportunity for the exhibition of acuteness. No work was more destructive of public morals than Voltaire's *Pucelle*—a talented poem, which the licentious spirit of the times of the regency alone could have inspired. But other men, such as Turgot and Malesherbes, laboured, not without the approbation of the better part of the public, to counteract this pestilence, and saved the honour of sound reason. Such a production is Duclos's *Considérations sur les Mœurs*, of which Louis XV. himself said, "It is the work of a man of honour." Thomas Marmontel, and Laharpe remonstrated loudly against atheism. Voltaire's wit was particularly directed against the Christian religion, fier the duke de Choiseul, in order to have all the voices against the Jesuits for himself, undertook the protection of the philosophers and of the author of the *Dictionnaire Philosophique* (Voltaire). Rousseau sounded the most violent anger of the antiphilosophers, in his *Emilie*. Jesuits and Jansenists united against him, and, notwithstanding the general admiration which he received, he was obliged to leave France. Such was the revolutionary spirit of the age of Louis XV. The contempt for the court and royalty produced by his reign, the exhaustion of the state caused by his extravagance, the rise of a critical and liberal spirit, and the corruption of state and church, gave birth to the revolution, and the debased state of the public morals, poisoned by the example of the court, aimed it with hideous excesses.

LOUIS XVI., who was destined to ascend the throne of France on the eve of a great political convulsion, and to atone with his life for the faults and crimes of his predecessors, was the grandson of Louis V., and the second son of the dauphin, by his second wife, Maria Josephine, daughter of Frederic Augustus, king of Poland and elector of Saxony. Louis was born Aug. 22, 1754, and, in 1770, married Marie Antoinette of Austria. The countess Marsan, a member of the royal family, had a large share in his education, and even after he became king, Louis listened to her representations, of which the abbé Morel relates a remarkable instance in his memoirs. With the best intentions, but entirely inexperienced in matters of government, this unfortunate prince ascended the throne in 1774, at the age of hardly twenty years. He modestly declined the title of *le desiré*, given him by the nation, which he excused on the tax usual on the occasion. After the death of the Dauphin, in 1765, his grandfather had intemperately kept him from acquiring the knowledge connected with his destination; and the countess Du Barry sought to revenge herself for the contempt exhibited towards her by the serious, strictly moral prince, who dearly loved his wife, whom she hated, making him ridiculous in the eyes of the king. The ministers, also, secretly spread the opinion that the prince was severe, and far removed from the indulgent kindness of his grandfather. He was retiring, silent, and reserved, and did not dare to express

his benevolent feelings. His reserve passed for distrust. He felt himself a stranger at a court where he was surrounded by vice under a thousand glittering forms. As he heeded not flattery, he was indifferent to the courtiers. The duke Choiseul therefore said, that, on the most desirable throne of the world, he was the only king who not only had no flatterers, but who never experienced the least justice from the world. In his countenance, which was not destitute of dignity, were delineated the prominent features of his character—integrity, indecision, and weakness. He was injured, however, by a certain stiffness of demeanour, repulsive to the communications of friendship. His manners had nothing of the grace possessed by almost all the princes of the blood. In confidential intercourse alone, he frequently expressed himself sensibly and ingeniously, but blushed if his observations were repeated. Facility of comprehension, industry, and an extraordinary memory, made him successful in his studies; but, unhappily, they had no immediate relation to the duties and knowledge of a prince. He employed himself too assiduously in unimportant particulars. Thus he printed, when dauphin, in 1766, thirty-five copies of *Maximes morales et politiques, tirées de Télémaque, imprimées par Louis-Auguste, Dauphin. Versailles, de l'imprimerie de Monseigneur le Dauphin*. He had himself collected these maxims from Fénelon's work. He was familiar with geographical and chronological details; but the practical lessons which kings should derive from history, were unknown to him, although, while dauphin, he had read several good historical works. A translation, by him, of some parts of Gibbon's History, appeared under the name of Le Clerc de Sept Chenes, his reader. Upright, pious, and indulgent, he was philanthropically disposed, both towards his nation and towards individuals. The virtues of his father, the quiet, domestic life of his mother, had deeply impressed upon him a moral, religious feeling. But his example was destined to show how insufficient, on a throne, are the virtues of a private man. He chose count Maurepas his minister of state, a man of talent and experience, but of little solidity of character, and desirous of shining in epigrams. In the room of the infamous abbé Terrai, he committed the financial department to the enlightened, able, and upright Turgot, who resolved to remedy the abuses of the state by thorough reforms on strict philosophical, and, in some degree, physiocratical principles, and looked upon the privileged orders as the sources of all evil. But the friends of ancient abuses, the high nobility, the court, and the clergy, immediately formed a combination against him. When the parliaments were restored, by the influence of Maurepas, against the judgment of Turgot, the contest of opinion, between old and new views, more than ever embarrassed the government. The count of Vergennes was at the head of foreign affairs; count Mury was minister of war; and Sartine, of the marine. The new theories, which Turgot proposed in the council of state, had, indeed, the approbation of the philosophers: even the talented men and women, whom madame Helvetius, madame Geoffrin, mademoiselle Espinasse, the princess of Beauveau, and the duchess D'Anville, collected around them, took a lively interest in Turgot's liberal plans, which were loudly praised by Joseph II. and Leopold; but his opponents found a support for their resistance in the old parliaments. The most oppressive feudal services, arbitrary exactions, slavery in the mountains of Jura, and the rack, were abolished, and many useful regulations established; but Turgot could not overcome the king's dread of an open struggle with the clergy, the nobility, and parliament. These bodies united against the minister,

and the people, which was on his side, could not, without representatives, afford any assistance against such a league. The foes of the minister stirred up the populace, and, on occasion of an edict declaring the corn-trade free, scenes occurred resembling those which subsequently marked the revolution. The timid and inexperienced Louis believed himself hated by the nation, and was indulgent towards the seditious; finally, by the advice of Turgot and Mury, he acted with vigour, and the disturbances, called, in Paris, *la guerre des farines*, were quieted after the amnesty of May 17, 1775. The coronation of the king, 11th June, 1775, was followed by the appointment of the virtuous Malesherbes as minister. He was the friend of Turgot. Their united influence might, perhaps, have done much towards reforming the old abuses, but, unhappily, the new minister of war, the count of St Germain, was too violent in his innovations. The corps that were disbanded or diminished, and the offended military nobility, loudly expressed their dissatisfaction at the system of innovation, which was disliked, moreover, by the higher classes. "The state will perish," was the general cry, and the parliament refused to register five edicts of the king. Louis resolved, indeed, to maintain his authority, by a *lit de justice*, March 12, 1776; but the queen, a princess who was equally superior to her husband in vivacity of understanding and in wit, and loved splendour and pleasure, supported the opposition together with Maurepas, who was Turgot's secret enemy. Her the king could not resist. He hesitated: the deficit produced by the payment of debts and the expenses of the coronation, in 1775, inspired him with distrust of Turgot's philosophical views. Malesherbes gave in his resignation. Turgot was obliged to follow his example. The privileged party was victorious, but the hatred of the third estate, and the desire of all enlightened and well-disposed persons for a thorough reform, was increased. They did not wish to overthrow the whole system, until the North American revolution threw a fire-brand into this inflammable mass. The day on which Louis concluded the treaty with the United States, Feb. 6, 1778, decided his fate: for the war to which it gave rise, from 1778 to 1782, and which cost France, according to Audouin, 1,400,000,000 livres, accustomed the nation and army to republican ideas, and produced a cureless deficit; this, a meeting of the states-general; and this, the fall of the monarch and monarchy. Louis himself was averse to engaging in this war; but he was outvoted in the council of state, the ministers hoping to establish French commerce on the overthrow of the British.

After Turgot's removal, the extravagance of the court increased: while Louis refused himself any great expenditures he yielded too easily to the tastes of the queen and the princes of the blood. Luxury and splendour made the expenses of the court very great: they played high; they built; they exhibited races; they gratified every whim; and Louis's dissatisfaction, which often withdrew him from these entertainments, was regarded as the indication of an ordinary mind. The regularity of his manner of life, in which study and domestic pleasures were intermingled with business, made no impression on the gay spendthrifts. Louis did not possess the art of inspiring the court and princes with respect. He paid the debts of count Artois. The queen, also, gave herself up to her love of gayety. Taste and love of the arts, clothed in all the humours of the fashion, reigned in the festivals of Versailles and Petit Trianon. Maurepas either did not see whither all this must lead, or, with his characteristic levity, yielded to necessity. Pleasure was his element. He remained the directing minister till his death, Nov. 21, 1781.

sharing the confidence of the king and the timid queen, and with every one who had become a monarch under the appearance of his welfare. The changes in the manner of the court, which was committed, in turn, to Calonne, Necker, Joly de Fleury, and D'Ormesson, the confusion. The existence of great evils was notorious; but the extirpation of their causes was impossible. The demand of a minister who had become an object of great dislike, a *compte rendu*, was considered as a public insult by the third estate, whose favour he sought himself to acquire. Thus, long before the peace of Versailles, in 1783, which brought advantages,—not, however, sufficient to pay the expense incurred,—the frivolous Calonne, and promises, few of which were redeemed, was appointed minister of finance. In foreign affairs he was in the dispute about the Scheldt, Vergennes maintained, though not without sacrifice of the honour of the French crown; but the treaty of 1786, with Great Britain, was deemed a greatest error of his administration, although a consequence of the peace of Versailles. He was also blamed for having rejected the overture proffered by Joseph II., and for thus causing the approximation of Austria to Russia. The king himself betrayed weakness in discussing the matter before the accomplishment of his plan, which had at first approved. It is said that he spent his leisure hours in the labours of a blacksmith and this led him to the use of strong liquor. Drinking and working at the furnace had lost a blood, his understanding was weakened, and, consequently, his natural indolence, with an active corpulence, destroyed his mental activity and produced a phlegmatic indifference. Yet it is known that Louis took pleasure in literary occupations, he engaged with fondness in public enterprises, he framed, with much sagacity, the plan and preparations for Laperouse's voyage round the world in 1786. Several passages in those memoirs express, in a touching manner, the benevolent feelings of this artless prince. He often said: "Laperouse's unhappy fate, with the words, 'I am very well that I am not fortunate.'" His kind disposition made him particularly generous to the poorer clergy. He followed, however, the habit of Louis XV., not to give bishoprics or rich benefices, to any but nobles. He drew a line of division equally unjust, and far more pernicious, which separated the army, in which military rank was confined exclusively to the nobility. The third estate could not speak out; so much the more luxury and violently did the populace complain of the court and higher classes, when, in consequence of the affair of the necklace, the process against the countess of Rolan was commenced in 1785. (See Georgel's *Mémoires*, vol. ii.) The idea of the branded countess De la Mothe and her husband, disseminated the gross calumnies against the queen, which were but too easily credited by the people. By this means the throne was degraded to public opinion; and the duke of Orleans, the implacable enemy of the queen, was accused of being the infamous La Mothe as the trait of La Rochefoucauld in this fermentation of public sentiment. Calonne persuaded the king to convene the *notables*, in order to find some resources for the exhausted treasury. Unhappily, the count of Vergennes died, February 22, 1787, and on the 22d February, the king opened the assembly with a speech, which was not favourably received. The deficit, which the *compte rendu* showed

had stated at 112,000,000, but which was estimated at more than 140,000,000, rendered Calonne's plans suspected. An opposition was formed, and Calonne received his dismissal. Parliament refused the imposition of two new taxes, which would have been burdensome to the large landed proprietors, and demanded the convocation of the estates. The nation heard the proposition with exultation; the court trembled. Louis ventured on a *lit de justice*; but the parliament declared it void. According to Larettelle, a calembourg was the spark which kindled the mine that overthrew the throne, while the mass of the nation, excited by opinions and passions,asperated by hatred and contempt, reduced to desperation by the sight of multiplied wants, and inspired, by the example of America, with the love of freedom, became incapable of restraint or moderation. The king banished the parliament to Troyes. Thus war was declared between the throne and nation. The government, moreover, had acted without dignity in regard to the contest of the Dutch patriots with the hereditary stadtholder in 1787, and thus entirely lost the respect of the people. The king himself manifested a good nature, bordering on weakness, to his nearest connexions, who, like the duke De Coigny, consented only with the greatest reluctance to the restrictions of the royal household. A negotiation was finally commenced with the parliament; it returned; the measures, on both sides, became more violent; the rebellion broke out in Brittany, in June, 1788; the nobility and the officers of the regiment Vassigny, then, for the first time, dared to carry arms against the commands of the king. Even the clergy loudly demanded the convocation of the estates. (Respecting the pernicious artifices of the royalists, in general, much information is contained in Besenval's and Molleville's Memoirs.) The weak prime minister Brienne (see *Loménie*), opposed in all his projects, resigned, and never entered the council, in 1788, as minister of finances. Louis convened a second time the notables, to settle the form of the estates, and the manner of voting. May 5, 1789, the states-general met. Amidst the conflicts of the privileged orders, and the new opinions, the king remained gentle and mild, deserted and alone. "God forbid," said he to the nobility, who would not unite with the third estate, "that a single man should perish for my sake." His sole object, which he pursued with earnestness of purpose, was the common weal; but around him every thing vacillated; how could he show firmness? The democrats hated him as a king; the emigrants and the aristocrats, who remained in France, deemed him incapable of governing. He himself made the greatest sacrifices to the state, even such as endangered his personal security, for instance, the dismissing of his body guard. He could not, nevertheless, escape the most envenomed calumny. Among other things, it was reported that, by a secret act, he had protested against every thing which had been dictated from him in limitation of the ancient royal prerogatives. Meanwhile, even amidst the grossest calumnies, a flattering word was sometimes heard. When Louis XVI. attended the national assembly, February 4, 1790, the national guard of Versailles used a gold medal to be struck, on which was presented a pelican feeding its young with its blood. The device was, *Franceis, sous cet emblème aimez votre roi!* The 12th, 13th, and 14th of July, 1790; the night of August 4; the horrors of the 5th and 6th of October; the flight of the king, June 21, 1791, intercepted at Varennes, sixty leagues from Paris, when Louis, from his hesitation to use force, prevented the success of Bouillé's plan for his escape, and, at the same time, excited public opin-

ion against himself by the declaration which he left behind (see the statement of M. de Valory, in the *Minerve*, November, 1815, and the *Memoirs* of Bouillé and Choiseul); the acceptance of the constitution of September 14, 1791, which declared his person inviolable; the attack of the populace of Paris on the royal palace, June 20, 1792, when Louis, with equal firmness and dignity, rejected the demands of the insurgents, and, on the 22d, openly declared that violence would never induce him to consent to what he considered hurtful to the general welfare; the catastrophe of August 10, to which Louis submitted, because he had not the courage to overcome the danger; his arrest in the national assembly, to which he had fled for refuge; finally, his trial before the convention, where he replied to the charges with dignity and presence of mind—these were the most important events in the history of the king. (See *France, from 1789 to 1814*.) He exhibited, under these circumstances, the courage of innocence, and a strength of mind before unknown in him. As a prisoner of the municipality of Paris, in the Temple, he was denied, till shortly before his death, pen, ink, and paper. (See the *Journal de ce qui s'est passé à la Tour du Temple pendant la Captivité de Louis XVI.*, by Cléry, the faithful servant of the king; and a work on the same subject by Hue, who followed Louis to the Temple.) His usual employment was instructing his son and reading. He preferred Latin authors to the French. He read, almost every day, portions of Tacitus, Livy, Seneca, Horace, and Terence; in his native language, chiefly travels. On the evening before his death, he found that he had read 157 volumes, in the five months and seven days of his imprisonment. He evinced himself a loving husband and an affectionate father. In his private capacity, no candid man can withhold from him his esteem. January 15, 1793, Louis was declared guilty of a conspiracy against the freedom of the nation, and of an attack on the general security, by a vote of 690 out of 719; on the 7th Jan., he was condemned to death, the law requiring for condemnation two-thirds of the votes, having been repealed on the 16th, during the trial, and a bare majority declared sufficient. After repeated countings, it was found that 366 votes were given for death, making, consequently, a majority of five in 727. Jan. 21, 1793, he was guillotined, in front of his former palace, in his thirty-ninth year, the appeal to the nation, proposed by his advocates, Malesherbes, Tronchet, and Desèze, having been rejected, on the 19th, by 380 votes out of 690. He died with the courage of Christian faith. His last words, which asserted his innocence and forgave his judges, were drowned in the rolling of drums and in the cry *Vive la république!* See the Memoirs of the Abbé Edgeworth (the priest who prepared him for death), containing his narrative of the last hours of Louis XVI. (London 1816.)

Even in his youth, Louis manifested a sensibility unusual in the higher classes. He needed not the sight of misery; when he heard it spoken of, he shed tears, and hastened to relieve it. Unknown, he alleviated misfortune in the cottage and garret. When he was first saluted at court, as dauphin, after the death of his father, the duke of Burgundy, he could not restrain his tears. Still greater was his grief at the death of Louis XV. "O God," he cried, "shall I have the misfortune to be king!" His favourite maxim was, "Kings exist only to make nations happy by their government, and virtuous by their example." The establishment of the *mont de piété*, the *caisse d'escompte*, the abolition of feudal services, of torture, and of slavery in the Jura, are only some of his benevolent measures. He caused

the state prisons to be examined, and liberated the unhappy victims of despotism. Louis declared that he would never sign, beforehand, a *lettre de cachet*. His great object was the happiness and love of his people. On his journey to Cherbourg, in 1786, where he had undertaken the construction of the celebrated harbour, in 1784, to which he had appropriated 37,000,000 livres, he received the most unequivocal marks of the love of the French. He wrote, at the time, to the queen, "The love of my people has touched me to the heart; think you not that I am the happiest king on earth?" And in his will of Dec. 25, 1792, he says, "I forgive, from my whole heart, those who have behaved towards me as enemies, without my giving them the least cause, and I pray God to forgive them. And I exhort my son, if he should ever have the misfortune to reign, to forget all hatred and all enmity, and especially my misfortunes and sufferings. I recommend to him always to consider that it is the duty of man to devote himself entirely to the happiness of his fellow men; that he will promote the happiness of his subjects only when he governs according to the laws; and that the king can make the laws respected, and attain his object, only when he possesses the necessary authority." In the same spirit he wrote to Monsieur (Louis XVIII.): "I submit to Providence and necessity, in laying my innocent head on the scaffold. By my death, the burden of the royal dignity devolves upon my son. Be his father, and rule the state so as to transmit it to him tranquil and prosperous. My desire is, that you assume the title of a regent of the kingdom; my brother, Charles Louis, will take that of lieutenant-general. But less by the force of arms than by the assurance of a wise freedom and good laws, restore to my son his dominions, usurped by rebels. Your brother requests it of you, and your king commands it. Given in the tower of the Temple, Jan. 20, 1793." Louis was buried in the Magdalen churchyard, Paris, between the graves of those who were crushed to death, in the crowd, at the Louvre, on the anniversary of his marriage, in 1774, and the graves of the Swiss, who fell on the 10th August, 1792, in his defence. Desoird's work on the history of this prince is of little value. J. J. Regnaud's *Siccle de Louis XVI.* is not impartial. The *Vie privée et politique de Louis XVI., avec un Précis historique sur Marie Antoinette*, Mme. Elizabeth, etc., par M. A., contains little that is not to be found elsewhere. More important are the abbé Georger's *Mémoires pour servir à l'Histoire des Evénements depuis 1760, jusqu'en 1806—1810*, published by the nephew of the author after his death (Paris, 1817, 2 vols.), and Madame Campan's *Memoirs of the Private Life of the Queen, with anecdotes of the Times of Louis XIV., XV., XVI.* (Paris, 1822, 3 vols.); and the abbé de Montgaillard's *Histoire de France depuis la Fin du Règne de Louis XV., &c.* (Paris, 1827, 4 vols., to 1793.)

LOUIS XVII., second son of Louis XVI. and of Marie Antoinette, was born at Versailles, March 27, 1785, and, in 1789, after the death of his elder brother, received the title of dauphin. He was four years old when his mother presented him to the seditious populace of Paris, and carried him to the capital on the terrible 5th and 6th October. Confined with his parents and his aunt Elizabeth in the Temple, his innocent gaiety and affectionate disposition were the chief solace of the unhappy prisoners. On the death of Louis XVI., he was proclaimed king by the royalists, and his uncle (afterwards Louis XVIII.) assumed the title of regent. He was soon after separated from his mother, sister, and aunt, and delivered (1793) to a shoemaker by the name of Simon, a fierce Jacobin, of a gross and ferocious dis-

position, who, with his wife, treated the young pet with the most unfeeling barbarity. Repairs, blows, scanty food, the damps and filth of a cage, and a sleep broken by menaces and torments, were the lot of the innocent child. He was compelled to drink strong liquors, and sing obscene songs, and repeat the atrocious arguments of his tormentor. He survived this treatment until June 8, 1795, when he died at the age of ten years and two months. He was buried in the same grave in the cemetery of Ste. Marguerite, where his remains could not be distinguished in 1812, when impostors had appeared, pretending to be him, among them, Hervagant, a tailor's son, executed in 1812, in prison, and Bruneau, a shoemaker, who in 1818, was condemned to seven years' imprisonment. See Eckard's *Mémoires sur Louis XVI.*

LOUIS XVIII. (Stanislaus Xavier), formerly count of Provence, third son of the king (the son of Louis XV.), born November 17th, married, May 14, 1771, the daughter of Louis Amadeus III. of Sardinia, Mary Josephine Louise, who died in 1810. At the accession of his uncle Louis XVI., in 1774, he received the title of duc de Nemours, and, after his death, became regent of France. After the death of his nephew, June 8, 1795, at which time he reckoned his reign, he took the name of Louis XVIII., King of France and Navarre. But, with the exception of Britain, the rest of Europe did not acknowledge him as king of France before the taking of Paris, March 31, 1814. His brother, Monsieur, count of Artois, an ardent general, became the head of the provisional government in Paris, April 13. Immediately after Louis XVIII. began his reign, by his marriage with Marie Antoinette, May 2, 1814. During the reign of his brother he had taken but little interest in the intriques and the pleasures of the court, and had principally occupied himself with books; his wife had pursued a different course. It is said that, in his youth, Louis had much taste for poetry, and was the author of several tolerably good poems. He translated some volumes of Gibbon's History, and applied himself to the study of the Roman poets and philosophers. The history of his emigration he has written in an agreeable manner, in a work which appeared at Paris, in 1823 (*Relation d'un Voyage à Brême et à Coblenze*, 1791); dedicated to *Stanislaus Xavier de France, son libérateur, Louis Stanislaus Xavier de France, plein de Reconnaissance*, &c. In the first assembly of the notables, in 1789, he sat at the head of the first of the seven bureaux, and appeared on the side of the opposition, against Calonne, *contrôleur général des finances*; at length, he was most violently attacked by the barons, under the presidency of the count of Provence. The people, therefore, looked upon him with horror, and saluted him with cries of joy, when he was freed from the king's orders to compel the registration of some edicts, by the *cour des comptes*. His brother the count of Artois (Charles X.), on the other hand, who did not belong to the opposition, was laden with reproaches. At the second assembly of the notables, November 9, 1788, he came forward himself for the double representation of the nobility estate. During the revolution, it was impossible for him as for the king to escape the attacks of calumny. After the destruction of the Bastille, the king, accompanied by his two brothers, entered the hall of the national assembly, July 12, and declared that he counted upon the love and the fidelity of his subjects, and had, therefore, given orders to the troops to withdraw from Paris and Versailles. But the people of Paris had already proclaimed the count of Artois, who, therefore, left the kingdom.

July 16, with his two sons. He was followed by the princes of Condé and Conti, and the dukes of Bourbon, Enghien and Luxembourg. Monsieur remained. As the people were clamorous for the execution of the marquis of Favras, who had sought means for the escape of the king, and had attempted a counter revolution, in which the count of Provence had taken part, the latter went to the *hôtel de ville*, in Paris, the day after the arrest of the marquis (December 26, 1789), to defend himself in person. He asserted that the only connexion he had ever had with the marquis, was, that he had bargained with him for 2,000,000 of livres, wherewith to pay his debts. The people believed that this money was to have been appropriated to the levying of troops. The marquis was condemned to death, by the *châtelet*, and hanged February 19. At last, the violence of the factions in Paris induced the king, June 21, 1791, to attempt to escape to the frontiers of the kingdom. Louis took the road to Montmedy, and the count of Provence that of Mons. The former was arrested at Varennes; the latter reached Brussels in safety. From Coblenz, he protested against the decrees of the national assembly, and the restraints put upon the freedom of the king. When the king, October 30 and 31, 1791, called upon him to return, the princes issued a declaration, that they regarded the constitution as the work of rebels, and that the king held the throne merely in trust, and was obliged to leave it to his posterity as he had received it. January 16, 1792, the legislative assembly, therefore, declared the count of Provence to have forfeited his right to the succession. The two brothers of the king, at the head of 6000 cavalry, now joined the Prussian army. After the death of Louis XVI. Monsieur, who had previously been residing at Hamm, in Westphalia, lived at Verona, under the name of count of Lille. In 1795, he was proclaimed, by the emigrants, king of France and of Navarre. The calamities which afterwards befell him he bore with dignity and resolution. In the following year, when the Venetian senate, through fear of Bonaparte, obliged him to leave Verona, he declared himself ready to do so, but required that the names of six princes of his house should first be struck from the golden book of the republic, and that the armour, which his ancestor, Henry IV. had given it, should be restored. He now led a wandering life, supported by foreign courts, specially the British, and by some friends of the cause of Bourbon. He first went to the army of Condé, on the Rhine, to serve as a volunteer, but as afterwards obliged to leave it, and went to Dillingen, in Suabia. July 19, 1796, at 10 o'clock in the evening, as he was standing at a window, with the dukes of Grammont and Fleury, a musket ball was fired at him, which grazed his temple. "Never mind it," said he immediately to the alarmed dukes; a blow on the head, that does not bring a man down, is nothing." When the count D'Avary exclaimed, "If the ball had struck a line deeper—" Louis replied, "then the king of France would have been called Charles X." From thence he went to Lachenburg, a small town in the Harz, where he resided under the protection of the duke of Brunswick, and carried on a correspondence with his friends in France, especially with Pichegru. After the peace of 1797, he went to Mittau, where he celebrated the marriage of the duke of Angoulême with the daughter of Louis XVI. When Paul I. refused to permit him to reside any longer in his states, the Prussian government allowed him to remain in Warsaw. While there, Bonaparte, in 1803, attempted to induce him to renounce his claims to the throne. But he answered the messenger of the first consul, February 28, "I

do not confound M. Bonaparte with his predecessors; I esteem his valour and his military talents, and thank him for all the good he has done my people. But, faithful to the rank in which I was born, I shall never give up my rights. Though in chains, I shall still esteem myself the descendant of St Louis. As successor of Francis the first, I will at least say like him—'We have lost all except our honour.'" April 23, the princes concurred in the answer of the king.

In 1805, Louis, with the consent of the emperor Alexander, returned to Mittau; but the peace of Tilsit obliged him to leave the continent, and he, at last, took refuge in England, in 1807. His brother, the count of Artois, had lived in Great Britain, principally in Edinburgh, from 1796. Louis had taken several steps to procure the restoration of his family in France. With this view, he had written to Pichegru, and given him full powers. His letter of May 24, 1796, is a proof of the great confidence which he had in this "brave, disinterested, and modest" general, to whom, as he then thought, "was reserved the glory of restoring the French monarchy." When the army of the prince of Condé, in which, since 1798, the duke of Berri had commanded a cavalry regiment of nobles, first in Russian, and afterwards in British pay, had been by circumstances gradually broken up, and had obtained from the Russian emperor the liberty of residing in Volhynia, the princes of the Bourbon family ceased to take an active part in the operations of the war. Louis XVIII., until the conclusion of the great struggle, remained in England, where he lived at Hartwell, in Buckinghamshire, in a very simple manner, occupying himself partly with the Roman classics, especially Horace, of whom he translated much, and retained in memory a large part, and partly with political studies. That he resembled in character his unfortunate brother, we know from several examples of his kind feelings. Soon after the disastrous expedition of the French to Russia, he wrote to the emperor Alexander a letter, recommending the French prisoners of war, as his children, to the magnanimity of that monarch, and he refused to join in the rejoicings in England, for he could not but mourn the death of so many Frenchmen. When the allies invaded France, the count of Artois went to Bale, February 2, 1814. His eldest son, the duke of Angoulême, had gone to join Wellington. They published a proclamation from Louis XVIII. to the French, dated Hartwell-house, 1st February, 1814, which induced a party, first in Bourdeaux, and afterwards in Paris, to declare for the Bourbons. The king promised entire oblivion of the past, the support of the administrative and judicial authorities, the preservation of the new code, with the exception of those laws which interfered with religious doctrines; security to the new proprietors against legal processes; to the army, all its rights, titles and pay; to the senate, the support of its political rights; the abolition of the conscription; and, for himself and his family, every sacrifice which could contribute to the tranquillity of France. Soon after the dissolution of the congress of Chatillon, the count of Artois entered Nancy, March 19. But the duke of Angoulême first saw the lilies of the Bourbons planted on French ground at Bourdeaux, March 12.

The restoration of the Bourbons was a subject first brought strongly home to the French, at the time of the entrance of the allies into Paris, by the declaration of the emperor Alexander, March 31, that they would treat neither with Napoleon nor with any member of his family. Talleyrand, Jaucourt, the duke of Dalberg, Louis, and De Pradt contributed not a little to this in an interview with Alexander, the king of Prussia, Schwartzemberg, Nesselrode, Pössa

di Borgo, and Liechtenstein, March 31, by the assurance that the restoration of the Bourbons was the wish of a large majority of the nation. (See De Pradt's *Récit historique sur la Restauration de la Royauté en France*, le 31 Mars, 1814.) The senate now appointed a provisional government under the presidency of Talleyrand, which, April 3, gave the authority of a law to the resolve of the senate of April 2, for the deposition of Napoleon, and published in the *Moniteur* the project of the constitution of April 5, according to which the Bourbons were to be recalled to the throne. A decree of April 4, also intrusted the government to the count of Artois, until the moment when Louis, called to the throne of France, should accept the constitution drawn up for the kingdom. Louis XVIII. now left Hartwell, and reached London, April 20, whence the prince regent (George IV.) accompanied him to Dover. From Dover, the duke of Clarence (now William IV.), April 24, conducted him to Calais. With Louis landed also the duchess of Angoulême, the prince of Condé, and his son, the duke of Bourbon. Upon landing, he pressed the duchess of Angoulême to his heart, and said, "I hold again the crown of my ancestors; if it were of roses, I would place it on your head; as it is of thorns, it is for me to wear it." The memory of his landing upon French ground, is perpetuated by a Doric column of marble erected at Calais, and the trace of his first footstep is carefully preserved in brass. The king remained some days in Compiègne, where, as at St Ouen, he received deputations from the authorities at Paris. He was welcomed at St Ouen by the emperor of Austria, and at Compiègne by the emperor of Russia. From St Ouen, May 2, he issued that remarkable proclamation, by which he accepted the most essential part of the constitution of the senate (April 5), in twelve articles, but submitted the whole, as being too hastily drawn up, to the revision of a committee of the senate and legislative body.

May 3, Louis made his entrance into Paris. The hopes of all now rested upon him. In compliance with the will of his unhappy brother, who had commanded forgiveness, he solemnly declared "that all examinations into opinions and votes, until the time of the restoration, are forbidden. The same oblivion is made the duty of the courts of justice and of the citizens." He formed his ministry of members of the former provisional government, and of zealous royalists, such as the chancellor D'Ambray. One of his first ordinances related to the continuance of the oppressive taxes (*droits réunis*), which the state of the kingdom rendered necessary. It had been promised that they should be abolished, but it was only possible to ameliorate the mode of their collection. He afterwards concluded peace with Austria, Russia, Britain, Prussia, Spain, Portugal, and Sweden, at Paris, May 30, 1814, and caused a constitution to be drawn up. Although his ministry too little understood the spirit of public opinion, yet, by prudence and firmness, it was able to restrain the disaffected. It inclined to the old prejudices, and fulfilled none of the just expectations of the nation, with regard to the freedom of the press, and the prevalence of liberal ideas. The old royalists, as well as the partisans of the empire, had been deceived in the dreams of their pride and covetousness. The former thirsted for revenge, and aspired to regain their lost advantages. The latter, including the soldiers of Napoleon, 100,000 of whom had returned from captivity, were indignant at the disgrace of the French arms. After the proclamation of peace, Louis caused his chancellor, D'Ambray, in his presence, to lay before the legislative body and the senators the constitution of the kingdom (*la charte constitutionnelle*), June 4, it

having been already approved by nine senators and nine deputies, after it had been drawn up by three ministers D'Ambray, Montesquieu and de Rand. It was unanimously accepted as the constitution of the king, and recorded. (See *France*, *monarchie*.) The chamber of deputies, which was established by this instrument, requested the king to take the name of "the desired," *Louis le Désiré*. When the chamber was occupied with fixing the order of the throne, Louis answered the deputies, "Let them call me the state, and neglect me." The king appeared from the new and old nobility, from the marshals, 151 members of the chamber of peers, fifty-three of the former senators, among whom twenty-three foreigners, were not appointed by the king; others were excluded, as (Caumont, Fesch, Fouché, Grégoire, Roederer, Séguin) were retained, however, their property, and the war of those who had died received pensions. It was to be expected, that men who had voted in favour of Louis XVI. could now be peers of France. The king gave his full confidence to his minister X. de Blacas, and the chancellor D'Ambray. The former the five secretaries of state, (the minister of foreign affairs—Talleyrand—of the interior, of war, of finances, of the navy), and the directors-general of the police and the post-office, together with the counsellors and the *maîtres des requêtes*, sent to the king's council, to which were admitted distinguished men of the old and new nobility, and the known officers, together with some whose only claim was that they had shared the sufferings of Louis. The new relations with foreign powers were regulated by Talleyrand with his usual ability, and at the same time dignity and a proper regard to the pride of the king. His diplomacy now professed great respect for the rights of the people. On the other hand, the minister of the interior, abbé Montesquieu, did not succeed in gaining the public opinion in favour of the Bourbons. Still less did the minister of war, general count Dupont, succeed in gaining the favour of the army, which hated him. His successor, Soult, contributed much, by his own measures, to excite the anger of the army against the king.

The personal mildness of Louis XVIII. and his love of justice, were often betrayed, in spite of the judgment which he frequently showed, into dependent and inconsistent measures. He was accused of surrounding himself with the leaders of the Chamber and with emigrants, and admitting them to precedence to all others, into the royal guard. The king was exasperated by the diminution of the number of the members of the legion of honour, and the order which had placed so many officers upon half pay. The chamber of peers, composed mostly of the nobility, and attached to their old prejudices, thus thwarted the better views of the chamber of deputies. The chancellor D'Ambray showed great weakness in favouring the privileged classes, and was careless of the duties of his office. The count Blacas, his acquaintance with France, was hated by the press. The censorship of the ministers limited the freedom of the press, while libels were promulgated against men who had displeased the government. In consequence of a political reaction, thirty honorable names were struck from the list of members of the national institute. Hired or functional writers maintained that the sale of the national domains was invalid, and that the crimes of the revolution were not to be pardoned. The restoration of titles and the old privileges was openly talked of in the country. The ordinance of Blacas with regard to the Sunday police excited so much ill feeling in Paris, that it was found necessary to repeal it. The jour-

hibition of masked balls during Lent, caused still greater dissatisfaction; and the obstinacy of the curate of St Roch, who opposed the burial of a celebrated actress in consecrated ground, exasperated the people against the priests. In short, every thing appeared to confirm the warning of Lally-Tollendal:—"But one more act of madness was wanting to France; and that we now have; we see the throne of the king shaken by his friends." Against the *pure*, or, as they were afterwards called, *ultra* royalists, were united the republicans and the military and constitutional royalists. In the midst of all this, Napoleon returned from Elba.

To understand the events of March, 1815, it is necessary to call to mind what the majority of the nation expected of Louis XVIII. (See Comte and Dunoyer's *Censeur ou Examen des Actes et des Ouvrages qui tendent à détruire ou à consolider la Constitution de l'Etat*; and the *Examen rapide du Gouvernement des Bourbons en France, depuis le Mois d'Avril, 1814, jusqu'au Mois de Mars, 1815*.) The nation wished, 1. to have its political liberties secured, or the right of being represented by deputies, chosen by the people; 2. the personal liberties of the individuals, or security from prosecutions for imaginary crimes, or contrary to the legal forms; 3. the equality of citizens in the eye of the law, and the rights of all to obtain any civil and military dignity, by merit and talents; 4. the abolition of feudal services; 5. the right, in criminal accusations, to be judged by a jury; 6. the independence of the judiciary upon every other power in the state; 7. the right of levying taxes by their representatives, and on all in proportion to their property; 8. the right of every individual to exercise any means of gaining a living which did not interfere with the rights of other citizens; 9. the right of every one to communicate his thoughts to his fellow-citizens, by public writings, being responsible only to the law; and, 10. the right of every one to perform divine worship in his own way, without molestation. But instead of satisfying the demands of the nation, the Bourbons, it was maintained by the parties above mentioned, had sought to destroy public opinion, and had thus lost the attachment of the French. The following grievances were particularly complained of: 1. the abolition of the national colours; 2. the surrender of all the fortresses beyond the ancient frontiers of France, to the king, by Monsieur, as lieutenant-general, April 23, 1814 (with these fortresses he had given up 13,000 annons, and had thus caused the loss of Belgium, and of the left bank of the Rhine); 3. the royal declaration, whereby the new constitution had been imposed upon the nation by virtue of the royal pleasure and prerogative, while it ought to have been proposed to it for acceptance (from the form used for this purpose, it would follow, that every successor of the king might abrogate or alter the charter at will); 4. the stain upon the national honour from the king's declaration that he owed his crown to the prince regent of Britain; 5. the exclusion of many respectable members of the state from the chamber of peers, and the filling their places by others, who, for twenty years, had borne arms against France; 6. the neglect to abolish the *droit réuni*, and other vexatious taxes; 7. the restrictions on the freedom of the press; 8. the persecutions of the holders of the national domains, and the expressions of the minister, count Ferrand, on this subject in the chamber of deputies; 9. the libels against those who had taken part in the revolution, though these were forbidden by the constitution; 10. the exclusive appointment of the old nobility to *ambassades*; 11. arbitrary taxes, imposed without the

consent of the legislature; 12. the great influence of priests, &c. It ought to be observed, however, on the other hand, that Louis XVIII. had provided for the personal security of the subject by the independence of the tribunals, and the responsibility of the ministers; though the law on the latter point had not yet gone into effect when the revolution of March began. But the ministers should have forgotten their old ideas, and ruled in a popular manner. Henry IV. had, when he ascended the throne, changed his religion, and thus obtained the love of his people.

Napoleon at Elba was fully informed of the troubles in France, and the divisions at the congress. His appearance in France, March 1, 1815, was like a thunderbolt to the army and the nation. The state of popular feeling was entirely unknown to Louis. Those who surrounded him, as ignorant as himself, still deceived him with accounts of the devotion of the army, and of desertion among the soldiers of Napoleon. The defection of Labédoyère and Ney finally opened the eyes of the king, but it was too late. He was obliged to flee from Paris, in the night of March 20, after having dissolved the two chambers on the 19th. On the evening of March 22, he reached Lille, whence he issued several decrees, forbidding all levies and contributions for Napoleon, and disbanding the rebellious army. Twenty-four hours after, he was obliged to leave Lille, to avoid falling into the hands of his enemies, and went by Ostend to Ghent. The duke and duchess of Orleans, the old prince of Condé, the count of Artois, and the duke of Berry, hastily left Paris. The duke of Bourbon remained in Vendée, and the duke and duchess of Angoulême in the south of France. Their object was to awaken a popular sympathy in favour of the king. An army was, indeed, formed in Vendée, and the duke of Angoulême levied troops; but, deserted by a part of them, and surrounded by the generals of Napoleon, he was obliged to conclude the capitulation of Pont d'Esprit, April 8, in consequence of which he embarked, April 15, at Cette for Barcelona. The duchess of Angoulême, whose fortitude had been the subject of admiration, showed at Bourdeaux, the courage of a heroine. The city and the people were devoted to her, but the troops favoured the advance of general Clauzel, and the duchess was obliged to embark for England, April 2. Besides the ministers and several officers, marshals Berthier, Victor, Marmont, and the duke of Felire, followed the king. The number of his followers amounted at last to a thousand. While in Ghent, he issued an official paper, the *Journal Universel*, which contained several pieces by Chateaubriand. In the meanwhile, Talleyrand, at Vienna, was actively engaged in the cause of the king, and Louis was included in the league of March 25, against Napoleon. When the allies invaded France, Louis XVIII. returned and went to Cambray. He here proclaimed a general amnesty, with the exception of traitors, and promised to avoid all the faults he had committed in 1814, from ignorance of the new spirit of the nation, and to dismiss Blacas. In the meanwhile, the chambers, convoked by Napoleon, had appointed an executive commission under the presidency of Fouché, and deputies who were to negotiate with the allies upon the basis of their independent right to choose a form of government; but the allies would not consent to this. Blucher and Wellington besieged Paris, and Fouché, who had already induced Napoleon to leave France, put a stop to the shedding of blood, by the capitulation of Paris, July 3. Louis was thus again restored to the throne of France. July 7, the Prussians and British entered Paris, and on the afternoon

of the 9th, Louis followed, under the protection of Wellington. The king immediately appointed his new ministry, at the head of which was Talleyrand, and in which Fouché was minister of police. The most declared partisans of Napoleon now lost their places. July 13, the former chamber of deputies was dissolved, and a new one summoned. See *Chambre Introuvable*.

Among the most decided measures by which the king sought to support his throne, was the ordinance of July 16, disbanding the army, according to the wishes of his allies; which Macdonald effected with great prudence. To form a new army, 4000 officers were appointed, in part of those who had escaped the conscription; and according to the edict of May 20, 1815, of the half-pay officers of the army of 1815, only those were appointed who had served for fifteen years or more, and, consequently all French soldiers, since 1803, were made incapable of service. Yet the constitution of 1814 had secured to all officers the preservation of their rank and their pensions. An ordinance of July 24, 1815, designated the rebels who were excluded from the amnesty. According to this, nineteen generals and officers, Ney, Labédoyère, the brothers Lallemand, Erlon, Lefevre, Desnouettes, Ameilh, Drouot, Brayer, Gilly, Mouton Duvernet, Grouchy, Clauzel, Laborde, Debelle, Bertrand, Cambronne, Lavalette and Savary, were to be arrested and brought before a court-martial. Thirty-eight others were exiled, according to a resolution of the chambers, including Soult, Carnot, Excelmans, Bassano, Vandamme, Lamarque, Lobau, Barrère, Arrighi, Regnault de St Jean d'Angely, Real, Merlin de Douay, Hulin, the poet Arnauld, colonel Bory de St Vincent, Mellinet and others. Twenty-nine were degraded from the peerage, as Lefebvre, Suchet, Angereau, Mortier, Cadore, Piacenza, &c. A few excused themselves by proving that they had not received from Napoleon a seat in the new chambers. Of the rebels, towards whom many circumstances recommended mercy, Labédoyère was shot August 19; Ney, December 7, 1815; and Mouton Duvernet, July 26, 1816. Lavalette escaped from prison, December 21, 1815; Drouot and Cambronne were released; the greater number took refuge in flight; some, like Debelle, were pardoned; others, as Dejean the son, Laurence, Gamon, Alquier, Dubois-dubai and Grandpré received, in 1818, permission to return. In the mean while, the royalists, who called themselves *rectilignes*, obtained greater influence. The princes were dissatisfied with Fouché's appointment to the ministry. At the same time, he made himself obnoxious to the allies by his reports to the king on the new state of France. Talleyrand and Fouché, though devoted to the cause of the king, were looked upon by the royalists as men who ought not to be admitted to authority in the new system of things. Thus a change in the ministry took place, September 25, 1815. Fouché was dismissed, and, in order to please Russia, the duke of Richelieu was made minister of foreign affairs in his place. Decazes became minister of police, Corvetto, of the finances, and Clarke, duke of Feltre, minister of war, &c.

The ultra royalists now raised their heads. The state of things before 1789, alone appeared legitimate in their eyes. The election of the deputies was made accordingly, and many of those elected were but twenty-five years old, though forty was the legal age. A change of the constitution was openly talked of. On the other hand, the partisans of the fallen government, excited by the ultras, began to form conspiracies; but for their speedy punishment prevotal courts were introduced, which, however, were abolished in 1818. Decazes discovered several con-

spiracies, among which, however, that under Dalar alone broke out, in May, 1816, in the vicinity of Grenoble. The numerous arrests attracted attention, and several foreigners, as the Prussians who favoured Lavalette's escape, Lord Kinnaird (in a letter to Lord Liverpool), and the Polish count Wolkowski, complained of the arbitrary conduct of the French police. It excited great dissatisfaction that the duke of Richelieu, as minister, in the rank of peer, had availed himself of the extreme rigor of the law in procuring his condemnation. Among the peers, the duke of Orleans (*Louis Philippe*) took a milder tone. When an address of thanks to the king, written by Chateaubriand, was read in the house of peers, the duke proposed to change the passage in which traitors were given up to the justice of the king, so as to recommend the persons there named to the mercy of the king. The censors of the press would not allow his speech to be printed as to the duke, for whom a party was already forming, though without his own consent, soon after (October) he came to England. Richelieu now concluded with the allied powers the treaty of November 30, 1815, of France), which embarrassed the finances of the kingdom, since, from December 1, 1815, France was bound to pay 144,000,000fr. yearly, towards 70,000,000fr. which had been the expenses of the war and 130,000,000fr. for the support of the army of occupation. A violent dispute soon after arose in the chambers on the subject of the law of amnesty. The royalists, January 6, 1816, proposed some changes, which extended and rendered more severe the propositions of the king. All the ministers of Napoleon were, under pain of death, banished from France; they lost the property conferred upon them and were obliged to sell what they had kept. Those, also, who had voted for the death of the king (*régicides*), and those who, in 1815, had received offices or honours from the usurper, or had acknowledged the Additional Act to the constitution, were banished from the kingdom, and forfeited all their civil rights, and the titles, estates and pensions, which had been conferred on them. Of 366 who had voted for the king's death, 163, who were still living, were banished from France. Three only—Talleyrand, Richelieu and Richard—were allowed to remain. Violent measures were taken against the rest of the expected anti-Bourbonists (among others a captain was imprisoned on suspicion, for having named to him *Cossack*), the public authorities did but strive to restrain the commotions at Nismes, and the department of Gard, where political and religious fanaticism had caused the persecution and murder of the Protestants, in 1815 and 1816. The name only was heard in the chamber, in the case of the Protestants—that of the noble D'Arques; but Trétailions, who was universally known to be a murderer, remained unpunished. (He died in 1816.) The victory in the chambers gradually awakened the royalists, who were called *exagérés*, or *ultras*. The king, therefore, closed the session, April 28, 1816, after a law, prohibiting dissent, had been passed. Lainé, the former president of the chamber of deputies, was appointed minister of the interior, and, with Corvetto, Richelieu, and Decazes, headed the ministry, the constitutional majority; the minister of the marine, Dubouché, appeared to join them, so that the chancellor, D'Ambray, and the minister of war, Feltre, alone possessed the confidence of the ultras. (In September, 1817, marshal St Cyr took the place of the latter; count Moit, a peer of France, the place of Dubouché; and, afterwards, Louis Roy, the place of Corvetto.)

In the midst of continual seditions in France, the majority of the ministers, supported by the ultras

of the Russian ambassador, Pozzo di Borgo, and of Wellington, succeeded in obtaining from the king the ordinance of September 5, 1816, by which he dissolved the chamber of deputies, and ordered that the new members should all be of the lawful age of forty. At the same time, he declared that the constitution should be subjected to no alteration. This victory of the constitutional party gave a check, for a time, to the ultra royalists, to whom Louis XVIII. himself did not appear to be enough of a royalist, and silenced, for some time, their *Vive le roi, quand même*! The organ of that party, Chateaubriand, in his work *De la Monarchie selon la Charte*, reproached the government with having taken away personal liberty and the liberty of the press. He was even bold enough to maintain, that that ordinance was contrary to the wishes of the king. The elections for the new chambers were such that the constitutionalists could raise their voices. They spoke in vain, though with great talent and boldness, for the freedom of the press and a jury. The law of censorship of November 9, remained in force. The state of the people, in the general dearth of all articles, and the weight of the taxes, needed every possible alleviation, and the king's spirit of order contributed greatly to this. From 1814 to 1816, the arrears amounted to more than 83,000,000 francs, which had increased the budget of expenses for 1817 to 1,088,000,294 being 220,000 more than in 1816; while the revenue for 1817 could not be estimated higher than 774,000,000, so that a deficit of 314,000,000 was to be covered. Recourse was had to loans; the same thing took place in 1818. The diminution of the standing army, and its entire dissolution in consequence of the congress of Aix, were, therefore, fortunate events. Among the events of the administration of Louis XVIII., it must, however, be remarked, that the national institute was restored in 1816, with its former academies, although the best institutions, as that of the decennial prizes, were not retained. The attempt to bring Hayti to submission, by the offer of favourable conditions, utterly failed, and the concordate was not effected with the pope.

Louis was himself inclined to use mild measures. In the day of St Louis, therefore, August 25, 1818, when the bronze statue of Henry IV. was erected in Paris, which had been paid for by private subscription, several persons arrested for political offences were pardoned. He allowed, also, some of the exiles who had voted for the death of the king, as Cambacérès, Rabaud, and fifteen members of the convention, to return. As, however, he gave way to the inclinations of the emigrant party, on several occasions, a nation conceived suspicions that the Bourbons could not sincerely forgive. The king neglected to give full security in their property to the possessors of the national domains, by a particular edict. At the same time, the constitutional party was strengthened by the passage of laws which contradicted the titles of the charter. The liberals, therefore, obtained for a time, the superiority, and Louis named, December 29, 1818, his third, and, November 19, 1819, his fourth ministry, under Decazes. (See *France*, vol. 1814.) From this time, the government of Louis XVIII. lost the support of public opinion. But, after the assassination of the duke of Berry, February 14, 1820, the party of the ultras again raised its head. Villèle took the place of Decazes; the law of censorship was altered; the censorship of newspapers was introduced, personal freedom limited, &c. All this gave more power and influence to the extreme royalists.

The party of anti-Bourbonists, which thought that the welfare of France required a dynasty not belonging immediately to the Bourbon line, remained still a

large one, while the party of the princes, which showed a very great and very natural predilection for Louis, was supported by the ultras, who sought to form, in all Europe, a general coalition against liberal principles. The *white conspiracy*, as it was called, detected in 1818, showed that it was the object of the ultra royalists to destroy the constitution. They had given to the ambassadors of foreign powers a paper—written, it is said, by the baron de Vitrolles—*Note secrète exposant les pretextes et le but de la dernière conspiration*, to attract their attention to the dangers which menaced the reign of the Bourbons, that their troops might not be withdrawn from France, but a change made in the French ministry. This note, the giving of which was, according to the French laws, treasonable, caused so much dissatisfaction, that Chateaubriand, in his *Remarques sur les Affaires du Moment*, denies having had any thing to do with it. That party had in view to form a new ministry, of which Villèle, Chateaubriand, Donadieu, and others, were to be members. All examination into this business was, however, prevented, and the generals Canuel, Chapdelaine, with H. H. Joannis, Romilly, De Sorgis, &c., who had been already arrested as accomplices, were released August 19, 1818, from the secret prison (*secret*). By the ordinance, July 24, however, the baron Vitrolles was struck off the list of ministers of state and members of the privy council of the king. But Louis allowed what was called the *theocratic party*, in union with the friends to old privileges, to gain, continually, more influence in the internal management of the kingdom. This was shown by the prosecutions against the writers, who complained of abuses in the public administration, and, especially, of the measures of the secret police, by which those who were suspected of being political enemies were enticed to manifest their feelings by deeds. An instance of this kind was the punishment of the deputy Kochlin. By the change in the law of elections, in June, 1820, the system of the strict royalists was triumphant; Villèle was placed at the head of the ministry. But the strength of the king, who had, for several years, been unable to walk, now entirely failed him. His last triumph was the campaign in Spain in 1823. In August, 1824, it became evident that his disease was mortal. Until the day of his death, September 16, 1824, he gave proofs of firmness and resignation. “*Un roi doit mourir*,” said he, faintly, “*mais ne doit jamais être malade*.” Louis XVIII. possessed much intellectual cultivation and sagacity, but, enfeebled by disease, he had not sufficient strength of character to restrain the ultras, nor did he understand new France.—He had one remarkable maxim—*L'ex-actitude est la politesse des rois*.

LOUIS III. (called, in German history, *the Child*), born in 893, succeeded his father, the emperor Arnulph, when six years old. In his minority, archbishop Hatto, of Mentz, administered the government, and carried the monarch about with him, wherever the affairs of the empire required the presence of the regent. During the course of his reign, Germany was desolated by the Hungarians, and torn asunder by civil discord. He assumed the imperial title in 908, but was never crowned. He died in 911, or 912, and with him ended the royal line of Charlemagne.

LOUIS IV., the Bavarian, emperor of Germany, son of Louis the Severe, duke of Bavaria, was born in 1286. On the death of Henry VII. (q. v.), five electors were in favour of Louis, while the others supported Frederick, duke of Austria. The two rivals being both crowned, a war ensued, and Frederick was made prisoner, in the battle of Mühldorf, in 1322. (See *Bavaria*; and *Germany, History of*.)

In 1315, Louis had expelled his brother, Rodolph, who opposed his election from the Palatinate, but, after the death of the latter, had formed a convention with his sons, by virtue of which their patrimony was restored to them, and the electoral dignity was to belong alternately to Bavaria and the Palatinate. The vacant Mark of Brandenburg he conferred, in 1322, on his eldest son. In his disputes with pope John XXII., against whom he was joined by the Visconti party in Italy, he maintained the dignity of the German crown, and set up the antipope Nicholas V. In 1346, Clement VI. excommunicated him, and succeeded in causing five electors to set Charles of Luxembourg, king of Bohemia, on the imperial throne. In the midst of this dispute, Louis died (1347). See Mannert's *Louis IV., or the Bavarian*, in German, 1812.

LOUISA, AUGUSTA WILHELMINA AMALIA, queen of Prussia, daughter of Charles, duke of Mecklenburg-Strelitz, was born March 10, 1776, at Hanover, where her father was commandant. When six years old, she lost her mother; and her grandmother, at Darmstadt, took charge of her education. In 1793, the king of Prussia, then prince royal, saw her at Frankfort, when she and her sister were presented to his father. The prince was immediately struck with her uncommon beauty, and was soon after betrothed to her. Prince Louis, of Prussia, was betrothed, on the same day, to her sister, the present duchess of Cumberland. Dec. 24, 1793, the princess Louisa was married to the crown-prince at Berlin, and, when her husband ascended the throne, Nov. 16, 1797, she became, in her exalted station, the model of a wife, a mother, and a queen, who alleviated misery wherever she could, and promoted merit. In 1806, when Prussia was suffering severely under the burdens of war, this princess became still more popular: indeed, her beauty and grace, her benevolent and pure character, her sufferings and her fortitude, rendered her an object almost of adoration. She died in 1810.

LOUISBURG; capital of Cape Breton; situated on a point of land on the south-east side of the island; lon. 59° 56' W.; lat. 45° 54' N. Its streets are regular and broad, consisting, for the most part, of stone houses, with a large parade at a little distance from the citadel, the inside of which is a fine square, nearly 200 feet every way. The town is half an English mile in length, and two in circuit. The harbour is excellent, and is more than half an English mile in breadth in the narrowest part, and six miles in length from north-east to south-west. The principal trade of Louisburg is the cod fishery. It was taken from the French by the British fleet, under Sir Peter Warren, and the American forces, commanded by Sir William Pepperel, in the year 1745, but afterwards restored to France, by the treaty of Aix-la-Chapelle, in 1748. It was again taken by the British, under the command of admiral Boscawen and lieutenant-general Amherst, in July, 1758, and its fortifications have been since demolished.

LOUIS D'OR; a French gold coin, which received its name from Louis XIII., who first coined it in 1641. (See the article *Coins*.) The value of the *Louis* is about eighteen shillings. Louis XIII. coined, likewise, a piece of silver money, called *louis blanc*, also *écus*, and, among us, *French crowns*.

LOUISIANA TERRITORY. The French, when in possession of a great portion of the continent of North America, seem to have applied this name, in a vague manner, to all the territories claimed by them south and west of Canada. In this sense, it must be considered as coextensive with the valley of the Mississippi, bounded on the east by the Alle-

ghanies, and stretching westerly as unknown or indefinite extent to the Spanish dominions and to then unexplored wilds of the interior. By the treaty of 1763, which made the Mississippi the boundary between the British and French colonies, the new was limited to that part of the valley west of the river, but still of an unsettled extent. This region was purchased of France by the United States, by which it has been explored and annexed into the states of Louisiana and Missouri, and the territories of Arkansas and Missouri. We then here give a general account of the progress of discovery in this great region, and of its early settling, for local details, to the separate histories mentioned. The Spaniards were the first to discover, if not to discover, Florida, the western end of which were by no means accurately known, and Soto was probably the first white man who crossed the Mississippi, which he crossed in one of his expeditions, not far from the influx of the Red river. In 1673, a French missionary, Marquette, with a citizen of Quebec, crossed the country from Michigan to the Mississippi, which they descended to the mouth of the Arkansas.—See *Annales des Voyages* (Paris, 1681), published by Barthelemy, a supplement to his collection.—Six years after, La Salle, commander of a fort on Lake Huron, set out to explore the country, having as company Jean Hennepin. They passed the winter on the Illinois, and La Salle returned to Canada to procure supplies, leaving the missionary with orders to ascend the Mississippi to its sources. In the spring of 1682, Hennepin accordingly descended to the mouth of the river, followed up its course to the falls of St. Anthony, and, on his return to France, published a account of his travels, in which he called the west *Louisiana*, in honour of Louis XIV. See *Annuaire*.

The first attempts at the colonization of the new were not made till 1699, when an expedition came from Rochefort, under the command of Louis d'Iberville, a Canadian naval officer of reputation, who was the first to enter the Mississippi by an ascent who laid the foundation of the first colony at Natchez. The Spaniards, who had not long before established a settlement at Pensacola, protested against the occupation of this country, which they claimed to be included within the limits of Mexico, by the French, but were not able to prevent their occupying a new post on Mobile river, in 1702. The French kept up a communication between their colonies in Canada and Louisiana, and had been active in exploring the country, principally on the river to the east of it. In 1713, a census of the new colony gave a population of 400. In the year 1712, Antoine de Crozat, who had advanced a sum of 40,000,000 livres in the Indian trade, purchased a grant of this country, with the exclusive right of commerce for sixteen years. Disappointed in his speculations, Crozat gave up the grant in 1717, and the Mississippi commercial company started it. A new government was formed, consisting of a governor, intendant, and royal council, and grants of land were made to individuals. New towns were founded, the cultivation of tobacco was abundant, and miners were sent to work the mines near the Louis; but, in 1731, the company gave up the country to the crown.

The early hostilities of the French with the Spanish and British colonists, and with the different native tribes, it is not our intention to relate. (See *Natchez*.) The struggle of the French and British power in North America, from 1734, is a subject of more interest. The French had obtained a footing over the more central parts of the continent, and the Mississippi. Kaskaskia, Cahokia, Vincennes,

Genieve, the post of Arkansas, Nachitoches on Red river, Natches on the Mississippi, were rallying points of the rural population in this immense region, who had adopted, in some degree, the manners of the Indian hunters, while New Orleans and Mobile had become places of considerable commerce. The French claimed all the country west of the Alleghanies, and had established a chain of communication from New Orleans to Quebec, which they meditated to strengthen by a line of fortified posts. The British, who claimed the country from the Atlantic to the St Lawrence, found themselves thus exposed to be shut in, upon the eastern slope of the Alleghanies. The French occupied and fortified the important position at the head of the Ohio, to which they gave the name of *fort du Quebec*. The British general Braddock failed in his attack on this post, but the war terminated in the complete humiliation of France, who, by the peace of 1763, was obliged to cede Canada, and all her possessions east of the Mississippi, to Britain. The preceding year (November, 1762), she had ceded all her possessions west of that river, with the island of Orleans, to Spain, and the name of *Louisiana* now became limited to this part of the valley. In the war of the American revolution, Spain conquered Florida from the British, and, by the peace of 1783, that province was ceded to the Spaniards, while all the country between Florida and the St Lawrence, and the ocean and the Mississippi, was acknowledged as an independent state. (See *United States, Kentucky, Tennessee, Ohio, &c.*) The navigation of the Mississippi soon became a source of difficulty between Spain and the United States. After much delay, the treaty of 1795 was concluded between the two powers, by which a line of boundary was agreed on, and the free navigation of the river secured to the United States. In 1798, the Spanish posts, to the north of 31°, were evacuated, but Spanish ships committed depredations on the American commerce, and refused to allow the navigation of the Mississippi, and the right of deposit at New Orleans, which had been secured by treaties. A force was accordingly prepared on the Ohio, by the government of the United States, in 1799, intended to descend the Mississippi, and seize New Orleans. A change of administration was followed by the disbanding of these troops, but representations were made to Spain against the violation of the treaty, with a demand of redress, which was answered by the declaration that Louisiana had been ceded to France. The French force destined for the occupation of the country was blockaded in the Dutch ports by the British, and the first consul ceded Louisiana to the United States for the sum of 15,000,000 dollars, or about £3,875,000, by a treaty dated April 13, 1803. (See the secret history of this treaty in the *Histoire de la Louisiane*, by Barbé-Marbois, Paris, 1829.) The country passed peaceably into the possession of the United States, and measures were immediately taken for organizing its government, and examining its unknown regions. It was divided into the territorial governments of Orleans, which, in 1812, was admitted into the union as an independent state under the name of *Louisiana* (see *Louisiana, State of*), and of Louisiana, afterwards changed to *Missouri*. See *Missouri State*, and *Missouri Territory*.

The first national expedition was planned by president Jefferson, and placed under the command of captain Lewis, and lieutenant Clarke (afterwards governor of Missouri), with instructions to ascend the Missouri, cross the rocky mountains, and descend, by the Columbia, to the Pacific ocean. They began the longest river voyage since the time of Orellana, May 14, 1804. Having wintered at fort Mandan,

they continued their voyage next spring, and, after a course of 3000 miles arrived at the fountain-head of the Missouri. Fifty days were occupied in crossing the mountains by a difficult road; but shorter and more easy passages have since been discovered. Descending the Columbia to its mouth, they reached the Pacific ocean, at a distance of 4134 miles from their starting-point. They returned by a somewhat shorter route of 3550 miles, having been the first who had crossed the North American continent, from the Mississippi to the Pacific. (See Lewis and Clarke's *Expedition to the Sources of the Missouri*, Philadelphia, 1814.) About the same time, lieutenant (afterwards major) Pike was sent to explore the Mississippi, and, on his return from that expedition, to survey the country lying between the Rocky mountains and the Mississippi, and examine the sources of the Arkansas, and Red rivers. Having arrived at the head of the former, and suffered much from cold and hunger, on account of the elevated situation of the country, he reached a large river, which he supposed to be the Red river, but which proved to be the Del Norte. He had unconsciously entered the Spanish territories with his party, when they were arrested by Spanish soldiers, and carried almost without clothing, to Santa Fé, but were afterwards set at liberty, and returned to Nachitoches. (See Pike's *Expedition to the Sources of the Mississippi*, Philadelphia, 1810.) In 1819, the federal government organized a new expedition, of a military and scientific nature, to examine more carefully, with a view to colonization and defensive establishments, the country east of the Rocky mountains. It was commanded by major Long, and a narrative of it has been written by doctor James, botanist to the expedition. The party embarked at Pittsburg, in a steamboat, and reached the mouth of the Platte in the middle of September. Having passed the winter on the banks of that river, they resumed their route in June, 1820, and crossed the great sandy desert which extends, in a gentle slope, nearly 400 miles to the base of the Rocky mountains, and nearly 500 miles from north to south. Its surface is furrowed by ravines, several hundred feet deep, in which are a few stunted trees. On the elevated surface of the desert, not a tree is to be seen; but it is thickly set with the spiny cactus, or prickly pear. Proceeding southwardly, they descended the Arkansas, and returned with large collections of skins of rare animals, some thousand preserved insects, and an herbal of 400 or 500 new plants. (See *Account of an Expedition to the Rocky Mountains*, Philadelphia, 1828.) Another expedition, under general (now governor) Cass, proceeded to explore the British frontiers about the sources of the Mississippi. Schoolcraft was the historian of this expedition. (*Travels to the Sources of Mississippi*, in 1820, Albany, 1821.) To complete the survey of the frontier, major Long was sent, in 1823, with Mr Keating to ascend the St Peter's, a considerable river which falls into the Mississippi. They traced the river to its source (375 miles), and, proceeding northward, reached the Red river, which flows into lake Winnipeg. (See *Narrative of the Second Expedition to St Peter's River, Lake Winnipeg, &c.*, by William H. Keating.) This completed the general survey of this immense region. Its northern boundary was settled by the convention of 1818 with Great Britain, on a line drawn in 49° from the lake of the Woods to the Rocky mountains: the southern, by the treaty of 1819 with Spain, is from the Sabine river, in 32° N., to the Red river; then along that river to 100° W., thence directly north to the Arkansas, which it follows to 42° N., and thence, in that parallel, to the South sea. The states of Louisiana and Missouri,

and the territory of the Arkansas have already been set off, and are occupied with a thin, but active and rapidly increasing population. The great mineral and vegetable wealth of this vast region, and its almost unparalleled facilities of communication, open a wide prospect to the prosperous, free, and happy communities that are springing up in its bosom. The territory west of the Rocky mountains, which seems to belong to the United States rather by priority of discovery than as a part of the Louisiana purchase, will be described under the head of *Oregon*. Beside the works already mentioned, consult Charlevoix's *Description de la Nouvelle France*; Jefferson's *Account of Louisiana*; Stoddard's *Sketches of Louisiana*; and Flint's interesting work, *Geography and History of the Mississippi Valley* (Cincinnati, 1828.)

LOUISIANA; one of the U. States of America, formed in 1812. It is bounded north by Arkansas territory, east by the state of Mississippi and the gulf of Mexico. The eastern boundary line is formed by the river Mississippi, from lat.  $33^{\circ}$  to  $31^{\circ}$  N.; thence, by the parallel of  $31^{\circ}$ , to Pearl river; thence by that stream to its mouth. The gulf of Mexico forms the southern boundary, and Sabine river the western, from its mouth to lat.  $32^{\circ}$  N.; thence the boundary line proceeds due north to lat.  $33^{\circ}$ , thence due east to the Mississippi; lon.  $89^{\circ}$  to  $94^{\circ} 5' W.$ ; lat.  $29^{\circ}$  to  $33^{\circ}$  N.; 240 miles long, from north to south, and 210 broad; square miles, 48,220, or 31,463,000 acres: population, in 1820, 153,407; slaves, 69,064: in 1830, 214,693. The principal rivers are the Mississippi, Red, Ouachita, Black, Tensas, Sabine, Calcasieu, Mermentau, Vermilion, Atchafalaya, Teche, Pearl, Amite, and Iberville. The largest lakes are Pontchartrain, Maurepas, Borgne, Chetimaches, Mermentau, Calcasieu, Sabine, Bistineau, Bodcau, and Ocatahoola. All the southern part of this state is a vast alluvial tract of low champaign country, extending from lake Borgne to Sabine river, and from the gulf of Mexico to Baton Rouge and Red river; about 250 miles long, and from 70 to 140 wide. This extensive tract is intersected by numerous rivers, bays, creeks, and lakes, dividing the country into a great number of islands. The country about the Balise is one continued swamp, destitute of trees, and covered with a species of coarse reeds, from four to five feet high. Nothing can be more dreary than a prospect from a ship's mast, while passing this immense waste. A large extent of country in this state is annually overflowed by the Mississippi. According to Mr Darby, the average width of overflowed lands above Red river, from lat.  $31^{\circ}$  to  $33^{\circ}$  N., may be assumed at 20 miles, equal to 2770 square miles. Below lat.  $31^{\circ}$  to the efflux of the Lafourche, about 80 miles in extent, the inundation is about 40 miles in width, equal to 3200 square miles. All the country below the efflux of the Lafourche is liable to be inundated, equal to 2370 square miles. From this calculation, it appears that 8340 square miles are liable to be inundated by the overflowing of the Mississippi; and if to this be added 2550 square miles for the inundated lands on Red river, the whole surface of the state liable to inundation, will amount to 10,890 square miles. Of this extent, not one half is actually covered annually with water. The immediate banks of all the streams are seldom, and many of them never, inundated; and they afford strips of rich, tillable land, from a mile to a mile and a half wide. The country between the Mississippi, Iberville, and Pearl rivers is an important part of the state. The southern half is a level country, yet highly productive in cotton, sugar, rice, corn, and indigo. The northern part presents an undulating surface, covered with a heavy growth of timber, consisting of white, red, and yellow oak, hickory, black walnut, sassafras, mag-

olia, and poplar. The district of New Feliciana has been considered, by some, as the garden of Louisiana. The south-western part of the state, comprising the districts of Opelousas and Attakapas, consists mostly of extensive prairies. Some of these prairies are detached, but the lines of woods between them are generally very narrow, and they may be considered as forming one immense meadow. A large portion of these tracts are barren, but some parts, particularly that bordering on the Teche, are very fertile, and contain flourishing settlements. It has been estimated that the prairie lands in the state, including the swamps along the gulf of Mexico, contain one-fifth of its whole surface. The country on both sides of Red river, from its mouth to the head of it, is intersected with lakes, which are more numerous in number, and all communicate with the river. The bottoms on the river are from one to ten miles wide, and of a very fertile soil. The timber on the banks is willow, cotton wood, honey-locust, poplar, and buckeye; on the rich uplands, elm, cucumber tree, hickory, mulberry, black walnut, with abundance of grape vines; upon the second-rate, or sandy upland, white, pitch, and yellow pines, and various kinds of oak.

The climate of Louisiana is as cold as that of the Atlantic states about two degrees further north. The orange ceases at about  $30^{\circ}$ , and the sugar-cane at  $27^{\circ}$ . Sugar and rice are the staples of the state a point south of  $30^{\circ}$ , and cotton north of that parallel. The latter, however, is extensively cultivated a great part of the state. Among the fruits are the apple in the northern parts, the peach, and several species of fig, the orange, the pomegranate, and grape. The olive-tree is found, and the Provençals, who were settled in Louisiana, affirmed that the oil was as good as that of their native country. Indigo was formerly much cultivated, but has been, of late, as a great measure abandoned. The rice is remarkably good, and yields abundantly. Some attention has lately been paid to the cultivation of the tea plant, and the finest tobacco is raised, but is not so productive as sugar and cotton. The kinds of cotton cultivated are Louisiana, green seed, or Tennessee, and, recently, Mexican cotton. The amount of sugar made in 1828 was 87,965 hhds.; of molasses, 25,744 hhds.: in 1829, the sugar made was 65,730 hhds., and as there are 40 gallons of molasses to each hogshead of sugar, the hogsheads of molasses must have been somewhat less than half as numerous. The tobacco exported, from Oct. 1, 1827, to Oct. 1, 1829, was, for the first 12 months, 35,111 hhds.; for the second, 25,491; for the third, 28,069. The hogsheads of cotton which were exported in the same periods were 304,848, 267,949, 331,890. The total exports in 1829, were 12,386,060 dollars, or nearly 21,000,000. The value of imports, for the same time, was 6,857,330 dollars, or about half that sum; amount of shipping, 51,903, of which 17,000 was steam-boats, and 34,903 were sailing vessels. The arrivals at the port of New Orleans, from Oct. 1, 1829, to Oct. 1, 1830, were 296 ships, 643 barks, 166 schooners, 33 sloops, 778 steam-boats, and 3898. The United States granted the state 36,000 acres of land for a college, and one thirty-sixth of each township, or 873,000 acres, for schools. There are colleges at New Orleans and Jackson. In 1822, the legislature made a grant to each parish of 5 dollars 62½ cents to every voter, to be applied to the education of the poor; in consequence of which nearly 40,000 dollars are annually applied for this purpose. The Catholic is the predominant religion of Louisiana: there are a few Episcopal and Methodists. According to returns for 1828, the militia amounted to 12,274 men. The principal towns in the state are New Orleans, Des Moines, or

Donaldsonville (the seat of government), Natchitoches, Alexandria, Baton Rouge, Opelousas, Galveston, &c. The constitution differs little from those of the other states (see *Constitutions*); but the law is not the common law which prevails in the rest of the country, except so far as its provisions have been introduced by statute. The civil law, which prevailed under the French dominion, has been retained in its principal features. (See, below, *Louisiana, Code of*.) The present white inhabitants of Louisiana are descendants of the Spaniards, French, and Anglo-Americans, or emigrants from the other states, or from the Spanish colonies. The character of such a mixed population, scattered over a great extent of country, must, of course, be various. The English language and the Anglo-American institutions are, however, assuming the predominance. The early history of the state will be found in the preceding article. In 1812, the territory of Orleans, having been found to contain the requisite number of inhabitants, was admitted into the Union, under the name of *Louisiana*. Jan. 8, 1815, the attack of the British on New Orleans was repulsed by general Jackson. See *New Orleans*.

*Louisiana, Code of.* Most of the United States, even those which were formerly colonies of France and Spain, have adopted the common law of England, as the basis of their municipal law. The state of Louisiana, however, has steadily adhered to the civil jurisprudence which it derived from the continent of Europe, though, in criminal matters, the English jurisprudence has been followed. The custom of Paris, which the colonists brought with them, as the law of the new colony, was first reduced to writing in France in 1510, and enlarged and amended in 1580. The deficiencies of the customary law, both in the mother country and the colony, were supplied by reference to the Roman jurisprudence. Louisiana was ceded by France to Spain in 1762, and was taken possession of by this latter power in 1769, when the Spanish law was introduced. The great body of this law, called the *Siete Partidas*, was compiled as early as 1263. The *Recopilacion de Castilla*, published in 1567, was intended to clear up the confusion of the previous codes, but it leaves the authority of the *Partidas* generally unimpaired. The cession of Louisiana to the United States necessarily introduced the trial by jury in a modified form, and the writ of *habeas corpus*, which were unknown to the pre-existing laws. The legislative council of the territory of Orleans borrowed largely from the common law, but principally those forms of proceedings necessary to confer efficient powers on the courts organized under the authority of the Union. But, in the adjudication of suits between individuals, the Spanish jurisprudence was the sole guide, except in commercial questions. In 1806, the legislative council ordered two able jurists to prepare a civil code for the use of the territory, on the groundwork of the civil law which governed the territory. It was reported in 1808, and adopted, but was not allowed to supersede the previous laws, except as far as those laws were inconsistent with its provisions.\* The "Digest of the Civil Code now in Force in the Territory of Orleans," as it was called, though termed a code, is, fact, little more than a synopsis of the jurisprudence of Spain. It continued in operation for four years, without any material innovation. In 1822, Messrs Derbigny, Livingston, and Moreau were selected by the legislature to revise and amend the civil code, and to add to it such of the

laws still in force as were not included therein. They were authorized to add a system of commercial law, and a code of practice. The code which they prepared, having been adopted, was promulgated in 1824, under the title of the "Civil Code of the State of Louisiana;" and the legislature resolved, that, "from and after the promulgation of this code, the Spanish, Roman, and French laws, which were in force when Louisiana was ceded to the United States, and the acts of the legislative council of the legislature of the territory of Orleans, and of the legislature of the state of Louisiana, be, and hereby are, repealed in every case for which it has been specially provided in this code." It would seem that where the code is silent on any subject, any pre-existing law on that subject, whether of French or Spanish origin, or of native growth, would be considered as still in force. The new code, independently of the great changes which it has introduced, is much more full and explicit in the doctrinal parts than the former digest. The theory of obligations, particularly, deserves to be mentioned, as comprising, in a condensed and even elegant form, the most satisfactory enunciation of general principles. The juriconsults appear to have profited much by the great work of Toullier, entitled *Le Droit civil Français*. The code contains 3552 articles, numbered from the beginning for convenience of reference. The most striking and material changes introduced by the new code, relate to the rules of succession, and the enlarged liberty of disposing of property by last will, by curtailing the portions which must be reserved for forced heirs. The new order of succession conforms to that established in France by the Code Napoleon, and will be found to be copied almost precisely from the 118th novel of Justinian, from which the Spanish rules of descent had deviated in some essential particulars.—The legislature of Louisiana provided also for the formation of a penal code, by an act passed in 1820, and intrusted the charge of preparing it to Mr Edward Livingston. A plan of a penal code was accordingly drawn up by him, and presented to the legislature in 1822. The manuscript copy of the part of the code which had been prepared, was destroyed by fire in 1824, and Mr Livingston has been since engaged in repairing the loss, and completing the code.

LOUISVILLE; a city of Kentucky, on the Ohio, opposite to the rapids or falls of that river, on a plain elevated about seventy feet above the level of the river; lon. 85° 30' W.; lat. 38° 3' N. The soil is rather sandy, with a substratum of rich clay, from which very good bricks are made. The town is regularly laid out: eight broad and straight streets, parallel with the river, are intersected by eighteen others, at right angles, running from the river to the southern boundary of the city, which is about three miles long, with an average width of upwards of one mile. The population, by the census of 1830, was estimated at about 10,500: a most rapid increase has since taken place. The public buildings in Louisville are a court-house, jail, ten houses of public worship, a poor-house, city school and marine hospital, all in good taste. The private buildings are mostly of brick, without much ornament; the warehouses, particularly those which have been erected within one or two years, are very extensive. Louisville is the most commercial city in the west, commanding the commerce of a great extent of country. It exports tobacco, whisky, cotton bagging and baling, hemp, flour, pork, bacon, lard, and many other productions of the country. Its imports are various and extensive, the easy circumstances of the people whom it supplies creating a large demand for foreign articles of comfort and luxury. The commerce is carried on by upwards of 300 steam-boats, measuring from 50

In 1819, a law was passed to encourage and authorize the publication of such parts of the *Partidas* as were conceived to be the force of law in the state, and such a translation was

to 500 tons each, some of which are daily arriving from, or departing for all parts of the immense valley of the Mississippi. The arrivals during 1832 exceeded 1500, and the departures were about the same number; this is exclusive of keel and flat boats, which must have amounted to at least that number. Louisville is the great commercial depot for the country bordering on the Ohio and its tributary waters, and the Mississippi above Natchez, the country lying near to the great lakes resorting to this city for many articles of trade: Great bodies of emigrants from the east and north pass through it; and it is not uncommon, in the autumn, to see the streets filled for days together, with continued processions of *movers*, as they are called, going to the "great west." In former years, Louisville had the character of being unhealthy; but, since the introduction of steam-boat navigation, and the improved methods of living, no town of its size in the United States has been more healthy: the year 1822, so fatal to the health of the whole valley of the Mississippi, is the last in which anything like general sickness has been known in this city.

**LOUSE** (*pediculus*). These disagreeable and unseemly insects belong to the order *parasita* (Latr.), and are characterized by having six feet formed for walking, a mouth furnished with a proboscis, antennæ as long as the thorax, and the abdomen depressed, and formed of several segments. Almost every species of animal is frequented by its peculiar louse, sometimes by several kinds: even man is subjected to their attacks. They breed with amazing rapidity, several generations occurring in a short period. Certain circumstances appear to be exceedingly favourable to their increase; as infancy, and that state of the system giving rise to *phthiriasis*, or the lousy disease. The human race is infested by several species, among which are the *P. humanus corporis*, or body louse, principally occurring in adults who neglect cleanliness; and the *P. humanus capitis*, or common louse, most frequent in children. Cleanliness is the best antidote against these disgusting intruders. The lousy disease, though now of very rare occurrence, appears to have been by no means unfrequent among the ancients. Herod, Antiochus, Callisthenes, Sylla, and many others, are said to have perished from this disorder. Some nations consider them as a gastronomic luxury, and, at one time, they were used in medicine. Those of our readers who wish for full information on these disagreeable parasites, will find ample details respecting them in the works of Rhedi, Swammerdam, and Buonanni, who seem to have studied their habits and manners with great assiduity.

**LOUTH**, the smallest county of Ireland, is situated in the province of Leinster, and extends from N. to S. 27 miles, from E. to W. 18. The soil is in general fertile, and is almost wholly devoted to corn. The principal towns are Dundalk (the capital), Collon, Ardee, Dunleah, Carlingford, and Castle Bellingham. The chief manufactures of Louth are dowlas, sheetings, and cambric. See *Ireland*.

**LOUTHERBOURG**, or **LUTHERBURG**, **PHILIP JAMES**; a landscape painter of eminence, born at Strasburg, in 1740. He studied under Tischbein, and afterwards under Casanova, and displayed great talents in the delineation of battles, hunting-pieces, &c. After having been admitted a member of the academy of painting at Paris, where he was first settled, he removed, in 1771, to London, where he was employed in the decorations of the opera-house, and also at Drury-lane theatre. He subsequently contrived an exhibition, called the *Eidophysision*, somewhat on the plan of the *Diorama*, which, however, did not prove a very profitable speculation. In 1782, he was nominated a royal academician; and,

as a landscape painter he possessed deserved celebrity. He also painted some historical pictures, as the Victory of Lord Howe, and the Siege of Valenciennes. His character was eccentric, and he was so far infatuated with the reveries of animal magnetism, as to have accompanied the impostor Cagliostro to Switzerland. He returned to England, and died near London, in 1812.

**LOUVAIN** (Dutch, *Loeven*, *Leuven*): formerly the capital of one of the four districts of the province of Brabant; more lately of a circle in the province of South Brabant, kingdom of the Netherlands, is present belonging to Belgium. Louvain is situated on the river Dyle, and a canal leading from it runs to the Rupel, five leagues E. N. E. from Brussels. lat. 50° 53' 26" N.; lon. 4° 41' 54" E. There are seven churches, five convents, a magnificent hospital, 4000 houses, and 25,400 inhabitants. Jan. 1. duke of Brabant, founded the university in 1363, in which belonged four colleges, a considerable library, a botanical garden, and an anatomical theatre. In the sixteenth century, it contained eight colleges. Having become extinct during the French revolution, it was restored as a lycœum, and, in 1817, again formally re-established. The number of students is 580. In 1825, a philosophical college in Catholic clergymen was founded, with the avowed object of raising the standard of learning among the candidates for holy orders; but the clergy were so much against it, that in 1830, when a Catholic mayor was appointed for the affairs of Belgium, the philosophical college was abolished. Louvain has greatly contributed to nourish that spirit of opposition which the Catholic Belgians have manifested towards the government of the Netherlands, and of which the separation of Belgium has been the consequence. At the beginning of the fourteenth century, when the city had 200,000 inhabitants, the woollen manufactures supported 100,000 workmen, many of whom, after the insurrection of 1378, emigrated to Flanders and founded the English woollen manufactures. The most important article of industry is beer, of which 150,000 casks are exported annually. There are from ten to twelve lace manufactories. The commerce in corn and hops is considerable. During the late revolution, the inhabitants embraced with ardour the cause of independence, and repulsed with courage (Oct. 23, 1830) the attacks of the Dutch.

**LOUVEL**, **PIERRE LOUIS**, the assassin of the duke of Berry, was born at Versailles in 1733, and served as saddler in the royal stables. From his youth upwards, he was of a gloomy and reserved disposition, and impatient of contradiction, but otherwise intemperate. He often changed his master, and altered his residence. From all circumstances, it is evident that he was fanatical and eccentric. He hated the Bourbons, and wished to extirpate the family of the duke of Berry in particular, because he was expected to continue the line. Feb. 13, 1820, about seven o'clock in the evening, when the prince was committing his wife from the opera to the carriage, Louvel pressed towards him, seized him by the left arm, and stabbed him with a knife in his right side. Upon the first cry of the prince, the soldiers of the guard pursued the murderer, who was apprehended and conducted into the guard-room of the opera-house. He was examined in the presence of the master Decrees, and immediately avowed, that, as was previous, he had formed the resolution of destroying France from the Bourbons, whom he considered the worst enemies of the country; that after the duke of Berry, he had intended to murder the queen, and, finally, the king. His trial was conducted in the chamber of peers. The investigation continued three months, and 1200 witnesses were examined, &

order to discover accomplices. At length Bellart, the attorney-general, declared in the indictment (May 12), that none had been discovered. June 5, Louvel, between his two counsel, was placed at the bar of the chamber of peers, sitting as a court of justice. The chancellor D'Ambray, president of the chamber, examined him. Louvel declared that no personal offence had induced him to commit the murder, but only an exasperation, created by the presence of the foreign troops, as early as 1814; that, in order to distract his thoughts, he had travelled, and visited the island of Elba, but, in that place had no conference with Napoleon or his attendants; that, after Napoleon's return from Elba, he was taken into service as saddler in the imperial stables, and, hence, had obtained this station in the royal stables. No political party, no individual, had persuaded him to commit this act. He had read no newspapers nor pamphlets. He admitted that his deed was a horrible crime; but stated that he had determined to sacrifice himself for France. Louvel's defenders alleged a *monomania*, or an insanity consisting in a fixed idea, and appealed to the dying request of the prince for the pardon of his murderer. Louvel then read his defence. The high court of justice condemned him to death. After a long delay he admitted the visit of a clergyman, but, on the day of his execution (July 7, 1820), paid no attention to his words, directing his eyes over the multitude, which witnessed his execution in silence.—See Maurice Méjan's *Hist. du Procès de Louvel, assassin*, &c. (2 vols., Paris, 1820).

LOUVET DE COUVRAY, JOHN BAPTIST; a French advocate, distinguished as an actor in the revolution. At the commencement of the political commotions, he joined the popular party, and displayed a decided aversion to royalty and nobility. He published a romance, entitled *Emilie de Varmon, ou le Divorce nécessaire* (1791), in support of the prevalent opinions relative to marriage, and spoke at the bar of the national assembly in favour of a decree of accusation against the emigrant princes. In 1792, he was chosen a deputy to the convention, when he attached himself to the party of the Girondists, and voted for the death of Louis XVI., with a proviso, that execution should be delayed till after the acceptance of the constitution by the people. He was denounced by the terrorists, and included in an order of arrest issued June 2, 1794. Having escaped from the capital, he retired to Caen, with several of his colleagues, and employed himself in writing against the Jacobins. He was declared an outlaw; on which he fled to Brittany, and thence to the department of the Garonne. At length he separated from his companions, and returned to Paris, where he kept himself concealed till after the fall of Robespierre. He subsequently published an account of his adventures during the time of his proscription, entitled *Notices sur l'Histoire et le Récit de mes Périls*—a work written in a romantic style, which has been translated into English and other languages. Louvet recovered his seat in the convention in March 1795, and he occupied the presidency in June following. He was afterwards a member of the council of five hundred, which he quitted in May, 1797, and died at Paris, August 25, of that year. He is chiefly known in literature as the author of a licentious novel—*La Vie de Chevalier Faublas*.

LOUVOIS, FRANÇOIS MICHEL LETELLIER, MARQUIS, minister of war to Louis XIV., son of the chancellor Letellier, born at Paris in 1641, was early made a royal counsellor through the influence of his father. He displayed so little inclination for business, and so great a love of pleasure, that his father threatened to deprive him of the reversion of the secretari-

ship in the war department, which had been conferred on him at the early age of thirteen. From this moment young Louvois abandoned his habits of dissipation, and devoted himself to business. After 1666, he had the whole management of the ministry of war, and soon exercised a despotic control over his master, and over the army. His extensive knowledge, his decision, activity, industry and talents, rendered him an able minister; but he cannot aspire to the praise of a great statesman. He was too regardless of the rights of human nature; too lavish of the blood and treasure of France; too much of a despot, to deserve that honourable appellation. His reforms in the organization of the army; his manner of conducting the wars of his ambitious master, if they were not rather his own; and, above all, his successes, render his administration brilliant.—See Audouin's *Histoire de l'Administration de la Guerre* (Paris, 1811.)—But, justly appreciated, Louvois must be considered as the evil genius of the showy but disastrous reign of Louis XIV. While the king was flattered with the idea of having formed the young minister, and of directing his government in person, every thing was, in fact, done by Louvois, and according to his views. The generals were all required to communicate immediately with him; and, although Turenne would not submit to this order, yet the king showed all his letters to his minister, and answered them according to his suggestions. Bold and grasping schemes which could be executed only by the unwearied activity and industry of Louvois, were proposed by him for the purpose of rendering himself necessary to Louis, who, he was conscious, disliked him personally. Hence, notwithstanding the solemn renunciations of all claims to Franche-Comté and the Spanish Netherlands (see *Louis XIV.*, and *France*), war was undertaken (1667 and 1669) to get possession of them. The war of 1672, against Holland, was begun at the instigation of Louvois, and would have been finished much sooner, had he not, contrary to the wishes of Condé and Turenne, insisted upon occupying the fortresses, and thus given the Dutch time to open their sluices. The victories of Turenne (q. v.), in 1674 and 1675, were gained by a disobedience of the orders of the minister of war; but the desolation of the Palatinate was commanded by him. The system of *réunion*, as it is called (see *Louis XIV.*), was now adopted, and Louvois took possession of Strasburg, in the time of peace (1680). On the death of Colbert (1683), of whom he had been the enemy, his influence became still greater, and one of its most fatal effects was the revocation of the edict of Nantes (1685), the *dragonnades*, and the consequent flight of so many peaceful and industrious Calvinists. Louvois was now superintendent of the royal buildings, and, on occasion of a dispute with the king about the size of a window, in which the latter had spoken severely to him, "The king," said the minister "begins to meddle with every thing; we must give him something to do; he shall have a war;" and a pretext was soon found. The system of *réunion* had united the European powers in the league of Augsburg; and it was determined to seize on Philipsburg, one of the bulwarks of Germany. This was done with so much secrecy as to prevent the place being relieved. The French arms were successful, but disgraced by the horrid burnings and devastations committed by the direction of Louvois. The Palatinate was reduced to a wilderness in mid-winter (1689.) The war was conducted with great ability by Louvois; but his arrogance had long rendered him odious to Louis. The king's dislike had been increased by the cruel devastations of the Palatinate, and when the minister proposed to him to complete the desolation by the burning of Treves, he refused his consent. Louvois

replied, that, to spare his majesty's conscience, he had already despatched a courier with orders to that effect. Louis, filled with indignation, was prevented from striking his minister only by the interference of madame de Maintenon. Soon after, on presenting himself at the royal council, he discovered, or fancied he discovered, in the countenance and words of the king, marks of severity, and was obliged by faintness to retire to his hotel, where he died within half an hour. Whatever may be our feelings at the arrogance, cruelty, and despotism of Louvois, we cannot deny him the merit of having organised the brilliant victories of the reign of Louis.

LOUVRE; the old royal palace at Paris, on the north bank of the Seine, a splendid quadrangular edifice, with a court in the centre, completed by Napoleon. The origin of its name, and the time of the erection of the oldest part of it, are unknown. We only know that Philip Augustus, in 1214, built a fort and a state prison in this place; that Charles V., during the years 1364—80, added some embellishments to the building, and brought his library and his treasury thither; and that Francis I., in 1528, erected that part of the palace which is now called the *old Louvre*. Henry IV. laid the foundation of the splendid gallery which connects the Louvre, on the south side, with the Tuileries; Louis XIII. erected the centre; and Louis XIV., according to the plan of the physician Perrault, the elegant façade towards the east, together with the colonnade of the Louvre, which, even now, is the most perfect work of architecture in France. At a later period, Louis XIV. chose the palace built by him at Versailles for his residence. After Napoleon had taken possession of the Tuileries, he began a second gallery, opposite to the former, by which the two palaces would have been made to form a great whole, with a large quadrangular court in the centre; only 600 feet of it were completed at the time of his abdication, and it has not since been continued. Since the revolution, the collection of antiquities has been kept in the lower floor of the Louvre. Here, also, the exhibitions of national industry take place, and the academies hold their sessions.

To have the privilege of the Louvre, formerly meant, in France, a permission to drive, with a coach, into the courts of all the royal palaces. At first, this was the prerogative of the princes only; but, in 1607, when a duke, under the pretence of indisposition, rode into the Louvre, Henry IV. gave him (and, in 1609, the duke of Sully also) permission constantly to do so. At last, during the minority of the king Louis XIII., all the high officers of the crown, and dukes, obtained this privilege from Mary of Medici.

LOVAT (SIMON FRAZER, commonly called) lord; a Highland chieftain, who figured in the two civil rebellions of the last century, was born in 1667. He was educated in France, among the Jesuits, and, returning to his native country, he entered the army. In 1692, he was a captain in the regiment of Tullibardine. After having committed some acts of violence in taking possession of his hereditary estate, he fled to France, and gained the confidence of the old pretender, which he made use of, on his return to Scotland, in order to ruin his personal enemies. He again went to France, where he was imprisoned in the Bastille, and was liberated only on condition of taking religious orders, in pursuance of which engagement he is said to have become a Jesuit. In 1715, he a second time betrayed the pretender, and he was rewarded by the government of George I. with the title of Lovat, and a pension. He now led a quiet life, uniting in his own person the contradictory characters of a Catholic priest and a father of a

family, a colonel and a Jesuit, a Hanoverian lad and a Jacobite laird. Notwithstanding the favour he had received, he engaged in the rebellion of 1745; and, after having displayed his usual coolness and audacity, he was finally seized, tried, condemned, and executed in April, 1747, at the age of eighty. Notwithstanding his age, infirmities, and a conscience supposed to be not wholly void of remorse, he died, says Smollett, like a Roman, exclaiming, *Dux a decorum pro patria mori*. A volume of autobiographical memoirs, by this restless and unscrupulous politician, was published in 1797 (9w).

LOVE-FEAST. See *Agape*.

LOVELACE, RICHARD, a poet of the seventeenth century, was born about 1618, and educated at Oxford. On leaving Oxford, he repaired to war, entered the army, and became a captain. He expended the whole of his estate in the support of a royal cause, and, after entering into the French service, in 1648, returned to England, and was imprisoned until the king's death, when he was set at liberty. His condition was, at this time, very indigent, and strongly contrasted with Anthony Van Dyke's description of his handsome person and graceful appearance in the outset of life. He died in great poverty, in an obscure alley, in 1658. His poems, which are light and elegant, but occasionally naive and fantastic, are published under the title of *Lucasta*, under which name he complimented Miss Ar. Sacheverell, a young lady to whom he was attached, who, on a false report of his death, married another person. Colonel Lovelace, who, for years and in the land, has been compared to Sir Philip Sidney, also wrote two plays, the *Scholar*, a comedy, and the *Soldier*, a tragedy.

LOVER'S LEAP; the name of a cliff, 144 feet high, in the island of Leucadia (q. v.).

LOW COUNTRIES. See *Netherlands*.

LOW DUTCH and HIGH DUTCH, and so properly for Dutch and German. The two idioms are quite distinct, so that a German and a Dutchman cannot understand each other any better than a Frenchman and a German. In fact, the Dutch language resembles the English more than it does the German, so that a German understands it much more, if he has a knowledge of English. The reason is, that both, Dutch and English, are mainly derived from the Low German. The frequent confusion of the terms Dutch and German probably arises from the circumstance, that the proper name of Germany is *Deutsch*, and that of Germany, *Deutschland*, so that the Germans and Dutch were originally considered as one nation by the inhabitants of those countries. See *Dutch*, and *Low German*.

LOW WATER; the lowest point to which the tide ebbs. See the article *Tide*.

LOWELL; an American town, situated twenty-five miles N. W. from Boston; noted for the extent of its water power, its manufacturing establishments, and the rapidity of its growth. It was incorporated in 1826, and named from Francis C. Lowell, of Boston, who was distinguished by his successful efforts in introducing the cotton manufacture into the United States. The hydraulic power of Lowell is produced by a canal, completed in 1823, one mile and a half in length, sixty feet wide, and carrying eight feet a depth of water. A portion of the waters of the Merrimack is forced through this canal by a dam at the head of Pawtucket falls, and is distributed in various directions, by channels branching off from the main canal, and discharging into the Concord and Merrimack rivers. The entire fall is 30 feet, and the volume of water which the canal is capable of carrying, is estimated at 1250 cubic feet per second, furnishing 50 mill power of 25 cubic feet

per second each. In some instances, the whole power is used at one operation, applied to wheels of 30 feet diameter; but more frequently the power is divided into two distinct falls of 13 and 17 feet each. The water power is held and disposed of by a company.

The quantity of cotton manufactured at Lowell, in 1831, is estimated at 17,000 bales, of 300 pounds each. Population, by the census of 1830, 6477.

LOWENDAL, ULRICH FREDERIC WOLDEMARE, count of, great grandson of Frederic III., king of Denmark, born 1700, at Hamburg, began his military career in Poland (1713), became captain in 1714, and entered the Danish service, as a volunteer, during the war with Sweden. In 1716, he served in Hungary, and distinguished himself at the battle of Peterwardein, and at the sieges of Temeswar and Belgrade. He next took part in the wars in Sardinia and Sicily, and was present at all the battles from 1718 to 1721. During the peace, he studied gunnery and engineering, and was made field-marshal and inspector-general of the Saxon infantry in the service of Augustus, king of Poland. The death of this monarch (1733), gave him an opportunity of distinguishing himself by his valiant defence of Cracow. Having entered the service of the empress of Russia, she was so well satisfied with his conduct in the Crimea and Ukraine, that she appointed him commander of her forces. In 1743, he was made lieutenant-general in the French service, and, at the sieges of Menin, Ypres, and Friburg, was conspicuous for his courage and skill. In 1745, he commanded the corps of reserve at the battle of Fontenoy, in which he took an honourable share. After having taken many strong places in Flanders, he obtained possession of Bergen-op-Zoom, by storm, September 16, 1747. This place, till then, had been considered impregnable, and was occupied by a strong garrison, and covered by a formidable army. The following day, he received the staff of marshal. He died 1755. Lowendal was thoroughly acquainted with engineering, geography, and tactics, and spoke Latin, German, English, Italian, Russian, and French, with fluency. With these accomplishments, he combined modesty and amiableness of disposition, though a devotee of pleasure, like the marshal Saxe, his most intimate friend, whom he also resembled in his application to military studies.

LOWER EMPIRE (Bas Empire); a term applied to the Roman empire during the period of its decline. From the establishment of the seat of government at Byzantium (Constantinople), and the division of the empire into the Eastern and Western, the former is often called the *Byzantine* empire, and, after the restoration of the Western or Latin empire, under Charlemagne, the *Greek* empire. Lebeau's *Histoire du Bas Empire* begins with the reign of Constantine. Gibbon's *Decline and Fall of the Roman Empire* embraces the whole period.

LOW GERMAN (in German, *Plattdeutsch*, *Niederdeutsch*, *Niedersächsisch*; since the sixteenth century, also *Sassisch*) is that softer German dialect, which was formerly spoken over a great part of Germany, and even now is the language of the common people in most parts of North or Lower Germany, and many of the educated rank use it when they wish to be very familiar, or when they address people of the classes before mentioned. In some legal forms, it has maintained itself; thus the Hamburg oath of citizenship is in Low German. Recently, more attention has been directed to this interesting dialect. It is not, as is sometimes supposed, a corrupted language, but a distinct dialect, as much so as the high German, though circum-

stances have caused the latter to become the language of literature and the educated classes. (See the division *German Language*, in the article *Germany*; also *Dialect*.) It is difficult to decide which of the two dialects, High and Low German, is the more ancient. Probably, in very remote times, soon after the first Asiatic tribes had entered Germany, two chief dialects were formed—a softer and a harsher—whilst one of the Asiatic nomadic tribes went northward, and the other inclined to the south, along the Danube. Diversities of climate, soil, and way of living, may soon have exerted an important influence on the dialects of the tribes. The rough and woody mountains of the south of Germany, and the warlike occupations of the dwellers on the banks of the Danube, gave roughness and sharpness to the speech of this region, whilst the open and plain country of the north produced milder manners and a softer language. Yet an entire separation of these two dialects could not take place as long as the tribes speaking them led a nomadic life; and, even after they had formed permanent settlements, much similarity must have remained for a considerable time. Hence we find, in the most ancient records of the German language, a constant mixture of both the chief dialects. (See the article *Anglo-Saxon*.) The time of their separation is not to be fixed with certainty. So much, however, is clear, that both dialects, for a long time, were mixed, and, after their total separation, existed for a long time independently of each other—the harsher dialect in the southern part of Germany, in Austria, Bavaria, Franconia, Suabia, on the Upper Rhine, and in part of Upper Saxony; the smoother in the north of Germany, Lower Saxony, Westphalia, on the Lower Rhine, and in all Belgium.

The long and extended dominion of the Low German dialect is proved by the number of idioms derived from it. Of these the most important are, 1. the Anglo-Saxon (q. v.); 2. the Norman; 3. the Dutch, so called since the thirteenth century; 4. the Icelandic; 5. the Norwegian; 6. the Swedish; 7. the Low Saxon, as spoken at present. That the High German attained, nevertheless, at an early period, a somewhat superior standing, was chiefly owing to the circumstance, that the higher intellectual cultivation of Germany must be dated from the period of the Hohenstaufen or Suabian emperors, and with them, consequently, the High German gained the ascendancy. When, on the other hand, in the latter part of the twelfth century, at the time of the emigration from Holland into Germany, the Low German had become enriched from the Belgian dialect of the emigrants, and the Hansa produced so much activity in the North, Low German also became, for some time, a literary language, and affords works of much repute, particularly the incomparable Renard the Fox. But Luther's translation of the Bible gave predominance to the High German, and a natural consequence was, that, whilst this became the exclusive language of literature, Low German was checked in its development, and was obliged to give way to its rival in courts, churches, schools, and the circles of the well educated. In a few parts of the country only, it maintained its ground in works both of a spiritual and secular character, down to the beginning of the sixteenth century, as in Pomerania, Mecklenburg, Westphalia. As the language of the people, Low German still exists, but in a great number of different dialects, which, in several respects, differ considerably. A supercilious disparagement of this dialect, as if it were a mere corruption of the High German, has led many German scholars to neglect it entirely; and they

have thus fallen into etymological and other mistakes, from ignorance of this essential branch of their language. Leibnitz recommended the study of it as a means of enriching, correcting, and explaining the High German; and, of late, the scholars of Germany have begun to turn their attention to this idiom. The study of it is essential even to the English etymologist, to enable him properly to understand his own language, as far as it is of Teutonic origin. J. H. Voss made the attempt to revive this dialect, by several excellent poetical compositions in it. The most has been done, however, by Charles F. A. Scheller, who has lately published a series of Low German works, or such as are conducive to a knowledge of Low German literature; among them an edition of Renard the Fox; also the *Shigt-Böck der Stad Brunswyk*, as a supplement to G. G. Leibnitz's *Scriptores Rerum Brunsvigensium* (Brunswick, 1829); *Der Laien Doctrinál* (Brunswick, 1825); *Bücherkunde der Sassiich-Niederdeutschen Sprache* (Literature of the Sassic Low-German Language) (Brunswick, 1826). In the preface to the *Laien Doctrinál*, Mr Scheller speaks of having made use of nearly 2000 Sassic writings, for a dictionary of this dialect, which he was preparing. The *Versuch eines Bremisch-Niedersächsischen Wörterbuchs* (5 vols., Bremen, 1771); the *Holstein Idioticon* of Schutael; the *Geschichte der Niedersächsischen Sprache* von Johann Friedrich August Kinderling (Magdeburg, 1800); the *Versuch einer plattdeutschen Sprachlehre mit besonderer Berücksichtigung der Mecklenburgischen Mundart* von J. Musaus (New Strelitz and New Brandenburg, 1829), deserve mention.

**LOWLANDS**; a term applied to the southern parts of Scotland, in contradistinction to the *Highlands*, which comprise the northern and western parts. See *Highlands*, and *Scotland*.

**LOWRY, WILSON, F. R. S.**, a modern English engraver of eminence, was born at Whitehaven, in January, 1768. After studying medicine for some years, he devoted himself to engraving. He is the inventor of a ruling machine, possessing the property of ruling successive lines, either equidistant or in just gradation, from the greatest required width to the nearest possible approximation; also of one capable of drawing lines to a point, and of forming concentric circles. In 1798, he first introduced the use of diamond points for etching—an invention highly important, on account of the equality of tone produced by them, as well as of their durability. Many other useful improvements in engraving were also discovered by him, and he was the first person who succeeded in what is technically termed "bitting steel in" well. Messrs Longman's edition of doctor Rees's *Cyclopædia*, which commenced in 1800, for nearly twenty years occupied a considerable portion of his time. He also laboured for Wilkins' *Vitruvius*, and *Magna Græcia*, Nicholson's *Architectural Dictionary*, and, lastly, the *Encyclopædia Metropolitana*, on which he was employed till his last illness. He died June 23, 1824. His *chef-d'œuvre* is considered to be an engraving from the Doric portico at Athens, in Nicholson's *Architecture*. He was elected a fellow of the royal society in 1812.

**LOWTH, ROWART**, a distinguished English prelate, was born at Buriton, in 1710. He received his education at Winchester school, whence he was elected, in 1730, to New college, Oxford, of which he was chosen a fellow in 1734, and, in 1741, was elected professor of poetry in the university of Oxford. In 1753, he published his *De Sacra Poesi Hebræorum Prolectiones Academicæ* (4to), which has been translated into English, French, and Ger-

man. The best edition is that of Leipzig, 1814, with notes by Michaelis, Rosenmüller, &c. In 1738, he received the degree of D. D. from the university of Oxford, by diploma, and, in 1755, went to Ireland, as chaplain to the marquis of Harcourt, appointed lord lieutenant, who nominated him bishop of Limerick, which preferment he exchanged for a prebend of Durham, and the rectory of Solihull. In 1758, was published his *Life of William of Wykeham* (8vo), which, in 1762, was followed by a *Short Introduction to the English Grammar*. In 1734, a misunderstanding took place between doctor Lowth and Warburton, the latter of whom took issue at certain passages in the *Prolectiones*, concerning the book of Job, which he believed to be a new theory of his Divine Legation of Moses. Warburton, in an Appendix concerning the book of Job, sent to the second edition of his *Divine Legation* except in the acrimony by which he was distinguished, and thereby produced a reply from doctor Lowth, a Letter to the Right Reverend the Author of the Divine Legation of Moses, which has become memorable at once for the ability and severity of its criticism. The ultimate silence of the Warburton gave the victory to their antagonists. In 1768, doctor Lowth was appointed bishop of St David's, whence, in a few months afterwards, he was translated to the see of Oxford. In 1777, he succeeded to the diocese of London, and the next year published the last of his literary labours—*Isaiah a New Translation*, with a preliminary dissertation and notes. Rosenmüller says he understands and expresses the Hebrew poet better than any other writer. On the death of archbishop Cornwallis the primacy was offered to Dr Lowth, but he declined the dignity, in consequence of his age and family obligations. He died November 3, 1787, aged seventy-seven.

**LOXODROMIC CURVE, or SPIRAL**; the path of a ship, when her course is directed constantly towards the same point of the compass, thereby cutting all the meridians at the same angle. See *Rhumb Line*.

**LOYOLA, IGNATIUS** (or, in Spanish, *LOPE*), a saint of the Roman Catholic church, founder of the society of Jesuits, was born in 1491, in the castle of Loyola, in the Spanish province Guipuzcoa, the youngest of the eleven children of a Spanish nobleman. Ignatius spent his youth at the court of Ferdinand V. (surnamed the Catholic), king of Aragon. Till his 29th year, he served in the army, was distinguished for bravery, gallantry, and valour, and some indifferent verses. At the siege of Pamplona by the French, he was wounded in both legs, one of which being crooked after the cure, he caused it to be broken again, for the purpose of having it made straight. During the siege, he had shown great valour and firmness, and when the commander wished to surrender, in consequence of want of provisions, he alone opposed it. As soon as the enemy saw him fall, they surrendered. During his illness, Ignatius beguiled his time with books, and there were no romances in the house, he read a Spanish translation of the life of the Servant of Landolphus, a Carthusian, and a volume of the Lives of the Saints. His imagination was highly excited by these books. What others had done, as was recorded in those biographies, he thought he might do also, as he afterwards said himself. He determined to live a life of abstinence, penitence, and holiness. The Virgin, he thought, appeared to him with the holy infant in her arms, both regarding him with looks of benign complacency and encouragement. His brother Martin Garcia observed the change which had taken place in him, and under-

vowed to dissuade him from his purpose, entreating him to remember his illustrious birth, and the reputation which he had already obtained; but Ignatius was firm. Leaving his brother at a sister's house, in Onate, he proceeded to Navarretta, where he collected some debts, and, having paid his servants and all his creditors, gave the rest for the restoration of the picture of the Virgin, and proceeded alone, upon his mule, to Montserrat. A Moor overtook him, who, in their conversation, uttered an opinion respecting the Virgin, which appeared to Ignatius blasphemous, and, while the Moor, luckily for himself, pricked forward, Loyola deliberated whether it was not his duty to follow and stab him. The Moor had gone to a village off the road, and Ignatius let his mule choose its own way, with the intention of killing the infidel, if the mule should carry him to the village; but it was not so ordered, and he arrived at Montserrat. Here he consecrated his arms to the Virgin, declared himself her knight, and proceeded to the hospital at Manresa, a small place not far from Montserrat, where he fasted rigorously, scourged himself, neither cut his nails nor combed his hair, and prayed seven hours a-day. He begged his bread, bread and water being his only food, and, eating very sparingly, he gave what remained to others. In the condition in which he was thus reduced, visions haunted him, and tempted him. Recollections arose of his birth and breeding, his former station, his former habits of life,—these compared with his present situation, in an hospital, in filth and in rags, the companion of beggars! This temptation he at once quelled and punished, by drawing closer to the beggar at his side, and courting more familiarity with him. He then lurked from the prospect of living in this painful and, as he could not but feel it to be, beastly life, till he threescore and ten years of mortal existence should be numbered: Could he bear this? The question, he thought, came from Satan. To Satan he replied triumphantly, by asking him if it was in his power to insure life to him for a single hour; and he comforted and strengthened himself by comparing the longest span of human life to eternity. It is affirmed that, at this time, he was entranced from one Sunday to another, lying, all that while, so apparently lifeless, that certain pious persons would have had him buried, if others had not thought it necessary first to ascertain whether he were dead, and, in so doing, felt a violent pulsation at the heart. He awoke from this stasy, as from a sweet sleep, sighing forth the name of Jesus. Orlandini says it is a pious and probable conjecture, that, as great mysteries were revealed to Paul, when he was wrapt into the third raven, so, during these seven days, the form and constitution of the society, which he was to found, were manifested to Ignatius. It is pretended that he fled from Manresa to a cave in a rock, not far from that city. The cave was dark, and not unlike a pulchre, but, for this incommodiousness, as well as for its solitude, and the beauty of the narrow vale, here thorns and brushwood concealed it, the more agreeable to him. Having remained some ten months at Manresa, a city which, his biographers say, he undoubtedly regards with peculiar favour in heaven, as the cradle of his Christian infancy, and the school of his first evangelical discipline, he determined upon going to Jerusalem, less for the desire of visiting those places which had been hallowed by the presence of our Lord than in the hope of converting some of the infidels, who were masters of the holy land, or of gaining the palm of martyrdom in the tempt, for of this he was most ambitious. A dangerous passage of five days brought him to Gaeta, from whence he proceeded to Rome on foot. This was a painful and perilous journey. It was seldom

that he was admitted into a town, or under a roof, for fear of the plague, his appearance being that of a man who, if not stricken with the disease, had recently recovered from it; and, for the most part, he was fain to lie down, at night, in a porch, or in the open air. He reached Rome, however, where there was either not the same alarm, or not the same vigilance. At Venice, he begged his bread, and slept on the ground, till a wealthy Spaniard, recognising him for a countryman, took him to his house, and afterwards introduced him to the doge, from whom he obtained a free passage to Cyprus. From Jaffa, he proceeded, with other pilgrims, to Jerusalem, in the usual manner; and, when they alighted from their asses, on the spot where the friars were waiting with the cross to receive them, and when they had the first sight of the holy city, all were sensible of what they deemed an emotion of supernatural delight. He now began his return to Spain, more unprovided even than he had left it. No difficulty occurred in re-crossing to Cyprus. He had obtained a good character from his fellow-pilgrims, and they, having taken their passage from that island in a large Venetian ship, besought the captain to give him a passage, as one for whose holy conversation they could vouch. The Venetian captain was no believer in such holiness, and he replied that a saint could not possibly want a ship to convey him across the sea, when he might walk upon the water, as so many others had done. The master of a smaller vessel was more compassionate; and this, though so much less sea-worthy than the other, that none of the other pilgrims embarked in her, reached Italy safely, after a perilous voyage, while the other was wrecked. He had been warned of the danger to which he would be exposed, in travelling from Ferrara to Genoa, where the French and Spanish armies were in the field, by both which he must pass, with the likelihood of being apprehended as a spy by both. Some Spanish soldiers, into whose company he fell, pointed out another route. But Ignatius liked to put himself in the way of tribulation; the more suffering, the greater merit, and, consequently, the more contentment; and he was contented accordingly, when, upon attempting to enter a walled town, which was in possession of the Spaniards, he was seized and searched as a spy. The journey to Jerusalem, notwithstanding all the hardships which he endured in it, had so greatly improved his health, that he thought the relaxation of austerity in his course of life, which had been enjoined him as a duty, had ceased to be allowable, having now ceased to be necessary. He did not, indeed, resume his former mode of apparel, in its full wretchedness; but he clad himself as meanly as he could, and cut the soles of his shoes in such a manner as to let the gravel in, and also to prepare for himself a further refinement of discomfort, for the fragments of sole which he had left, were soon worn away, while the upper-leather remained, and thus he contrived to walk, in winter, with his bare feet on the earth, and yet no one suspected that he was thus meritoriously afflicting himself.

In 1524, he returned to Barcelona, and began to study grammar. After a residence of two years, he went to the university of Alcalá, where he found some adherents; but the inquisition imprisoned him for his conduct, which appeared strange, and rendered him suspected of witchcraft. He was not delivered from the prison of the holy office until 1528, when he went to Paris to continue his studies, the subjects of which, indeed, were only works of an ascetic character. Here he became acquainted with several Spaniards and Frenchmen, who were afterwards noted as his followers; as Lainez, Salmeron, Bovedilla, Rodriguez, Pierre Favre, and others. (See Lainez,

and *Jesuits*.) They conceived the plan of an order for the conversion of heathens and sinners, and, on Ascension day, in 1534, they united for this great work in the subterranean chapel of the abbey of Montmartre. Some of these men had not yet finished their theological studies, and, until this should take place, Ignatius returned to Spain. They then met again in 1536, at Venice, whence they proceeded to Rome, and received the confirmation of their society from pope Paul III. They took the triple vow of chastity, obedience and poverty, in the presence of the papal nuncio Veralli at Venice. (For the history of the order, and its final abolition in most countries, see article *Jesuits*.) The account of the origin of its name, given by Lainez, adopted by the society, and recorded by them upon a marble tablet, is, that Ignatius, losing his bodily senses, saw himself surrounded with the full splendour of heaven; saw the Father beholding him with an aspect full of love, the Son bearing his cross, and pointing to the marks of his passion; heard the Father earnestly recommend him to the Son, and heard these words from the lips of the Son, *Ego vobis Romæ propitius ero*. Therefore it was, according to Lainez, that he gave his order the name of the *Society of Jesus*. In 1541, Ignatius was chosen general of the society; but Lainez, his successor, must be considered, even from the commencement, as the person who gave to the order the organization, by which it has astonished the world, though Ignatius, by his ardent zeal, may have given it a great impulse. Ignatius continued his abstinence and penances during life. Even when general, he used to perform the meanest labours in his church in Rome, instructed little children, though not master of the Italian, and collected alms for the Jews and public women, for whose conversion he displayed great zeal. He died July 28, 1556, exhausted by fatigues. Forty-three years after, he was declared *beatius* by Paul V., and Gregory XV. canonized him. His feast in the Catholic church falls upon July 31. There are two works of Loyola, his Constitution of the Order, in Spanish, praised by cardinal Richelieu as a masterpiece; and his *Spiritual Exercises*, also in Spanish (Rome, 1548),—a work, the first plan of which was drawn up in the hospital at Manresa. It has been often translated. Among his biographers, we may mention Maffei, Bouhours and Ribadeneira. Of the miracles attributed to him, at a later period, his contemporary Ribadeneira says nothing, as Bayle remarked. A complete abstract of his life will be found in the *Foreign Review*, vol. v. No. 10.

LUBBER, a contemptuous name, given by sailors to those who know not the duty of a seaman.

*Lubber's Hole* is the vacant space between the head of a lower mast and the edge of the top. It is so termed from a supposition that a lubber, not caring to trust himself up the futtock shrouds, will prefer that way of getting into the top.

LUBECK, formerly the chief of the Hanseatic towns, at present one of the four free cities of the German confederacy, officially styled the "republic and free Hanseatic city of Lubeck," was founded by Adolphus II., count of Holstein-Schaumburg, in 1144, who, ten years afterwards, ceded it to Henry the Lion, duke of Saxony. Henry made it a free port for the northern nations, granted it municipal privileges, which were confirmed by several emperors, and gave it the celebrated Lubeck code, which was afterwards adopted by many German cities. In 1226, it became a free city of the empire, and was afterwards at the head of the Hanseatic union (see *Hansa*); its fleet commanded the Baltic; Gustavus Vasa found refuge within its walls from Christian II.; and its voice decided the affairs of the kingdoms of the

North. Lubeck contains 22,000 inhabitants, and is beautifully situated on an island between the Trave and the Wacknitz, on a slight elevation. The ramparts now serve as a promenade. The houses are substantially built, of stone, but old-fashioned. Since 1530, the Lutheran doctrines have prevailed. Lubeck was formerly a bishop's see, and the cathedral contains many tombs and monuments of antiquity. The church of St. Mary is remarkable for the beautiful altar by Quellinno, for its astronomical clock, and the allegorical paintings, called the *Four of Death*. There are also a Calvinistic and a Catholic church. The charitable institutions are in excellent condition, as is also the gymnasium of seven classes. A drawing-school for mechanics, commercial institute, a society for the promotion of science and other societies and institutions, prove the public spirit of the citizens. Lubeck, which, by a station, is connected with the North sea and the Baltic, has an important carrying trade between Germany and the countries on the Baltic, and carries on considerable commerce in wine, leather, flax, and oil. It maintains important banking operations with Hamburg, Rostock, Copenhagen and Penzance. There are also two insurance companies and an exchange; and about 70—80 ships are owned by its citizens. In 1817, above 900 ships arrived at Lubeck, yet commerce and business have much declined. The Stecknitz, which falls into the Trave above the town, and which is connected, by the Delvenau, with the Elbe, the latter river is accessible from Lubeck, and much of the merchandise from the Baltic passes by Lubeck for Hamburg. Lubeck has sugar refineries, tobacco, leather, starch-works, gold and silver, lace, hat, cotton and woollen manufactures, &c. The territory of the town, consisting of Brege and the Vierlands (which belong to Lubeck as common with Hamburg), is 116 miles square, with 18,000 inhabitants. To this territory belongs the small town of Travemünde, situated at the mouth of the Trave, with a harbour and bath. When the constitution of the empire was abolished, in 1806, Lubeck, though disconnected from the rest of Germany, remained a free Hanseatic city. After the battle of Lubeck (Nov. 6, 1806), Blücher forced its retreat by the capitulation of Ratkau. 1500 Prussians and 1500 Swedes were taken prisoner, and Lubeck was pillaged. In 1810, it formed a part of the French department of the mouths of the Elbe. By the congress of Vienna, Lubeck was then declared a free city. The government consists of four burgomasters and sixteen councillors. The body of citizens is divided into twelve guilds, each of which has one vote. The revenue is about 400,000 guilders; the debt, 3,000,000. In the German diet, Lubeck has one vote, with the three other free cities, and in the plenum, one vote. The contingent is 600 men. Lubeck is the seat of the supreme court of appeal of the four free cities.

LUCAGIORDANO (also called *Luce Fa Fa*) See *Giordano*.

LUCANUS, MARCUS ANNÆUS; a Roman poet, born at Corduba, in Spain, about A. D. 39. His father, a Roman knight, was the youngest brother of the philosopher Seneca. Lucan went to Rome when a child, where he was instructed by the ablest masters in philosophy, grammar, and rhetoric. Seneca introduced him into public life. He obtained the dignity of a questor before he was of lawful age, and entered the college of augurs. Having obtained some celebrity by several poems, he excited the jealousy of Nero, who aspired to the reputation of a great poet. The latter, on a certain occasion, had recited a poem upon the history of Nævius, before a numerous assembly, and obtained great applause.

when Lucan ventured to enter the lists as his rival, with a poem upon Orpheus, and the auditors adjudged him the superiority. From that time, Nero looked upon Lucan with hatred, forbade him to make his appearance in public, and spoke of his works with derision and contempt. This induced Lucan to conspire against him, with several distinguished persons, of whom Piso was the head. The plot was discovered, and Lucan, who, according to the assertion of an old grammarian, was so unnatural as to inform against his own mother as accessory, was condemned to death. He chose the death of his uncle, and had his veins opened. He died in the twenty-seventh year of his age. Of his poems, only his *Pharsalia* has come down to us, in which he narrates the events of the civil war between Cæsar and Pompey. The poem is unfinished, and is frequently disfigured with harshness and obscurity in the expression, rhetorical bombast, and exaggerated figures; but these defects are, at least in part, compensated by a nobleness of sentiment, and a love of freedom, which run through the whole work, and some passages are truly poetical. The best editions are the *Variorum* (Leyden, 1658, 8vo), Oudendorp's (Leyden, 1728, 2 vols., 4to), Burmann's (Leyden, 1740, 4to), and Weder's, with the notes of Bentley and Irtius (Leipsic, 1819, 2 vols.) Lucan has been translated into English by Rowe.

LUCAVAS. See *Bahamas*.

LUCCA; a city and duchy in Italy, originally a colony of the Romans, which, on the fall of the Lombard kingdom (774), was added by Charlemagne to his territories, and annexed by Otho I. (the Great) to his German dominions. During the middle ages, it was repeatedly sold by its masters, on account of the liberal principles of its citizens. Louis of Bavaria appointed the brave Castruccio Castracani duke of Lucca, but this dignity became extinct at his death. After many changes of its tyrants, having been sold to Florence, Lucca finally obtained its freedom, in 1200, of the emperor Charles IV., for 200,000 guilders. Though often at war with Florence, it maintained its independence until the time of Napoleon, under the government of a *gonfaloniere* and a council. The French obliged it to adopt a new constitution, and, in 1797, it was united with Piombino, and given to Bacciocchi, brother-in-law of Napoleon, as principality. In 1815, the Austrians took possession of it, and, by an act of the congress of Vienna, was granted to the Infanta Maria Louisa, daughter of king Charles IV. of Spain, and widow of the king of Etruria, with the title of a duchy, and with complete sovereignty. To the revenue of the country (30,000 guilders), an annuity of 500,000 francs was added, which Austria and Tuscany bound themselves to pay. In case of the extinction of the family of the Infanta, or its transference to any other throne, the duchy of Lucca is to be united to Tuscany. Maria Louisa accepted the government in 1818, after the cession of Parma was secured to her.

The duchy of Lucca (413 square miles, 137,500 inhabitants) is bounded by the Mediterranean, Modena, and Tuscany, and, although the soil is not universally fertile, the people are in good condition. The Apennines stretch along its boundaries; in other parts it is well cultivated. The Serchio is not navigable, and is only used for floating down wood. It forms the beautiful Val di Serchio. The products are corn (not sufficient to supply the inhabitants), great quantities of fruit, as olives, chestnuts, pears, oranges, lemons, figs, and mulberries. It yields good wine; olives form the richest agricultural produce; the oil of Lucca is the best of Italy. The cultivation of silk, and the raising of cattle, are also lucrative. The legislative power of

the duke is limited by a senate, which he annually assembles.

Lucca, the capital, and ducal residence (with 18,000 inhabitants, on the river Serchio, in a fertile plain, encompassed by hills, which are covered with olive trees, and, at the summits, with oak and fir trees), is surrounded with ramparts planted with trees, and forming a beautiful walk. The streets are generally crooked and narrow; the churches and public buildings plain. The cathedral is large, but in a bad style; the palace is old, and without beauty. The *Accademia degli Oscuri*, founded in 1584, was reorganized in 1805, under the title *Accademia Lucchesina di Scienze, Lettere ed Arti*, by prince Bacciocchi. Here is also a university with an observatory. It is the see of an archbishop, and contains two large woollen and considerable silk manufactories. The inhabitants carry on a trade in oil and silk, and are actively engaged in agriculture. The beautiful environs of the town are adorned with country seats. In the vicinity are a mineral bath and the harbour of Viareggio.

LUCCHESINI, GIROLAMO, marquis of, formerly Prussian minister of state, descended from a patrician family of Lucca, where he was born in 1752, was introduced by the abbé Fontana to Frederic II., about 1778, who took him into his service as librarian, with the title of a chamberlain. Lucchesini, the literary friend of Frederic II., first received a diplomatic appointment under his successor, being sent to Warsaw, where, at the opening of the council of state, in 1788, he exerted himself with great activity, encouraged the advocates of independence against Russia, and, in March, 1790, brought about an alliance between Prussia and Poland. In 1791, he was present at the congress of Reichenbach, in the capacity of a plenipotentiary, for effecting, in conjunction with the British and Dutch ministers, a peace between the Turks and the emperor. In July, 1792, he went once more to Warsaw, where he was compelled, by existing circumstances, to break the alliance that he himself had signed. In January, 1793, the king appointed him his ambassador to Vienna; he, however, accompanied the king during the greater part of that campaign. In March, 1797, he was recalled from Vienna, and, in September, 1802, was sent as ambassador extraordinary to Paris, and afterwards visited Napoleon at Milan. The breaking out of the war between Prussia and France, in October, 1806, was unjustly ascribed to his instigation. He accompanied the king to the battle of Jena, then signed an armistice with Napoleon at Charlottenburg, of which, however, the king did not approve; in consequence of which, as he believed himself to have lost the favour of the king, he took his dismissal, in order to return to Lucca. He was afterwards chamberlain to Napoleon's sister, the princess of Lucca, and accompanied her to Paris on the occasion of her brother's second marriage. Count Ségur, in his *Tableau historique et politique de l'Europe*, passes the following judgment on his Polish mission: "No man was better adapted for the post than he. His activity left no opportunity unimproved. Vigilant in accomplishing his object, and rapid in choosing the best means, the marquis of Lucchesini combined the qualities of an experienced courtier with the practical knowledge of a statesman. Learned without pedantry, his great memory supplied him with useful facts for the purposes of business, as well as interesting anecdotes for conversation. His intimacy with Frederic II. procured him a great influence; his powers of insinuation enabled him to penetrate into the interior of all characters; his sagacity easily removed the veil from all mysteries; and his zeal and activity, which gave him an open and frank appearance, con-

created his real views, and persuaded the Poles that he was as ardently engaged for the promotion of their welfare as his own." His work concerning the confederacy of the Rhine, *Sulle Cause e gli Effetti della Confederazione Renana*, etc. (Italy, 1810), was published at Rome, and in a German translation also, by Von Halem, at Leipsic (3 vols, 1821). In the *Atti della R. Accad. Lucches. di Scienze, Lettere ed Arti. I.* (Lucca, 1821), he contributed a paper on the history of Frederic II. He died at Florence, October 19, 1825. He must not be confounded with the marquis Cesare Lucchesini, counsellor of state in Lucca, whose *Dell' Illustrazione delle Lingue antiche e moderne e principalmente dell' Italiana, procurata nel Secolo XVIII. dagli Italiani* (Lucca, 1819, 2 vols), is a continuation of the work of Denina. He has also published *Fragments for the Literary History of Lucca*.

**LUCERNE** (*Lucern*); a canton of Switzerland, bounded N. by Aarau and Zug, E. by Schwitz, and S. and W. by Berne; superficial area, 800 square miles; population, 105,600 Catholics. The elevation of the country is great, but it contains no very lofty summits; mount Pilate, 7,100 feet high, is the principal. The soil is generally fruitful, and more corn is produced than is consumed in the canton. Great numbers of cattle are raised, and cheese is therefore among the chief exports. The people are of German origin, and in a very comfortable condition. Lucerne joined the Swiss confederacy in 1332, its constitution is representative, but founded on aristocratic principles. The sovereign power resides in the *Aundred*, a senate elected for life by the richer citizens. Two presidents (*Schultheissen*) exercise the executive power alternately for a year. Lucerne was one of the eleven cantons in which fundamental changes in the cantonal constitutions were demanded by the people in October, 1830. An account of the movements at that time will be found in the article *Switzerland*.

Lucerne, the capital, is on the lake of Lucerne, and the river Reuss. It contains 6,700 inhabitants, and is, alternately with Berne and Zurich, the seat of a papal nuncio. The cathedral contains one of the finest organs in Europe. General Pfyffer's topographical model of a large part of Switzerland, in relief, is to be seen here; and in the vicinity is a lion, sculptured in relief on a rock (1820), to commemorate the massacre of the Swiss guards in the Tuilleries. The lake of Lucerne is a portion of the large lake of Vierwaldstattersee.

**LUCIA**, St. or ST. ALOUSIE; one of the Caribbee islands, in the West Indies, belonging to Great Britain; twenty-seven miles long, and twelve broad; seven leagues south of Martinico; lon. 61° W.; lat. 13° 37' N. This island exhibits a variety of hills, and, among others, two that are remarkably round and high, said to be volcanoes. At the bottom of these are plains finely watered with rivers, and very fertile. The air, by the disposition of the hills, which admit the trade-winds into the island, is very healthy. The soil produces timber, cocon, and fustic, and is well adapted for the cultivation of sugar and coffee. It is provided with many bays and harbours, the chief of which, called *Little Carenage*, is accounted the best in all the Caribbees. Population in 1803, 16,640; whites, 1,290; people of colour, 1,660; slaves, 13,690; in 1810, 20,000. The town of Carenage contains 5,000 or 6,000 inhabitants, and Castres 3,000 or 4,000.

**LUCIAN**, a Greek author, distinguished for his ingenuity and wit, was born in Samosata, the capital of Comagene, on the Euphrates, during the reign of Trajan. He was of humble origin, and was placed, while young, with his uncle, to study statuary; but

being unsuccessful in his first attempts, he went to Antioch, and devoted himself to literature and classic rhetoric. He soon, however, combined himself with the latter, and travelled in several countries, and others, Greece, Italy, Spain, and Gaul; as a rhetorician. In the reign of Marcus Aurelius, he was made procurator of the province of Egypt, and died in the reign of Commodus, eighty or ninety years of age. The works of Lucian, of which many have come down to us, are narrative, rhetorical, critical, satirical, and in the form of dialogues. The most popular are those in which he ridicules with great wit the Greek mythology and the philosophical sects, particularly his *Dialogues of the Gods*, and of the *Dead*. They have given him the character of being the rival of ancient writers. He seems not to bring any system himself, but he attacks impudently an opposition freely and boldly wherever he finds it. The Epicureans, who, in this respect, are of him, are therefore treated with more freedom. The Christian religion, of which, however, he knew little, and that only through the medium of mysticism, was an object of his ridicule. In his casuism, he not unfrequently oversteps the limits of truth, sometimes repeats calumnies against certain characters, and occasionally, according to the usage of our time, offends against decency, though in general, he shows himself a friend of morality. The best editions of his works are by Boissonade (Paris 1615, folio), by Hemsterhuis and Rea (Amsterdam 1743, 4 vols, 4to), and the Bipont: (1795, 4 vols, 8vo). Among the English translations are those of Thomas Hickes, and Franklin.

**LUCIFER** (*light-bearer*; with the *Greeks* *phoros*); a son of Jupiter and Aurora. As one of the stars, his office, in common with the five was to take care of the steeds and chariot of the sun; and he is represented riding on a white horse as the precursor of his mother; therefore the morning star. He is also the evening star (*Vesper*) and in this character has a dark-colored horse; for this reason riding horses (*desultores*) were consecrated to him, and the Romans gave him the name *Desultor*. It has long been known, that the evening and morning star are one and the same, viz. the beautiful and bright planet Venus.

The name of *Lucifer* is also given to the prince of darkness, an allegorical explanation of the text: the church making a passage of Isaiah 14:12, in which the king of Babylon is compared with the morning star, refer to the evil one.

**LUCILIUS**, *CARRUS FENICE*, a Roman knight, grand uncle to Pompey the Great, on the maternal side, born at Suessa (B. C. 149), served in the campaign against Numantia, under Scipio Africanus, with whom he was very intimate. He is considered the inventor of the Roman satire, because he first gave it the form under which this kind of poetry was carried to perfection by Persius, Horace, and Juvenal. His satires were superior, indeed, to the productions of an Ennius and Persius, but he, in turn, was surpassed by those who followed him. It is said that he compared him to a river which carries all precious dust mixed with useless rubbish. Of his satires which he wrote, only some fragments have been preserved in various editions, of which those of Dousa (Leyden, 1597, 4to); Ammonius, 1608, and Padua, 1735) are esteemed the best. In his time, these satires had an uncommon popularity, and died at Naples about 103 B. C.

There was also another Lucilius, who wrote a didactic poem, *Æneid*, edited by Carion (Leiden, Amsterdam, 1803).

**LUCINA**, a surname of Juno promising to give of Diana; according to others, the sister of a king

ter of Jupiter and Juno), is derived either from *lucus* (grove, because her temple stood in a grove), or *lus* (light, because children are brought to light at birth), or from *lucio* (I shine, as denoting the moon). Her festival was celebrated March 1, on which occasion the matrons assembled in her temple, adorned it with flowers, and implored a happy and brave posterity, fecundity and an easy delivery. See *Ilithyia*.

**LUCKNOW**; a city of Bengal, capital of a *circar* of the same name, in Oude, situated on the Goomty; 95 miles N. N. W. of Allahabad, and 215 S. E. of Delhi; lon. 80° 55' E.; lat. 26° 24' N.; population, in 1800, estimated at upwards of 300,000; since that time it is thought to have diminished; it was formerly estimated as high as 500,000. It is a very ancient city, and the residence of the governors or nabobs of Oude. It is by no means a handsome town, the streets being very irregular and narrow; some of the houses of brick, but most of them mud walls, covered with tiles. The situation is bad, and the soil is a white sand, which, in hot weather, is driven about by the wind, and pervades every thing. The gilded domes of the mosques and the mausoleum of Asoph ud Dowleh give it a gay appearance at a distance. In the vicinity of the city stand the houses of the British resident and other European inhabitants. The Goomty is navigable for middling-sized vessels at all seasons.

**LUCON, or LUCONIA**; the principal of the Philippine islands, in the Eastern seas, belonging to Spain, sometimes called *Manilla*, from its capital; between lat. 13° and 19° N.; lon. 120° to 124° E.; about 400 miles from north to south, and from 90 to 120 in breadth; square miles, about 65,000. The country is generally mountainous, an elevated ridge extending the whole length. There are several volcanoes, and earthquakes are frequent, and sometimes destructive; those of 1650, 1754, and 1824, are still remembered with terror. The climate is moist, but temperate for the latitude, and the soil fertile. Cotton, indigo, sugar, tobacco, coffee, and other tropical produce, grow in great abundance; also the richest fruits of the East and West Indies. There are forty different sorts of palm-trees, excellent coconuts and assa, wild cinnamon, wild nutmegs, ebony, sandal-wood, and excellent timber for ship-building. Gold is found upon the mountains, and is washed down by rains. Cattle abound; civet cats are common, and ambergris is thrown upon the coasts in great quantities. The commerce is considerable; the principal exports are indigo, coffee, pepper, rice, sugar, and pearls. In 1827, of eighty-one vessels engaged in its trade, twenty-nine were Spanish and twenty-one American. The population is 1,376,000, and is composed of Spaniards, who are few, aboriginal blacks, Malays, Metis, and Creoles. The negroes are chiefly the interior, and are in a very barbarous state. The Malays, among whom the principal tribe is the Malays, are in part independent, and in part subject to the Spaniards. Brave, active, gay, and industrious, they are not ruined by the tyranny of the Europeans, but are rendered by oppression cruel and rapacious. Lucon was discovered by Magellan, in 1511, and conquered by the Spaniards in 1571. See *Philippines*.

**LUCRETIA**; a Roman lady of distinguished virtue, whose ill treatment by Sextus Tarquin led to the destruction of the kingdom, and the formation of the republic of Rome. She was the wife of Collatinus, a relation of Tarquin, king of Rome. Sextus Tarquinus, who contrived to become a guest in the house of her husband, whose kinsman he was, found means to reach her chamber in the middle of the night, and threatened, unless she gratified his desires, to stab her, kill a slave, and place him by her

side, and then swear that he had slain them both in the act of adultery. The fear of infamy succeeded. She afterwards summoned her husband, father, and kindred, and, after acquainting them with the whole transaction, drew a dagger and stabbed herself to the heart. See *Brutus, Lucius Junius*.

**LUCRETIVS, TITUS CARUS**, a Roman knight, probably born 92 B. C., is supposed to have studied the Epicurean philosophy at Athens. He is said to have been made insane by a philtre, and, in his lucid intervals, to have produced several works, but to have committed suicide in his forty-fourth year. We possess, of his composition, a didactic poem, in six books, *De Rerum Natura*, in which he exhibits the principles of the Epicurean philosophy with an original imagination, and in forcible language. The unpoetical subject of the poem must, of itself, make it, on the whole, a failure; but parts, notwithstanding, such as the description of human misery, the force of the passions, the terrible pestilence of Greece, &c., demonstrate that Lucretius was possessed of great poetical talents. By reason of his antiquated terms, and the new meanings which he gave to words, Quintilian himself regarded his poem as very hard to be understood. The principal editions are those of Creech (Oxford, 1695; London, 1717; Basle, 1770, &c.), of Havercamp, (Leyden, 1725, 2 vols., 4to), and of Wakefield (London, 1796, 3 vols. 4to). A masterly German translation, in the metre of the original, has been executed by Knebel (Leipsic, 1821, 4to). The Italian version by Marchetti, and the French by Pongerville, are also good. The poem has also been translated into English by Creech, by Busby, and by Good. Good's translation is accompanied by the text of Wakefield, and by elaborate annotations.

**LUCULLUS, LUCIUS LICINIUS**; the conqueror of Mithridates. Being chosen *ædilis curulis*, at the same time with his brother Marcus Licinius, he manifested in the Marsian war, ability and courage. In the civil wars of Sylla and Marius, he sided with the former. In the year of the city 679, he was appointed consul and commander of the army which was to proceed to Cilicia against Mithridates. Having already served against Mithridates with an inferior command during his questorship, he was acquainted with this country. He first sought to restore the ancient discipline, which the Roman soldiers had forgotten among the voluptuous Asiatics. Mithridates had already made a victorious beginning of the campaign by a naval battle with the consul Aurelius Cotta, the colleague of Lucullus. Lucullus was therefore compelled to hasten the attack of his land forces. But when he approached the army of Mithridates, and ascertained its strength, he deemed it judicious to avoid a decisive battle, and contented himself with cutting off the king's communications. Mithridates now advanced with a considerable force to besiege the city of Cyzicum, the key of Asia, then in the possession of the Romans. Lucullus, however, defeated his rearguard on their march thither, and compelled the king to give up his attempt. Lucullus now advanced to the coasts of the Hellespont, prepared a fleet, and vanquished the squadron of Mithridates near the island of Lemnos. This victory enabled him to drive all the other squadrons of Mithridates from the Archipelago. The generals of Lucullus subdued, meanwhile, all Bithynia and Paphlagonia. Lucullus, again at the head of his army, conquered various cities of Pontus, and, although overcome by Mithridates in a battle, he soon acquired such advantages, that he finally broke up the hostile army, and Mithridates himself sought protection in Armenia. Lucullus now changed Pontus into a Roman province. Tigranes refusing to surrender Mithridates to the Romans,

Lucullus marched against Armenia, and vanquished Tigranes. Mithridates, however, contended with various fortune, till Lucullus was prevented from continuing the war against him effectually, by the mutiny of his soldiers, who accused him, perhaps not unjustly, of avarice and covetousness. In Rome, the dissatisfaction of the soldiers towards Lucullus was found well-grounded; he was deprived of the chief command, and recalled. He was received, however, by the patricians, with every mark of respect, and obtained a splendid triumph. From this time, Lucullus remained a private individual, spending in profuse voluptuousness the immense riches which he had brought with him from Asia, without, however, abandoning the more noble and serious occupations of a cultivated mind. During his residence as questor in Macedonia, and as general in the Mithridatic wars, he had become intimate with the most distinguished philosophers. His principal instructor was the academician Antiochus, who accompanied him in some of his campaigns. Lucullus was therefore most interested in the Platonic system. After his return, he pursued the study of philosophy, induced many scholars to come to Rome, and allowed them free access to his house. He also founded, by means of Tyrannion, whom he had taken prisoner in the Mithridatic war, an extensive library, which was free to every one, and of which Cicero made diligent use. His example, also, induced other distinguished Romans to draw learned men to Rome at their expense. At last, he is said to have lost his reason in consequence of a philtre, administered by his freedman Callisthenes, so that it was necessary to place him under the guardianship of his brother. He soon after died, in his sixty-sixth or sixty-eighth year. Lucullus first transplanted the cherry-tree to Rome from Cerasus, in Pontus, 680 years after the building of the city.

**LUDDITES**; a name given, some years since, in England, to the rioters who destroyed the machinery in the manufacturing towns. They were so called from one of their leaders, named Ludd.

**LUDLOW, EDMUND**, a distinguished leader of the republican party in the civil wars of Charles I., the eldest son of Sir Henry Ludlow, was born about 1602, at Maiden Bradley, in the county of Wilts, and received his education at Oxford, whence he removed to the Temple, in order to study the law. He served with distinction in the parliamentary army, and when "the self-denying ordinance" took place, he remained out of any ostensible situation, until chosen member for Wiltshire, in the place of his father. At this time, the machinations of Cromwell becoming visible, he was opposed by Ludlow with firmness and openness. With a view of establishing a republic, he joined the army against the parliament, when the latter voted the king's concessions a basis for treaty, and was also one of Charles's judges. With a view of removing him, Cromwell caused him to be nominated general of horse in Ireland, where he joined the army under Ireton, and acted with great vigour and ability. When Cromwell was declared protector, Ludlow used all his influence with the army against him, on which account he was recalled, and put under arrest. Although he refused to enter into any engagement not to act against the government, he was at length allowed to go to London, where, in a conversation with Cromwell himself, he avowed his republican principles, and, refusing all security or engagement for submission, he retired into Essex, where he remained until the death of the protector. When Richard Cromwell succeeded, he joined the army party at Wallingford-house, and was instrumental in the restoration of the long parliament, in which he took his seat. The

restoration was now rapidly approaching, and, finding the republicans unable to resist it, he quitted country, and proceeded to Geneva, whence he afterwards, with many more fugitives of the party, took refuge at Lausanne, where Luke was accompanied by some English royalists. Similar attempts were made on the lives of Ludlow and others, but his caution and the vigilance of the magistracy of these cities protected him, and he passed the remainder of his life at Vevay, with the exception of a brief time in England after the revolution, from which he was driven by a motion in parliament for his attachment to Sir Edward Seymour, the leader of the party. He closed his life in exile, in 1663, being then in his seventy-third year. Ludlow was one of the most and most honourable characters on the republican side, without any fanaticism or hypocrisis. His Memoirs contain many particulars as related to the general history of the times: they are written in a manly, unaffected style, and are repeated with matter.

**LUFF**; the order of the helmsman to put the ship towards the lee-side of the ship, in order to make the ship sail nearer the direction of the wind.

**LUGDUNUM**; the Latin name of several cities: 1. a colony of the Romans, also called *Lugdunum Batavorum* (q. v.), though not on the same spot. 2. *Lugdunum Batavorum* (q. v.); a city in Gallia Belgica, at a later period, the middle ages, called *Luthin*; at present, *Lutich* (q. v.); hence, on the title page of *Commen. Lugdunum Batavorum*, many of which are very fine editions. 3. *Lugdunum*; a city of the Conventus, or civitas, Aquitania, most probably the present *Limoges*. 4. *Lugdunensis* (Gallia) was the name given to a province of Augustus, to a part of Caesar's Gaul. There were *Lugdunensis Prima*, afterwards *Lugdunensis*; *Lugdunensis Secunda*, afterwards *Touraine*; *Lugdunensis Tertia*, afterwards *Touraine*; *Lugdunensis* *Senonia*, comprising part of Champagne, south of the Marne, the southern part of *le de France*; *Lugdunensis* *Perche*, and *Orleanensis*.

**LUGGER**; a vessel carrying three masts with a running bowsprit, upon which she sets her mainmast, and sometimes has top-sails adapted to them.

**LUG-SAIL**; a quadrilateral sail bent upon a yard, which hangs obliquely to the mast, at one third of its length. These are more particularly used in the *barcalongas*, navigated by the Spaniards in the Mediterranean.

**LUKE**; author of one of the Gospels, which is distinguished for fulness, accuracy, and contains extensive information; also of the Acts of the Apostles, in which he gives a methodical account of the origin of the Christian church, and particularly of the travels of the apostle Paul. Though three of the books were designed merely for his friends, yet they soon attained a canonical authority, and were publicly read in the churches. Concerning the circumstances of the life of this evangelist, nothing certain is known, except that he was a Jew by birth, and a contemporary of the apostles, and that he heard accounts of the life of Jesus from the mouth of eye-witnesses, and was for several years a companion of the apostle Paul, in his travels, as seen in the Acts of the Apostles, he relates what he himself had seen and participated in. The supposition that he was a physician is more probable than the tradition which makes him a painter, and which attributes to him an old picture of Christ, preserved at Rome. On account of the latter tradition, however, he is the patron saint of painters, and a celebrated academy of those artists at Rome bears his name.

**LUKE OF LEYDEN**, one of the founders of modern painting in the North, stands by the side of Dürer, Holbein, and Cranach, at the head of the old German school, though, strictly, he does not belong to Germany. He was born at Leyden, 1494, and enjoyed, in early life, the instruction of his father, Hugo Jacob, and afterwards that of Cornelius Engelbrechtsen, an eminent painter, and scholar of Van Eyck. At the early age of nine, he began to engrave, and, in his twelfth year, astonished all judges, by a painting, in water-colours, of St Hubert. In his fifteenth year, he produced several pieces, composed and engraved by himself, among which the Trial of St Anthony, and the Conversion of St Paul, in regard to composition, characteristic expression, drapery, and management of the graver, are models. After this, he executed many paintings in oil, water-colours, and on glass; likewise a multitude of engravings, which spread his fame widely. He formed, a friendly intimacy with the celebrated John of Mabuse and Albert Dürer, who visited him in Leyden. His unremitting application injured his health; and his anxious friends persuaded him to travel through the Netherlands. But his hypochondria was not removed. He imagined himself poisoned by envious painters, and hardly left his bed for almost six years; during which time he laboured uninterruptedly, and rose to the highest rank in his art. He died in 1533, in his fortieth year. This artist is excellent in almost all parts of his art, though he could not entirely divest himself of the taste which characterized the childhood of painting. His designs are striking, ingenious, and varied; his grouping judicious and natural; character appears in all his figures, particularly in the heads, though this character cannot be called noble. The situations and attitudes of his figures are very various, which is the more remarkable, from the great number of persons often found in his paintings. His drawing is correct, yet not ideal, but fashioned after the models of the country in which he lived. His drapery is, indeed, mostly arranged with truth, but without taste, heavy, and deformed by many small folds. His colouring is pleasing and natural, but the aerial perspective is neglected; and there is a certain harshness, not to be mistaken, peculiar to that period of the art. Notwithstanding his high finish, he painted easily. His engravings and wood-cuts bear evidence of a most careful and steady management of the graver. They are very rare, and highly prized, particularly those in which he selected the same subject with Albert Dürer, in order to compete with him. The friends often shared their ideas and compositions; but Luke ranks below Dürer. The fullest and most beautiful collection of engravings by his master, is in the library at Vienna. His paintings are scattered about in many galleries; the principal in Leyden, Vienna, Dresden, Munich, and in the Tribune at Florence.

**LULLY, RAYMOND**, a distinguished scholastic of the thirteenth century, author of the method called *lra Lulliana*, taught throughout Europe, during the fourteenth, fifteenth, and sixteenth centuries, was born at Majorca, in 1235. After having been attached to the gay court of James I. of Arragon, he became filled with pious feelings, and, at the age of thirty, retired to a solitude, and for the purpose of converting infidels, began the study of theology. Encouraged by visions, he undertook the task by studying the eastern languages, and invented his new method, or *ars demonstrativa Veritatis*, for the purpose of proving that the mysteries of faith were not contrary reason. He then visited Rome and France, in the schools of which he taught; and, while at Montier, composed his *Ars inventiva Veritatis*, in which he develops and simplifies his method. Pass-

ing over into Africa, for the purpose of convincing the Mohammedan doctors of the truth of Christianity, he narrowly escaped with his life; and, on his return to Europe, wrote his *Tabula generalis*, a sort of key to his former works, and, in 1298, obtained from Philip the Fair a professorship at Paris. From this period dates the establishment of his doctrine in Europe. His *Ars expositiva* and *Arbor Scientiæ* are his other principal works on this subject. A second visit to Africa, for the purpose of converting the disciples of Averroes, resulted in his banishment from that region; but he returned a third time, and was stoned to death, about 1315. The Lullian method was taught and commented on for several centuries in Europe. The principal commentators are Lefèvre-d'Étaples, Alstedius, Sebonde, &c. See Degerando, *Histoire comparée des Systèmes de Philosophie*.

**LULLY, JEAN BAPTISTE**; born at Florence, of obscure parents, in 1634. As a child, he exhibited a passionate fondness for music. The chevalier Guise, who had been commissioned by Mlle. de Montpensier to send her an Italian page, struck with his talent, engaged him, and despatched him to Paris in his tenth year. The lady, however, was so little pleased by his appearance, that she sent him into her kitchen, where he remained some time in the humble capacity of an under-sculion. His musical talent becoming accidentally known to a gentleman about the court, his representations procured him to be placed under a master. He now rose rapidly, till he obtained the appointment of musician to the court. His performance soon attracted the notice of the king, by whose direction, a new band, called *les petits Violons*, was formed, and Lully placed at the head of it, in 1660; about which period, he composed the music to the then favourite amusements of the court, called *ballets*, consisting of dancing, intermixed with singing and recitative. In 1670, Lully was made joint-director of the French opera, established the preceding year, on the plan of that at Venice, which situation he filled till his decease, in 1687. Lully contributed much to the improvement of French music, and is said to have been the inventor of the overture.

**LUMBAGO** (from *lumbus*, the loin); a rheumatic affection of the muscles about the loins. See *Rheumatism*.

**LUMPERS**; labourers employed to load and unload a merchant ship when in harbour.

**LUMP-FISH** (*cyclopterus*, Lin.). These fish are very remarkable for the manner in which their ventral fins are arranged. They are united by a membrane so as to form a kind of oval and concave disk. By means of this apparatus, these fish are enabled to adhere with great force to any substance to which they apply themselves. This has been proved by placing one of them in a bucket of water, when it fixed itself so firmly, that, on taking the fish by the tail, the whole vessel and its contents were lifted from the ground, although it held some gallons. (*Brit. Zoology*.) The largest of the genus is the *C. lumpus*: this is about nine inches long, and sometimes weighs seven pounds. The back is arched and sharp, of a blackish colour, variegated with brown. The body is covered with sharp, black tubercles; and on each side, there are three rows of large, bony scales, and another on the back. The great resort of this species is in the northern seas, about the coast of Greenland. Great numbers of them are devoured by the seals, who swallow all but the skins, quantities of which, thus emptied, are seen floating about in the spring months, when these fish approach the land for the purpose of spawning. It is said that the spots where the seals carry on their depredations can be readily distinguished by the smoothness of the water.

Crants says that the inhabitants of the barren tracts of Greenland, who are obliged to depend, for the greatest part of their subsistence, on fish, eagerly avail themselves of the arrival of this species. The roe is remarkably large: when boiled, it forms an exceedingly gross and oily food, of which the Greenlanders are very fond. The flesh is soft and insipid.

**LUMP-LAC.** See *Coccus*, end of the article.

**LUNA** (the moon), among the Greeks, *Σελήνη*, was the daughter of Hyperion and Terra (*Γαία*), and was the same, according to some mythologists, as Diana. She was worshipped by the ancient inhabitants of the earth with many superstitious forms and ceremonies. It was supposed that magicians and enchanters, particularly those of Thessaly, had an uncontrollable power over the moon, and that they could draw her down from heaven at pleasure, by the mere force of their incantations. Her eclipses, according to their opinions, proceeded from thence, and, on that account, it was usual to beat drums and cymbals, to ease her labours, and to render the power of magic less effectual. See *Helios*.

**LUNAR CAUSTIC.** See *Nitrate of silver*.

**LUNAR YEAR.** See *Year*.

**LUNATICS**, in medicine. See *Mental Derangement*.

*Lunatics*, in law. See *Non Compos*.

**LUND**, or **LUNDEN**; a town in Sweden, province of Skonen, and government of Malmöhus, five miles from the Baltic; lon. 13° E.; lat. 55° 44' N.; population, 3,224. It is a bishop's see, and contains a university, founded in 1660, by Charles IX., which has fifteen professors, a botanic garden, an anatomical theatre, a cabinet of curiosities, an observatory, and a library of 40,000 volumes. The number of students, in 1827, was 631.

**LUNEBURG**; formerly a principality of Lower Saxony, at present, a province of Hanover, with 4325 square miles, and 264,000 inhabitants. The Elbe forms its boundary on the north and north-east. Luneburg is a vast plain of sand, interrupted here and there by deep moors and forests of pine. The marshes on the rivers are, however, wonderfully productive, but are better fitted for pasture, and the cultivation of garden vegetables, than for tillage. The rivers of the province flow into the Elbe or the Weser, the high land which divides the basins of those two rivers being the great Luneburg heath. The dykes, which protect the country from the inundations of the Elbe, are enormously expensive. About seven tenths of the whole province are incapable of cultivation, and corn is not produced in quantities sufficient to supply the inhabitants. Flax is extensively raised, and the cattle are numerous and of a good description. Bees are kept on the heaths, and the fisheries in the rivers are important. Salt, wool, linen, bees-wax, and wooden-ware, are the chief exports. The great commercial road from Hamburg to Hanover and Brunswick, runs through the province, and the towns of Luneburg and Celle carry on a considerable commission business. Luneburg was originally an allodial estate of the house of Brunswick, and gave its name to one of the branches of the family. See *Brunswick*.

*Luneburg*, the capital of the province, is an old town, with about 11,300 inhabitants, situated on the Ilmenau, which is navigable to this place for small vessels. The Kalkberg is a curious gypseous rock, 118 feet high, on which are remains of ancient fortifications, and in the quarries of which is found the rare mineral boracite. The salt springs are capable of yielding 2000 tons of salt a week. The transit trade between Hanover and Brunswick is extensive, a large number of horses being brought to Lune-

burg annually, and is estimated at 15,000,000 in dollars.

**LUNETTE**, in the art of fortification; a very vague expression, which in its original significance probably comprised every detached work built in the form of an angle, and consisting of but two bastions. It was afterwards used in a more limited sense to denote, 1. Small, generally irregular, works, with or without flanks, that are placed in the principal ditch, before the ravelins, or other out-works for the purpose of covering such places of the defence part, as may be seen from the open field, and preventing from the side such points as track a mistake in the original plan of the fortification, or left unprotected, the guns from the bastions unable to reach them. 2. Advanced works, as before the glacis, sometimes constructed in the form of an angle, sometimes in the form of the bastion. The kind of lunettes, skilfully disposed on the out-works of a place, and arranged, in one or two lines, so as to flank one another, may check the progress of the enemy for a considerable time, by obliging him to make his trenches at a greater distance than he would otherwise have done, and subjecting him to losses in the capture of each lunette. Particular attention must be paid to dispose them in such a manner as to render it impossible for the enemy to attack two lunettes at the same time.

**LUNEVILLE**; an open city of Lorraine, department of the Meurthe, in a fruitful plain, with 1093 three churches, and 12,378 inhabitants. Stanislaus Leszynski, king of Poland, to whom the town and Bar had been granted, resided here. Lat. 48° 35' N.; lon. 6° 30' E.

*Luneville, Peace of*; concluded Feb. 2, 1765, between Austria (also in the name of the German empire) and the French republic, upon the basis of the peace of Campo-Formio. Belgium and the left bank of the Rhine were ceded to France; Mantua to the Cisalpine republic; Venice, and the country as far as the Adige, Istria, and Dalmatia, to Austria. The princes on the left bank of the Rhine were to be indemnified by territories within the empire. Austria ceded the Frickthal, and the strip of land between Basle and Zurich, to France, who, in 1802, gave them to Switzerland. Austria ceded Brisgau to the duke of Modena, and confirmed the erection of the kingdom of Etruria, for which the grand-duke of Tuscany was to be indemnified in Germany. The valley of the Rhine formed the boundary of France. The navigation of the river was declared free, and remained so until 1814, when toll was imposed for the complete indemnification of several members of the empire.

**LUNGS**; the organs of respiration in the mammalia (man, quadrupeds, and the cetaceous animals), birds, and reptiles. The lungs are situated in the thorax and are divided into two parts, called lobes. They are enveloped in a delicate and transparent membrane derived from the pleura, through which they derive the appearance of net-work, and are connected to the spine by the pleura, with the neck by the esophage, and with the heart by the roots of the pulmonary artery and veins. In their specific gravity, they are the lightest of all the animal organs, even when exhausted of air; hence their name of *légères*. To the touch, they are soft, spongy, and elastic. In their internal structure, they are composed of an infinite number of membranous, called blood-vessels, arteries and lymphatics, all connected by cellular substance. The cells communicate with each other, but have no communication with the cellular substance, and tubes arise from them, which are finally united in one large tube from each lobe; and these two large length join to form the windpipe. The blood enters

called the *pulmonary* vessels are destined to distribute the blood through the cells, for the purpose of subjecting it to the action of the air (see *Blood*, and *Heart*); while the bronchial vessels are intended to supply the blood which nourishes the lungs. (For the action of these organs in respiration, see *Respiration*.) The cetacea (whales, seals, &c.) breathe by lungs, and are therefore obliged to ascend, at intervals, to the surface of the water, to obtain a supply of atmospheric air. The respiratory orifice, in these animals, is not situated at the extremity of the snout, but on the top of the head. In birds, the lungs are smaller than in quadrupeds, but they have air distributed throughout their muscular system and in the cavities of the bones.

The lungs afford a means of ascertaining whether a new-born child, which is found dead, was or was not living, when born,—a question often of great importance in forensic medicine. The lungs of the infant are placed in water, to see whether they will swim or sink. Before birth, the lungs are dark red, contracted into a small place within the cavity of the breast, firm, and specifically heavier than water. They therefore sink in water, whether they are entire or cut into pieces; and when cut, no air-bubbles come forth, either in or out of the water, nor does much blood appear. But if the babe has lived after birth, and therefore breathed, air has entered the lungs, has thus enlarged the cavity of the chest, and the lungs themselves are expanded, appear of a loose, spongy texture, of a pale red colour, cover the heart, and fill the chest. They then swim in water, as well in connexion with the heart as without it, as well entire as in pieces. If cut, a peculiar sound is audible; air proceeds from them, and rises, if they are pressed under water, in small bubbles. From the incisions in the lungs, red, and generally foamy blood issues. Against this test, it has been objected—1. that air may be found in the lungs, though the infant never breathed. This could happen, however, only (a) from air having been blown into them; but, in this case, the chest of the infant is not arched, very little blood is to be found in the lungs, and it is not bright red nor foamy; (b) from putrefaction; but, in this case, the other parts of the body would also be affected by putrefaction: the lungs are not expanded, pale-red air-bubbles show themselves only on the surface, and not in the interior substance, unless the highest degree of putrefaction has taken place. 2. It is said that the child may have breathed, and therefore lived, without air being found in the lungs. This is not proved, and is at variance with the received ideas of the manifestation of life. 3. That part of the lungs may swim, another may sink. This can happen only with lungs in a diseased state, and would only prove an attempt of the infant to breathe, without the possibility of living. 4. That a child may have lived without breathing; but this state of apparent death cannot be called life: life cannot be supposed without breath. If all precautions are taken, all attending circumstances considered, the external appearance of the infant well observed, and the state of the other intestines examined, the foregoing test may be considered as sufficient for the decision of the question, whether a child has lived after birth or not. Another kind of test by means of the lungs has been proposed, which is founded on the proportion of the weight of the whole body to a lung which has breathed, and one which has not; and still another, which rests on the circumference of the chest before and after breathing has commenced; but both are more complicated, troublesome, and less certain than the former one.

LUPERCALIA; a yearly festival observed at Rome, the 15th of February, in honour of the god

Pan, surnamed *Lupercus* (from *lupus*, wolf, and *arceo*, to drive away), the defender from wolves. It was usual first to sacrifice two goats and a dog, and to touch, with the bloody knife, the foreheads of two illustrious youths, who always were obliged to smile while they were touched. The blood was wiped away with soft wool dipped in milk. After this, the skins of the victims were cut into thongs, with which whips were made for the youths. With these whips the youths ran about the streets, all naked except the middle, and whipped those they met. Women, in particular, were fond of receiving the lashes, as it was believed that they removed barrenness, and eased the pains of child-birth. This excursion in the streets of Rome was performed by naked youths, because Pan is always represented naked, and a goat was sacrificed because that deity was supposed to have the feet of goats. A dog was added as necessary for the shepherd. The priests which officiated at the Lupercalia were called *Luperci*.

LUPINE; a genus of leguminous plants, containing about thirty species, which are herbaceous or frutescent, bearing petiolate and usually digitate leaves, and large, handsome flowers, which are disposed in a terminal raceme. The *lupinus perennis* grows wild in sandy places, from Canada to Florida, and bears beautiful blue flowers. It has been cultivated in Europe for more than 150 years.

LUPULIN. M. Planché first ascertained that the three active ingredients of the hop, viz. the oil, resin, and bitter principle, reside in the brilliant yellow grains scattered over the calicinal scales of the cones, which serve as their envelope. Doctor Ives of New York, and MM. Payen, and Chevalier, have since confirmed this position. This matter, when insulated, is of a golden yellow colour, in little grains, without consistence, which attach themselves to the fingers, and render them rough. It has a penetrating aromatic odour: 200 parts of it afforded, 1. water; 2. essential oil; 3. carbonic acid; 4. subacetate of ammonia; 5. traces of osmazome; 6. traces of fatty matter; 7. gum; 8. malic acid; 9. malate of lime; 10. bitter matter, 25 parts; 11. a well characterized resin, 105 parts; 12. silica, 8 parts; 13. traces of carbonate, muriate, and sulphate of potash; 14. carbonate and phosphate of lime; 15. oxide of iron and traces of sulphur. The bitter matter, introduced into the stomach, destroys appetite.

LUSATIA (in German, *Lausitz*); an extensive country, bordering on Bohemia to the south, Meissen to the west, Brandenburg to the north, and Silesia to the east. It was formerly a margraviate, and was divided into Upper and Lower Lusatia, with a superficial area of 4250 square miles, the population of which is about 500,000. With the exception of the circle of Kottbus, which had fallen into the hands of the house of Brandenburg in 1550, Lusatia was granted to the elector of Saxony, in 1635. In 1815, all Lower Lusatia (1740 square miles), with a large part of Upper Lusatia, was ceded to Prussia (in all 3200 square miles, with 294,700 inhabitants), and was annexed to the governments of Frankfort and Liegnitz. The part of Upper Lusatia, which remained to Saxony (1050 square miles, with 195,000 inhabitants), now forms the circle of that name, comprising the eastern part of the kingdom; chief town, Bautzen (q. v.). It is not very fertile, hardly supplying half of the consumption of its inhabitants. Flax is raised in all parts, but great quantities are imported for the use of the manufactures. Linen, woollen, and cotton are the principal manufactures. See *Saxony*.

LUSIAD. See *Camoens*.

LUSITANIA; a part of Spain, whose extent and situation have not been accurately defined by the ancients. According to some descriptions, it ex-

tended from the Tagus to the sea of Calabria. The inhabitants were warlike, and the Romans conquered them with great difficulty. They generally lived upon plunder, and were rude and unpolished in their manners. See *Spain*, and *Portugal*.

**LUSTRATION**; purification; in particular the solemn purification or consecration of the Roman people, by means of an expiatory sacrifice (*sacrificium lustrale*), which was performed after every census. (See *Census*.) The name may be derived from *luere*, in the sense of *solvere*, for, on this occasion, all public taxes were paid by the farmers-general to the censor; or from *lustrare* (to expiate), because, after the census, an expiatory sacrifice was offered for the whole Roman people. The sacrifice consisted of a bull, a sow, and a sheep or ram (*suovetaurilia*). The ram was dedicated to Jupiter, the swine to Ceres, and the bull to Mars. This solemn act was called *lustrum condere*. As this lustration took place at the end of every five years, *lustrum* came to signify a period of five years.

**LUSTRE**. See *Lustration*.

**LUTE** (in Italian, *liuto*; French, *luth*; German, *laute*, perhaps from the German *lauten*, to sound) is an instrument which originated from the ancient lyre. Some, however, think that it was introduced into Spain by the Moors, where it was called *laoud*; and from thence into Italy, where it received the name of *liuto*. The *chelys*, or *testudo*, of the Romans, was probably a similar instrument. It is a stringed instrument, formerly much in use, anciently containing only five rows of strings, but to which six, or more, were afterwards added. The lute consists of four parts, viz., the table; the body, which has nine or ten sides; the neck, which has as many stops or divisions; and the head, or cross, in which the screws for turning it are inserted. In playing this instrument, the performer strikes the strings with the fingers of the right hand, and regulates the sounds with those of the left. The notes of the lute are generally written on six lines, and not on five. There were formerly various kinds in use. The lute, simply constructed, is called the *French lute*; if it has two necks, one of which sustains the base notes, it is called a *theorbo*; if the strings of the *theorbo* are doubled, it is called an *arch-lute*. The difficulty of playing upon this instrument, as well as that of tuning it, is probably the reason that it has gone out of use.

**LUTHER, MARTIN**, the great ecclesiastical reformer, was born at Eisleben, November 10, 1483. Hans Luther, his father, a miner, removed with his family to Mansfeld, in 1484, and was appointed to a seat in the council. Martin was educated in the deepest respect for religion, and, at the age of fourteen, was sent to the school at Magdeburg; but receiving no assistance there, he was sent, in 1498, to Eisenach. At first he obtained his support by singing songs at the doors, like many other poor scholars; but he was soon taken under the care of a maternal relation in easy circumstances. At school, he made rapid progress in Latin and other studies; in 1501, entered the university of Erfurt; in 1503, received the degree of master, and delivered lectures on the physics and ethics of Aristotle. About this time, he discovered, in the library of the university, a Latin Bible, and found, to his no small delight, that it contained more than the excerpts in common use. He was destined by his father to the law; but his more intimate acquaintance with the Bible, of which the clergymen of that time knew only the Gospels and Epistles, induced him to turn his attention to the study of divinity. The impression produced on him by the death of his friend Alexis, who expired at his side, on a journey from Mansfeld to Erfurt, by a stroke of lightning or the blow of an

assassin, uniting with the effect of his early religious education and his poverty, decided him to devote himself to the monastic life. Contrary to the wishes of his father, he entered the monastery of the Augustines, at Erfurt, in 1505, and submitted patiently to all the penances and humiliations which the apostles of the order imposed upon novices. But he always regarded himself as an unprofitable servant. Pure and innocent as he was, he tortured himself with bitter reproaches, and was attacked by a severe fit of sickness; during which, one of the elderly brethren consoled his troubled heart, and procured him the forgiveness of his sins through faith in Jesus Christ. This doctrine, almost forgotten in the west of the clergy for good works, as they called them, set at the traffic in indulgences, brought a new light to the soul of Luther. He was also encouraged by the paternal mildness of Staupitz, the provisor of the order, who, perceiving his extraordinary talents and acquirements, delivered him from the narrowness of the cloister, and encouraged him to continue in theological studies.

In 1507, he was consecrated priest, and, in 1512, by the influence of his patron, Staupitz, he was appointed professor of philosophy in the new university of Wittenberg. In this sphere of action, his powerful mind soon showed itself. He threw off the trammels of the scholastic philosophy, so intimately connected with the papal hierarchy, asserted the rights of reason, and soon collected a large number of disciples. In 1510, he visited the court of pope Leo X. at Rome, on business intrusted to his order. The journey revealed to him the irreligion and corruption of the clergy at Rome, and destroyed his reverence for the sanctity of the pope. After his return, he became a preacher at Wittenberg, and, in 1517, he was made a doctor in theology. As such, he was bound him, as he thought, to the freest views of the Holy Scriptures. His profound learning was embraced an intimate acquaintance with the sacred classics, the fathers of the church, and the spirit of the Greek and Hebrew languages, together with the fame of his eloquence, soon made Luther known to the principal scholars, and esteemed as a powerful advocate of the new light which was breaking upon the world. Great, therefore, was the excitement excited by his ninety-five propositions, given in the world October 31, 1517, and intended to put an end to the sale of indulgences, by the Dominicans. Luther was compelled to this course solely by the love of truth, and by his indignation against the sale in indulgences, the unhappy effects of which had appeared already in his congregation at Wittenberg. Ambition or hatred of the Dominicans had no influence in producing this measure. His propositions were condemned as heretical as soon as they appeared. Hogstraaten, a Dominican at Cologne, doctor both at Ingolstadt, and Prierias, an officer of the Roman court, immediately began an attack upon Luther; but neither their invectives, nor the papal summons to Rome, which he did not obey, nor the mild entreaties of the cardinal Cajetan, at Augsburg, in 1518, and of the nuncio Militiz, at Altenburg, in 1519, with alluring offers from the pope himself, were sufficient to induce him to recant. He replied to his opponents with boldness and determination, and even entered the dispute with Eck at Leipsic, in 1519, he still maintained the invalidity of indulgences, and of the papal supremacy. No one answered him, and he separated with justice from the decision of Cajetan, to the pope, and from the pope to a general council.

In 1520, Luther and his friends were excommunicated. His writings were burned at Rome, Cologne, and Louvain. Indignant at this open act of hostility after his modest letter, in which he had showed him-

self desirous of reconciliation, declared his submission to the pope, and advised a reform in the church. Luther burned the bull of excommunication, and the decretals of the papal canon, at Wittenberg, December 10, 1520. By this act, he dissolved all connexion with the pope and the Roman church. Frederic, the elector of Saxony, seemed in a doubt whether he should protect him. But the worthiest of the German noblemen, Hutten, Sickingen, Schaumburg, whom he called upon to defend the new opinions, hailed him as the champion of religious liberty, and offered him their fortresses and their arms. But Luther wished no protector but God. He refused to listen to his anxious friends, who advised him not to brave the Roman hierarchy; a spirit within urged him forward, and he could not resist. The people received, with amazement, the words of a monk, who leaped at once the pope and the clergy, the emperor and the princes. For this he did, when he presented himself at the diet of Worms, April 4, 1521, accompanied by a few friends and the imperial herald, who had summoned him. He was met by about 2000 persons on foot and on horseback, at the distance of a league from Worms. Such was his conviction of the justice of his cause, that when Spalatin sent a messenger to warn him of his danger, he answered, "If there were as many devils in Worms as there are tiles upon the roofs of its houses, I would go on." Before the emperor, the archduke Ferdinand, six electors, twenty-four dukes, seven margraves, thirty bishops and prelates, and many princes, counts, lords, and ambassadors, Luther appeared, April 17, in the imperial diet, acknowledged all his writings, and, on the following day, made his defence before the assembly. He concluded his speech of two hours in length with these words: "Let me then be refuted and convinced by the testimony of the Scriptures, or by the clearest arguments; otherwise I cannot and will not cant; for it is neither safe nor expedient to act against conscience. Here I take my stand; I can do no otherwise, so help me God! Amen." He left Worms, in fact, a conqueror; but it was so manifest at his enemies were determined upon his destruction, that Frederic the Wise conveyed him privately to the Wartburg, to save his life. Neither the proposition of the emperor, nor the excommunication of the pope, could disturb him in his retirement, of which he took advantage to translate the New Testament into German. But this retirement continued only ten months. When informed of the disturbances excited by Carlstadt, on the subject of images, he did no longer endure restraint, notwithstanding the new outlawry which the emperor had just issued against him, at Nuremberg; and, at the risk of provoking the displeasure of the elector, he hastened to Wittenberg, through the territory of George, duke of Saxony, who was one of his most bitter enemies. A letter to Frederic, in which he justified his attitude, proves, not less than his conduct before the diet at Worms, his fearless courage and the greatness of his soul. The sermons which he delivered eight successive days after his return (in March, 2), to quell the violence of the enraged insurgents at Wittenberg, are patterns of moderation, and wisdom, and popular eloquence. They show, in a striking light, the error of those who consider Luther only violent and rude fanatic. He was violent only against malignity, or when he thought the great truths of religion in danger. Such motives sufficiently warrant for his caustic reply to Henry VIII., king of England, and the bitterness of spirit manifested in his controversies with Carlstadt and Erasmus. The first, not without reason, he charged with worldliness and lukewarmness in a good cause. He viewed the attack of Carlstadt on his doctrine of the sacra-

ment as an open apostasy from the faith, and an act of ambitious jealousy.

Amidst these disputes and attacks, his plans for a total reformation in the church, which was called for by the voice of the nation, were matured. In 1523, at Wittenberg, he began to purify the liturgy from its empty forms, and, by laying aside his cowl, in 1524, he gave the signal for the abolition of the monasteries, and the better application of the goods of the church. In 1525, he married Catharine von Bora, a nun, who had left her convent. After overcoming numerous difficulties, he took this important step at the age of forty-two years, as much from principle as inclination, with the design of restoring the preachers of the gospel to their natural and social rights and duties. Warm as was the zeal of Luther for a reform in the church, he was desirous of avoiding disorder and violence. While he went hand in hand with the imperial cities and foreign princes, both in words and actions, he opposed, most decidedly, the violence of the peasantry and of the Anabaptists. His enemies have shown great injustice in implicating him as the author of those outrages which arose from the enthusiasm of the ignorant, and were displeasing to his noble and generous mind. Luther prepared, from 1526 to 1529, a new church service, corresponding to the doctrines of the gospel, under the patronage of the elector, and with the aid of Melancthon and other members of the Saxon church. His larger and smaller catechisms, to be used in schools, were also of great service. But every one must look with pain upon the severity and intolerance which he manifested towards the Swiss reformers, because their views differed from his own in regard to the Lord's supper. (See *Lord's Supper, and Sacrament.*) He was thus the chief cause of the separation which took place between the Calvinists and the Lutherans. But, without his inflexible firmness, in matters of faith, he would have been unequal to a work against which artifice and power had arrayed all their forces.

The rapidity with which the reformation advanced after the confession of Augsburg, in 1530, rendered the papal bulls and the imperial edicts against Luther inefficient. But he was obliged to be continually on his guard against the cunning Papists, who strove to make him give up some parts of his creed; and it required a firmness bordering on sternness and obstinacy to maintain the victory which he had won. With a spirit incident to such a state of things, Luther wrote, in 1537, the Smalcaldic articles; he gave a refusal to the ambassadors of Brandenburg and Anhalt, who were sent, in 1541, by the diet of Ratisbon, to make him more compliant towards the Catholics; and, in 1545, he refused any participation of his party in the council of Trent.

The severity which he used in the defence of his faith, by no means diminishes the merit of his constancy; and an apology may easily be found for the frequent rudeness of his expressions, in the prevailing mode of speaking and thinking; in the nature of his undertaking, which required continual contest; in the provocations by which he was perpetually assailed; in his frequent sickness; and in his excitable imagination. The same excitability of temperament will serve to explain those dreadful temptations of the devil, which disquieted him oftener than would seem compatible with his strength and vigour of mind; for that age regarded the devil as a real personage, an evil principle ever active; and, if any one devoted himself to the cause of God, he was constantly obliged to resist attacks of the evil one upon his virtue. He says himself, "I was born to fight with devils and factions. This is the reason that my books are so boisterous and stormy. It is my business to remove obstructions, to cut down thorns, to fill up quagmires, and to open

and make straight the paths; but, if I must, necessarily, have some failing, let me rather speak the truth with too great severity, than once to act the hypocrite and conceal the truth." Even the enemies of Luther are forced to confess that he always acted justly and honourably. No one can behold, without astonishment, his unwearied activity and zeal. The work of translating the Bible, which might well occupy a whole life, he completed from 1521 to 1534, and thus rendered his name immortal. He equalled the most prolific authors, in the number of his treatises on the most important doctrines of his creed. After the year 1512, he preached several times every week, and, at certain periods, every day; he officiated at the confessional and the altar; he carried on an extensive correspondence in Latin and German, on various subjects, with men of rank, and of distinguished literary attainments, and with his private friends; and, notwithstanding all this press of occupation, he allowed himself some hours every day for meditation and prayer, and was always accessible to visitors. He gave advice and assistance wherever it was needed; he interested himself for every indigent person who applied to him, and devoted himself, with his whole soul, to the pleasures of society. In company, he was always lively, and abounded in sallies of wit and good humour (preserved in his *Tischreden* [Table-Talk]); he was temperate in his enjoyments. Luther was no stranger to the elegant arts. His excellent hymns are well known. His fondness for music, too, was such, that, as often as circumstances permitted, he would relax his mind with singing, and playing on the flute and lute. But few men are equal to such excessive labour; and, with a weaker constitution, such a constant round of action, and vicissitude, and toil, would soon have overcome the great reformer. Indeed, from the year 1531, he had a painful disease (the stone, accompanied with vertigo) to contend with, and, in several fits of sickness, was brought near the grave; but he lived to the age of sixty-three. Just before his last journey to Eisleben, where he was summoned by the count of Mansfield to settle a dispute, he wrote, in a letter to a friend, the following description of his condition:—"Aged, worn out, weary, spiritless, and now blind of one eye, I long for a little rest and quietness; yet I have as much to do, in writing, and preaching, and acting, as if I had never written, or preached, or acted. I am weary of the world, and the world is weary of me; the parting will be easy, like that of the guest leaving the inn; I pray only, that God will be gracious to me in my last hour, and shall I quit the world without reluctance." He wrote this in January, 1546. On the 18th of the succeeding February, he died at Eisleben, and was buried in the castle-church of Wittenberg. He left a wife, whom he tenderly loved, and two children (two others having previously died), in straitened circumstances. His wife died in 1552. The male line of his posterity became extinct in Martin Gottlieb Luther, who was a counsellor at law, and died at Dresden, in 1759. Against his will, his adherents styled themselves Lutherans; against his will they engaged in a war which broke out immediately after his death and desolated Germany. As long as he lived, Luther was for peace; and he succeeded in maintaining it; he regarded it as impious to seek to establish the cause of God by force; and in fact, during thirty years of his life, the principles of the reformation gained a firmer footing, and were more widely propagated, by his unshaken faith and unwearied endeavours, than by all the wars, and treaties, and councils, since.

Luther's *Sammte Werke* (Complete Works) ap-

peared in 1826, at Erlangen, in 60 vols. Few different collections of his writings were published earlier, of which the most complete is that by W. Schrockh, in his *Lebensbeschrieb Luther's* (Lives of distinguished Scholars), (part 1, 1798). For further information, see the articles *Reformation* and *Protestants*. See also the *Life of Luther as an Account of the Reformation*, by A. R. Ludon, 1813), and the articles on *Calvin*, *Erasmus*, *Zwingli*; also Robertson's *Ch. Hist.* and Mosheim's *Ecclesiastical History*.

LUTHERANS; the followers of the Lutheran Luther, though the reformer himself, in many expressions his disapprobation of making it the name of a sect. In Spain, and some other countries, the name *Lutheran* is, in common use, almost synonymous with *heretic*. In Sweden and Denmark, there is an established Lutheran church; this is not the case in Prussia (see *Liturgy*); but, as far as church government is concerned, they are merely titular, and may have been the intention of their establishment. They are, however, neither Lutheran nor Calvinist, but evangelical. The Lutherans in Germany are bound to adhere, strictly, to all the doctrines of Luther, so great a freedom of opinion, on religious matters, having gained ground in that country. A few German Calvinists adhere to predestination; Lutherans adhere to consubstantiation, in the Last Supper. See *Luther*, and *Reformation*.

LUTHERN, in architecture; a kind of vault over the cornice in the roof of a building, serving to illuminate the upper story.

LUTZEN, a small town in the present Prussia, to which two celebrated battles have given historical renown, containing 1100 inhabitants, and belonging to the government of Meissen, lies eleven miles S. W. of Leipzig. Saxony shows why Saxony has so often been the theatre of battle between the powers of the north-east and the powers of the south-west of Europe. Here she has the plains of Leipzig and Lützen, the neighbourhood of Dresden and Bautzen, been the scene of conflict! The first battle of Lützen was fought on the thirty years' war, Nov. 6 (10<sup>th</sup>), 1632, between Gustavus Adolphus, king of Sweden, and Wallenstein, duke of Friedland. The imperial army, under the latter, amounted to 40,000 men, the Swedish troops, under Gustavus, to 27,000, including the Saxons under Bernard, duke of Saxe-Weimar. The battle was extremely obstinate, and neither party was decisively victorious during that day. Wallenstein began retrograde movements the next day. In his army, the famous general Pappenheim was mortally wounded, and soon after died. On the side of the Protestants, the hero of three campaigns, Gustavus Adolphus, fell. The circumstances of his death are uncertain; but it is a mistake to suppose that he fell a victim to revenge and treachery. His body was found, by the soldiers, in a mass of slain by Bernard, under a heap of dead, and in some mutilated by the hoofs of horses, as to be recognized with difficulty. A plain stone marks this spot, as far from Lützen, on the great road to Leipzig; a few poplars and some stone seats surround it. His body was carried to Lützen, where traces of the blood are still shown, in the town house. See *Continental*, and *Thirty Years' War*.

A second battle, fought near Lützen, May 2, 1813, between Napoleon and the combined Russians and Prussians, was the first great conflict after Napoleon's disasters in Russia; and on this occasion, the joint French and Prussian forces lost more than 100,000 men.

strength. Several reasons induced the allies to attack Napoleon, though his army, according to the best calculations, was much superior in numbers. The French corps in Saxony amounted to about 150,000 men; the allies had 55,000 Prussians and 30,000 Russians beyond the Elbe. The latter were superior in cavalry, the French in artillery, and each was desirous to decide by the species of troops in which his superiority consisted. Count Wittgenstein commanded the allied forces. Napoleon's troops were moving in the direction of Leipsic, and had already advanced considerably, while they were still supposed by the enemy to be near Lutzen. General Kleist became engaged in a sharp conflict with the French van, which was much superior to him in numbers. The mass of the enemy was thus directed against the flank and rear of the allies. Between the allies and Lutzen lay the villages Stariedel, Kaya, Rana, Gorschen, hardly guarded by Ney's corps, which was quietly bivouacked behind them. Wittgenstein took this corps for Napoleon's van, and ordered the attack accordingly. The Russian troops took these villages with great promptness. It was necessary that Ney should sustain himself until Napoleon could bring back his masses from the road to Leipsic. The possession of these villages was, therefore, warmly contested; they were taken and retaken with equal courage and obstinacy; but the successive arrival of new bodies of French caused some changes in Wittgenstein's orders; the allied cavalry could not operate so effectively as had been hoped, and the want of infantry began to be felt severely. Both armies displayed great courage. The Prussian troops fought with a resolution corresponding to the ardour which had carried them into the field, and its effect became visible on the French centre, which did not escape Napoleon's experienced eye. "The key of the position," says the duke of Rovigo, "was the village of Kaya, occupied by Ney, and through which ran the road from Pegay to Lutzen. Had the allies succeeded in carrying this place, they could have advanced to Lutzen, and thus have divided the French army into two portions, which could only have been united on the other bank of the Saale. Great efforts were therefore made by the French to maintain Kaya, which was taken and retaken several times in the course of the day." The emperor Napoleon now ordered general Drouot, his aid-de-camp, to advance with haste, with sixty pieces of artillery, as near as possible to the enemy's columns, and to attack him suddenly, on his left flank; for this, the course of Flossgraben, which had also been used to great effect 200 years before, in the battle first described, offered an advantageous position. The artillery made such ravages in the enemy's columns, for the space of an hour, that he could not resist the vigorous attack which Napoleon renewed on Kaya, by means of marshal Mortier's corps. This village was at last carried, as well as the others: night came on, the last attempt by the Prussian cavalry was repulsed. Thus both armies occupied nearly the same ground after the battle as before. According to the most accurate and impartial accounts, there were about 69,000 of the allied troops engaged against 102,000 French. The latter are said to have killed 15,000 men, killed and wounded, among whom were five generals; the Russians are said to have killed 2000, and the Prussians 8000. Generals Blücher and Scharnhorst were wounded; the latter died of his wounds—a severe loss for the Prussians. The allies had lost Bessières, duke of Istria, on the following day. The allies were obliged to make retrograde movements, and, owing to this battle, Napoleon was again master of Saxony and the Elbe

on May 10. The French say, that, had they possessed sufficient cavalry to pursue the enemy briskly, the campaign might have been ended by this battle; the allies assert, that had they been better supplied with artillery, they would have remained in possession of the villages, and the most serious consequences might have followed for the French. This battle had the best effect on the spirit of the Prussian troops and nation. It was the first in which the Prussian forces had measured themselves with the French since the disastrous campaign of 1806, and they were now convinced of their ability to withstand their former conquerors. The result of the battle was, indeed, advantageous for the French; but the advantage was so dearly bought, and the Prussians, whom the French troops had been taught to consider as "schoolboys," and inexperienced peasants, had conducted in such a manner as to show that campaigns like those of 1804, 1806, and 1809, were no longer to be expected.

**LUTZOW'S FREE CORPS, or VOLUNTEERS;** a Prussian corps, during the war of 1813 and 1814, which originated from the *Tugendbund*, and was commanded by major Lutzow. Many young men of the best families, and most patriotic spirit, joined it. Korner belonged to this corps, and celebrated it in several of his poems.

**LUXATION**, in surgery, is the removal of a bone out of its place or articulation, so as to impede or destroy its proper motion or office; hence luxations are peculiar to such bones as have moveable joints.

**LUXEMBOURG, PALACE OF;** one of the most magnificent palaces in Paris, built in imitation of the Pitti palace at Florence, completed in 1620, after four years' labour, by Jacques Desbrosses, for Mary of Medici, widow of Henry IV., on the site of the hotel of the duke d'Epinaux-Luxembourg, and successively inhabited by mademoiselle de Montpensier, the duchess de Guise, the duchess of Brunswick, and mademoiselle d'Orleans. Louis XVI. gave it to Monsieur, his brother; during the revolution, it was converted into a prison; it was afterwards occupied by the senate; at present, the chamber of peers assembles there. The building is very spacious, and its rooms contain beautiful specimens of architecture and statuary.

**LUXEMBOURG (*Hôtel du Petit*);** an edifice in Paris, adjoining the garden of the Luxembourg palace. It was built by cardinal Richelieu for his mother, and afterwards belonged to the prince de Condé. During the republic, the directory was established here, and here it received general Bonaparte, on his return from Egypt, a few days before the 18th of Brumaire. It was next occupied by the first consul, during the first six months of his consulship. Ney was confined here, and shot in the garden; and, more recently, prince Polignac, and his colleagues were confined here, previous to their trial.

**LUXEMBOURG** (Francis Henry de Montmorency), duke of, marshal of France, was born in 1628. He was the posthumous son of the count de Bouteville, who was beheaded in the reign of Louis XIII., for fighting a duel. He served, when young, under the prince of Condé; and, in 1662, he was made a duke and peer of France; and, in 1667, a lieutenant-general. In 1672, he commanded during the invasion of Holland; and, having gained the battle of Senef, in 1674, he was created a marshal of France. In the war of France against England, Holland, Spain, and Germany, he won the three great battles of Fleurus (July 1, 1690), Steinkirchen and Neerwinden (June 29, 1693). He died in 1695.

**LUXEMBURG;** a late province of the kingdom of the Netherlands, with the title of grand duchy,

and, at the same time, a member of the Germanic confederation, comprising the duchies of Luxemburg and of Bouillon, bounded by Liege, the Lower Rhine, Namur, and France. The superficial extent is about 2400 square miles, with 293,555 inhabitants. The surface is covered with woods, mountains, and desert heaths, among which, however, are some pleasant valleys and fertile hills. The Ardennes are the chief mountains. The soil is stony, marshy, and not very productive. The Moselle and the Ourthe are the principal rivers. Agriculture is the chief occupation of the people, but potatoes form the principal food, corn not being raised in sufficient quantities. The forests belonging to the state alone, extend over 117,971 hectares. Cattle are abundant; great flocks of sheep are reared on the plains of the Ardennes; the horses are small, but celebrated for their spirit and activity. The iron mines are extensively wrought, and the slate quarries yield large quantities of roof-slates. The inhabitants are Walloons and Germans, and are in general rude, superstitious, and ignorant. They are of the Roman Catholic religion. Till the late revolution, the king of the Netherlands, as grand duke of Luxemburg, was a member of the Germanic confederation, with one vote in the diet and three in the *plenum*, and furnished a contingent of 2256 men to the army of the confederacy. The Belgians have laid claim to Luxemburg. (See *Netherlands*.) As a province of the kingdom of the Netherlands, it sent four members to the lower house of the states-general. The provincial estates consist of sixty members, named by the three orders, that of the nobles, that of the cities, and that of the country. Luxemburg was erected into a duchy, by the German emperor, in 1354, and formed a part of the Austrian Netherlands. In 1815, it was granted to the king of the Netherlands, by the congress of Vienna, as an indemnification for his cessions in Germany. (See *Nassau*.) Luxemburg, the capital, with 11,430 inhabitants, is one of the strongest fortresses in Europe. The upper town is situated on an elevated rock, rising precipitously from a plain, and defended by strong works. Five batteries on the neighbouring heights command all the country round, and particularly the roads from Treves and Thionville. It is one of the four great fortresses reserved by the Germanic confederation, and garrisoned by a large body of German troops. Lat. 49° 37' N.; lon. 6° 9' E.; 27 leagues S.E. of Liege; 39 S.E. of Brussels.

**LUXOR**; a village of Upper Egypt, on the right bank of the Nile, containing splendid ruins of Thebes, the site of which it occupies. See *Thebes*.

**LUYNES**, CHARLES D'ALBERT, duke de, favourite and premier of Louis XIII. and constable of France, born in 1578, was descended from a noble Florentine family (Alberti), which had been banished from Florence. Having become one of the pages of Henry IV., he was the playmate of the dauphin, whose favour he soon won by consulting all his caprices. When Louis ascended the throne, he appointed Luynes his grand falconer, and marshal D'Ancre, who was all-powerful at court, showing some jealousy of his influence, the favourite soon effected his disgrace. The marshal was assassinated, and Luynes obtained a grant of all his immense estates, and succeeded to all his places and charges (1617). In 1619, his estate of Maille was erected into a duchy, under the title of Luynes. He next supplanted Mary of Medici, mother of the king, whom he caused to be exiled; and the whole administration was now in his hands. In 1621, the dignity of constable of France was revived for him. Though the feeble king often complained of his cupidity and arrogance, though the whole court

was intriguing against him, and the nation indignantly called for his disgrace, Luynes died in 1621, without having experienced any real loss of favour or influence. See *Louis XIII.*

**LUZAC**, JOHN; a distinguished philosopher, jurist, and publicist, born at Leyden, in 1712. His parents were French Protestants, who had fled to France to avoid religious persecutions. After completing his studies, under Valckenauer and Rabanin, he obtained the chair of jurisprudence offered him at Leyden, and that of Greek at Groningen, and went to the Hague to prepare himself for the law. In 1772, he returned to Leyden, to assist in editing the *Leyden Gazette*, which was read by all learned scholars and statesmen at that time, on account of the valuable character of its matter. In 1775, he had almost the entire direction of the journal. His editorial and professional duties did not prevent him from the assiduous study of Greek literature. He corresponded with the most distinguished personages of the time, and received the most flattering marks of esteem from Washington, Jefferson, Adams, the emperor Leopold, and Stanislaus, king of Poland. In the midst of these various occupations, he accepted the Greek chair at the university of Leyden, to the regular duties of which he added private lectures and exercises for drawing students. In 1795, he published an address to *Socrates Cive*, accompanied with learned and precious notes, and dedicated to John Adams, whose eldest son had studied under his direction. During the revolutionary troubles which succeeded in the land, Luzac, who was no less a friend of order than of liberty, was forbidden to continue his *Lectiones* in history (1796), but was permitted to continue his instructions in Greek literature. He refused to accede to this arrangement, and was therefore entirely suspended from his professorial functions. On this occasion, Washington wrote to him, expressing him of his esteem, encouraging him to bear for justice when the ferment of the moment should be over, and professing that America was under great obligations to the writings and conduct of one like him. In 1802, he was restored to his former post, with an increase of salary and power. He continued actively engaged in his literary labours till 1807, when he was killed by the explosion of a vessel with gunpowder aboard, in the harbour of Leyden. His *Lectiones Attice*, a defence of Socrates (1809), was published by professor Reuter. His colleague, professor Siegenbeck, has given an account of Luzac, in his history of the catastrophe which caused his death.

**LUZERNE**, ANNE CESAR DE LA; a French diplomatist, born at Paris, in 1741. After having served in the seven years' war, in which he rose to the rank of colonel, he abandoned the military career, and turning his views to diplomacy, was sent, in 1782, envoy extraordinary to Bavaria, and distinguished himself in the negotiations which took place in regard to the Bavarian succession. In 1783, he was appointed to succeed Gerard, as minister to the United States, and conducted himself during the years in which he remained there, with a profound wisdom, and concern for their interests, that gained him the esteem and affection of the Americans. In 1780, when the American army was in the most destitute condition, and the government without resources, he raised money on his own responsibility, and without waiting for orders from his court, to relieve the distress. He exerted himself to obtain private subscriptions, and placed his own name at

\* The *Leyden Gazette* (*Gazette de Leyden*) was commenced in 1738, by the uncle and father of John.

the head. In 1783, he returned to France, having received the most flattering expressions of esteem from congress; and, in 1788, was sent ambassador to London, where he remained till his death, in 1791. When the federal government was organized, the secretary of state (Jefferson) addressed a letter to the chevalier De la Luzerne, by direction of Washington, for the purpose of making an express acknowledgment of his services, and the sense of them entertained by the nation.

**LYCANTHROPY** (from the Greek *λύκος* a wolf, and *άνθρωπος*, a man); as defined by Cottgrave, "a frenzy or melancholie, which causeth the patient who thinks he is turned woollf to flee all company and hide himself in dens and corners." Herodotus, with great naïveté, tells us, that, when he was in Æthia, he heard of a people which once a year changed themselves into wolves, and then resumed their original shape; "but," adds he "they cannot make me believe such tales, although they not only tell them, but swear to them." But the lycanthropes of the middle ages, or *lous-garoux*, as they were called by the French, were sorcerers, who during their wolfhood, had a most cannibal appetite for human flesh. The Germans called them *Währwölfe*. Many marvellous stories are told by the writers of the middle ages, of these wolf-men, or *lous-garoux*, and numerous authentic narratives remain of victims committed to the flames for this imaginary crime, taken on their own confessions.

**LYCEUM**; an academy at Athens, which derived its name from its situation near the temple of Apollo, *λύσις* (slayer of the wolf). In its covered walks, Aristotle explained his philosophy. In modern times, the name of *lyceum* has been given to the schools tended to prepare young men for the universities; and in them the Aristotelian philosophy was formerly taught in the scholastic form.

**LYCIA**; a maritime province of Asia Minor, bounded by Caria on the west, Pamphylia on the east, and Pisidia on the north. Its fertility and opulence are attested by the twenty-seven cities mentioned by Pliny, which formed a confederated republic, with a congress which regulated the public concerns, and a president called the *Lyciarch*. Little is known of the early history and geography of this country. See Beaufort's *Karamania*, London, 1817.

**LYCOPHRON**, born at Chalcis, in Eubœa, a Greek grammarian, and the author of several tragedies, died at Alexandria, 280 years B. C., under Ptolemy Philadelphus, whose favour he won by the invention of anagrams. He is said to have died of a wound, inflicted by the arrow of an antagonist with whom he was contending on the merits of the ancient poets. Of all his writings, there remains but one tragedy, *Andromeda* (Alexandra), which is written in iambics, and bears the marks of learning acquired by patient study; it is therefore very difficult, and filled with obscure allusions. It is, properly speaking, a continued soliloquy, in which Cassandra predicts the fall of Troy, and the fate of all the heroes and heroines who shared its ruin. It affords some information of value respecting antiquities and mythology. A Cyprian, named John Tzetzes, has written a commentary upon it.—See the edition, *cum Commentariis Johannis Tzetze, Cura Jo. Potteri* (Oxford, 17 and 1702, folio); also those by Reichard, with commentary of Canter (Leipsic, 1788), by Sebastiani (Rome, 1803), by C. G. Muller (Leipsic, 1811, 8vo vols.)

**LYCURGUS**, the Spartan lawgiver, supposed to have flourished in the latter half of the ninth century B. C., was, according to the commonly received tradition, the youngest son of the Spartan king Euro-

mus. His eldest brother, Polydectes, succeeded his father in the government, but died soon after, leaving the kingdom to Lycurgus. As the widow of Polydectes was known to be pregnant, Lycurgus declared that, if she bore a son, he would be the first to acknowledge him for his king. To convince the Lacedæmonians of his sincerity, he laid aside the royal title, and administered the kingdom as guardian to the future heir. In the mean while, the queen sent word to him, that, if he would marry her, she would without delay cause the death of her child. He flattered her with the idea that he would comply with her wishes, until he obtained possession of the child. From the joy of the people at his birth, the child received the name of *Charilaus* (joy of the people). Lycurgus, by the wisdom of his administration, had already won general esteem; and his noble disinterestedness now raised his glory to a height which awoke envy against him in the minds of some of the most distinguished Spartans, with whom the queen conspired to revenge her disappointment. She spread among her people the opinion, that it was dangerous to intrust the future heir of the throne to the man who would gain most by his death. To avoid this suspicion, Lycurgus was obliged not only to resign the guardianship of the young king, but even to leave his country. Whether this resolution was partly induced by the desire of seeing foreign nations, and learning their manners, or not, we do not know; but, at any rate, he is described as employing the time of his absence in this way. After visiting Crete, and admiring the wise laws of Minos, he went to Ionia. The effeminate and luxurious life of the inhabitants, the feebleness of their laws, which formed a striking contrast with the simplicity and vigour of those of Crete, made a deep impression upon him. Here, however, he is said to have become acquainted with the poems of Homer. From hence he is said to have travelled into various countries, including Egypt, India, and Spain. But, as we do not find in his laws any traces of Indian or Egyptian wisdom, this seems to be doubtful.

In the mean while, the two kings, Archelaus, and Charilaus, were esteemed neither by the people nor by the nobility; and, as there were no laws sufficient to maintain the public tranquillity, the confusion passed all bounds. In this dangerous situation, Lycurgus was the only man from whom help and deliverance could be expected. The people hoped from him protection against the nobles, and the kings believed that he would put an end to the disobedience of the people. More than once, ambassadors were sent to beg him to come to the assistance of the state. He long resisted, but at last yielded to the urgent wishes of his fellow-citizens. At his arrival in Sparta, he soon found that not only particular abuses were to be suppressed, but that it would be necessary to form an entirely new constitution. The esteem which his personal character, his judgment, and the dangerous situation of the state, gave him among his fellow-citizens, encouraged him to encounter boldly all obstacles. The first step which he took was, to add to the kings a *gerousia*, or senate of twenty-eight persons, venerable for their age (see *Gerontes*), without whose consent the kings were to undertake nothing. He thus effected a useful balance between the power of the kings and the licentiousness of the people. The people, at the same time, obtained the privilege of giving their voice in public affairs. They had not, however, properly speaking, deliberative privileges, but only the limited right of accepting or of rejecting what was proposed by the kings or the senate. The Spartans conformed in general to the institutions of Lycurgus; but the equal division of property excited among the rich such violent commotions, that the

lawgiver, to save his life, fled towards a temple. On the way, he received a blow, which struck out one of his eyes. He merely turned round, and showed to his pursuers his face streaming with blood. This sight filled all with shame and repentance; they implored his pardon, and led him respectfully home. The person who had done the deed, a young man of rank, and of a fiery character, was given up to him. Lycurgus pardoned him, and dismissed him covered with shame.

After having thus formed a constitution for Sparta, Lycurgus endeavoured to provide for its continuance. He made all the citizens take a solemn oath, that they would change nothing in the laws which he had introduced, before his return. He then went to Delphi, and asked the god whether the new laws were sufficient for the happiness of Sparta. The answer was, "Sparta will remain the most prosperous of all states as long as it observes these laws." He sent this answer to Lacedæmon, and banished himself. He died, as it is said, of voluntary starvation, far from his country; according to some, at Cirrha; according to others, at Elis or Crete. According to his commands, his body was burned, and the ashes thrown into the sea, lest they should be carried to Sparta, and the people thus think themselves released from their oath. A temple was erected in honour of him at Sparta, and a society was instituted by his friends, which continued until the latest times of Sparta, and had for its object to celebrate the memory of his virtues.

The principal object of the laws of Lycurgus was, to introduce into his country a mixed form of government, composed of monarchy, aristocracy and democracy, in such a manner that each element was restrained by the others. The two kings, and with them the council of Gerontes, stood at the head of the government; the people, however, having an indirect influence upon their measures. He divided all the inhabitants of Sparta into three, according to some into six or more classes, subdivided into thirty tribes. With this was, probably, connected the administration of the police and of justice, and the rules of military service. As the Spartans had already made some progress in civilisation, we may well admire the resolution and the genius of Lycurgus, who was able to change not only their civil relations, but their morals and manners, and to induce such a nation to sacrifice even the comforts of life. Even his proposition of the equal division of property, which at first was violently opposed, was still accepted as a law by all the citizens. At the time when Lycurgus altered the constitution, there existed three classes—the ruling Spartans, the tributary Lacedæmonians, and the Helot slaves. (See *Helots*.) Though it appears cruel in him to have left the Helots in slavery, this was not shocking in the eyes of the Greeks. They had no idea of the injustice of such a distinction between men. Lycurgus sought to use, in the way which he thought most for the good of the state, the bonds which nature, relationship, and love form among men. He treated love only as a means of producing vigorous citizens for the state, and thus preserving national independence. He appointed punishments for unmarried men, and for those who married too late, or married persons of a very unequal age. He made it difficult for those who were newly married to meet their wives, that their passions might remain unabated; and he allowed old or impotent men to lend their wives to vigorous youths, and men of a sound constitution, if their wives were weak and impotent, to take others. Children were not the property of the parents, but of the state. The state determined on their life or death, and directed their education without regard to the parents. To intro-

duce temperance and moderation among the people he ordered that the houses should be built in the most simple manner, and that all should eat the same meals in public, affixing also severe penalties to debauchery and drunkenness. No stranger could remain in Sparta longer than was necessary: no Spartan, except in times of war, could leave the country. The people were allowed to possess neither gold nor silver; but iron was used for money. The Spartans were never to devote themselves to the sciences, but only to learn the most indispensable branches of knowledge; they were not to leave their arms, nor to perfect their music; they could have many slaves, neither artists nor orators without the consent of the government. Lycurgus made no change in the religious constitution of Sparta; he used it, on the contrary, for his political ends, and united the priestly dignity with the royal office. He ordered a simple burial for the dead, forbade all public manifestations, and limited private mourning to eleven days. He allowed, however, the dead to be buried in the city, and monuments to be erected to them in the temples, in order that the hope of obtaining such honours after death might lessen the fear of being so. With regard to the administration of justice, he gave but few laws; but these were sufficient, if the other laws were obeyed. The quarrels which arose were decided either by the kings, or by the council of the people, or by the *gerontes*, or, more generally, by impartial and equitable citizens. One of the most remarkable institutions of Lycurgus, was the military education of the Spartan youth, which was such as to destroy all sensibility to suffering, and to overcome the fear of death. The beginning of a war was to them the beginning of a festival, and the camp was a place of recreation, for here ceased all that business of life which was observed at home; even the bodily exercises were less frequent. Victory or death was their highest glory; eternal shame followed the cowards and those who fled. The courage of the Spartans was maintained, also, by their laws which forbade them to surround their city with walls, to fight often with the same enemy, to pursue too far a routed enemy, to plunder the dead enemy, and also by the solemn burial of their heroes, the monuments to their memory, the festivals and trophies to their honour. Nevertheless, Lycurgus did not intend that the Spartans should become a conquering nation, as is evident from his forbidding them a navy.

The institutions of Lycurgus have been blamed as much as they have been praised. Plutarch, in particular, accuses them of destroying every thing human, and making mechanical valour the highest virtue, and thinks that this suppression of all the feelings of humanity was the cause of the country's ruin, which fell upon Lacedæmon, and were prepared by their other nations. Thucydides makes Pericles say, "The virtue of the Spartans is more, and more cruelly upon fear, and that their education made them cruel and inhuman."

We have here given the commonly received opinions concerning Lycurgus and his institutions, which, however, must be received with much caution. If there were such an individual—his existence is doubtful,—he lived before the time of historical certainty; and what are called his laws, were probably the usages and institutions which were common to the whole Doric race from the earliest period. A very full and critical examination of the subject may be found in Muller's *History of the Dorians*, which has been translated into English, under the title of the *History and Antiquities of the Doric Race* (2 vols, 8vo, London, 1830).

Lycurgus was also the name of an *Athenian* philosopher of some celebrity. He was a contemporary of Plato.

thenes, whom he survived, and was famous for his integrity. Only one of his orations, distinguished for strength and dignity, has been preserved to us. The latest editions are those of Heinrich, Osann and Becker, all of 1821.

LYDIA (in ancient times, *Maonia*); a large and fertile country of Asia Minor. The Ionians inhabited the part on the coast of the Ionian sea. Towards the south, it was separated from Caria by the Mæander (now Meander); towards the east, it was bounded by Irygia, and on the north by Mysia. It was, in early times, a celebrated kingdom, divided from Persia by the river Halys (now Kizil Ernak). Cyrus conquered Croesus, the last Lydian king. The people, especially under this king, were the richest, and, perhaps, also, the most effeminate and luxurious in Asia. The Lydians invented luxurious garments, costly carpets, precious ointments, and exquisite arts; and a kind of Grecian music, which was said to bear the character of effeminacy, was called the *lydian*. They also laid out beautiful gardens. They first discovered the secret of communicating opotence to men, that they might use them to ward their wives and concubines. In the time of Herodotus, the corruption of manners among the Lydians was already so great, that the women publicly sold their charms. Their example corrupted the Ionians. The wealth of the Lydians, however, was probably, in a great measure, confined to the kings and chief men. These could fill their coffers with the gold washed down by the Hermus (now Sarabat) and the Pactolus, and that obtained from the mines; and they procured all the necessities of life by the labour of their slaves, whose services they required, not with money, but with the products of the soil. They could thus accumulate the precious metals. Croesus was richer than all his predecessors, for he subjected the whole coast of Asia, and plundered all the commercial cities. Though it cannot be proved that the Lydians had, in ancient times, any considerable commerce, it cannot be denied that they had, long before the Greeks, attained a certain degree of civilisation, and that the Grecian colonies in Lower Asia owed to the Lydians their superiority over the mother country in the arts and sciences. Among other things, they owed to them the invention of gold and silver coins, the use of certain musical instruments, the art of spinning wool (which was afterwards carried to such perfection in Miletus), also the art of melting and working ore, and, perhaps, the first rudiments of painting and of sculpture. At Sardis, the capital of the country, the Grecians, Phrygians, and even the nomadic tribes, bartered their goods. There was a great market for the slave-trade, which furnished the harems of Persia with eunuchs. Lydia belongs to the Turkish district of Anatolia (Anatolia). See Clarke's and Chandler's *Travels*.

LYDIAT, THOMAS; a learned English divine, mathematician, and chronologer of the seventeenth century, who composed several learned works, some of which he was prevented from publishing by his urinary embarrassments, which were occasioned by his having become security for another person's debts, and subjected him to imprisonment. He afterwards suffered greatly for his attachment to the royal cause, in the civil wars, and died in obscurity and indigence, in 1646.

LYDUS. John Laurentius, commonly called *lus*, from the province in which he was born (D. 490), lived at Constantinople, where he held several offices of trust under Justinian. He is principally known by his work *De Magistratibus Reipublice Romanæ*, which was printed, for the first time, in 1812, from a manuscript, obtained in 1785,

by Choiseul-Gouffier, French ambassador at Constantinople. It was edited, with a learned commentary on the life and writings of Lydus, by M. Hase. Niebuhr calls it a new and rich source of Roman history. His other works are on the Months (in Greek), of which we have only fragments, and on Omens (in Greek), of which some fragments only were before known, but nearly the whole of which is contained in the manuscript of Choiseul.

LYING-TO; the situation of a ship when she is retarded in her course by arranging the sails in such a manner that they counteract each other with nearly equal effect, and render the ship almost stationary with respect to her head-way. A ship is usually brought-to by laying either her main-top-sail or fore-top-sail aback, the helm being put close down to leeward. This is particularly practised in a general engagement, when the hostile fleets are drawn up to battle.

LYMPH (*lymphe*); an aqueous liquid, colourless, insipid, and diaphanous, diffused through the whole animal economy, in vessels called *lymphatics*. If allowed to stand, it separates into two parts, like the blood—a serous fluid, and a solid, or clot. The lymph serves to repair losses of the blood, by bringing to it various materials from different parts of the system, and chyle, which is mixed with the lymph in the thoracic duct. It seems also to remove those elements of nutrition, whose place is to be supplied by others, and to transmit them to the surface. The uses and history of lymph, however, are yet imperfectly known. The lymphatic vessels were not known till towards the middle of the seventeenth century. They are small, thin, transparent, furnished with valves, like the veins, and spread through different parts and organs. The cause of the circulation of the lymph is unknown, as there does not appear to be any impelling organ analogous to the heart. It has been supposed that the absorbent power exercised at their mouths impels the liquid forward, that already absorbed being thus displaced by the new absorptions. These vessels arise in every part of the body, and terminate in the thoracic duct.

LYNCEUS. See *Danaides*.

LYNX. This name has been applied to most of the cats with short tails: several species were formerly confounded by Linnæus under this head, and there is still much confusion respecting them. The largest and most beautiful, the *Felis cervaria*, is found in Asia and Russia. The lynx of Europe, the *F. lynx*, has become rare, except in the Pyrenees, and part of the Apennines. This animal is about three feet long, and is very destructive to the smaller quadrupeds. It was celebrated, among the ancients, as having been harnessed to the car of Bacchus, in his conquest of India. They also attributed great quickness of sight to it, and feigned that its urine was converted into a precious stone. The skin of the male is spotted, and is more valuable in winter than in summer. The caracal (*F. caracal*) is somewhat larger than a fox, and derives its name from the black colour of its ears, the word *caracal* signifying black in the Turkish language. There are several species of these animals in North America, the best known of which is the Northern or Canada lynx (*F. Canadensis*). Pennant considered it as identical with the lynx of the old world; Geoffroy St Hilaire named it as a distinct species, and Temminck has again, under the name of *F. borealis*, described the species as the same in both hemispheres. It is known by the name of *loup-cervier*, and *le chat*, among the French Canadians. It is found in great abundance in the districts about Hudson's bay, from whence seven to nine thousand skins are annually

exported. It is a timid creature, incapable of attacking the larger quadrupeds, but very destructive to rabbits and hares, on which it chiefly preys. It makes but little resistance when brought to bay by a hunter; for though, like a cat, it spits, and erects the hair on its back, it is easily destroyed by a blow with a slender stick. It is about three feet long from the tip of its nose to the end of its tail, which is about six inches in length, with a black tip. Its large paws, slender loins, and long, but thick hind legs, with large buttocks, scarcely relieved by a short, thick tail, give it a clumsy and awkward appearance. Its gait is by bounds, straight forward, with the back a little arched, and lighting on all the feet at once. It swims well, and will cross the arm of a lake of two miles in width, but is not swift on land. Its flesh is eaten, being fat, white, and somewhat resembling the rabbit in flavour. It breeds once a year, having two young at a time. The other American species are *F. rufa* and *F. fasciata*, both of which are smaller than the preceding. The former occurs in the Atlantic states as well as to the north and west; the latter appears to be confined to the borders of plains, and the woody country in the vicinity of the Pacific.

LYONNAIS; a ci-devant province in the eastern part of France, of which Lyons was the capital. It consisted of Lyonnais Proper, Beaujolais, and Forez. It now forms the departments of the Rhone and the Loire. See *Department*.

LYONNET, PETER, a celebrated naturalist, born in 1707, at Maestricht, graduated at Utrecht, and was for some time a counsellor at the Hague. He afterwards became secretary, and Latin and French interpreter to the states of Holland. This situation occupying but little of his time, he employed himself in researches into the natural history of insects and other animals, particularly such as were to be found in the vicinity of the Hague. He formed a valuable collection of shells, and was admitted into many of the principal scientific societies in Europe. His death took place January 10, 1789. His most important production is entitled *Traité anatomique de la Chenille qui ronge le Bois de Saule* (1760, 4to)—a work no less remarkable for originality of design than for splendour of execution. Lyonnet was distinguished for his skill as a painter and engraver, and he displayed much ingenuity in improving microscopes, and other instruments used in making his observations.

LYONS, or properly, LYON (*Lugdunum*); the second city of France, situated on the Rhone and Saone, ninety-three leagues S. E. of Paris, and sixty-three N. W. of Marseilles; an archiepiscopal see; capital of the department of the Rhone; headquarters of a military division; and seat of numerous administrative and judicial authorities; lat. 45° 46' N.; lon. 4° 49' E.; population, including the suburbs, in 1828, 185,723. Three bridges cross the Rhone, which is here about 650 feet wide, and often occasions great destruction by its inundations, as was the case particularly in 1812 and 1825. The Saone, which is 480 feet wide, is crossed by six bridges. The rivers are lined with wharves, some of which are adorned with handsome buildings, thronged with boats of various descriptions, and resound with the hum of numerous mills and water-shops. The interior of the city presents the aspect of an old town, with narrow and dark streets, lined with houses seven or eight stories high, built solidly of stone. The pavements are pebbled, and there are no side-walks. Some of the streets, in the more modern quarters of the city, are more spacious and handsome. There are fifty-nine public squares, among which that of Louis le Grand, or Bellecour, one of the most magnificent in Europe, is adorned

with beautiful lime-trees, and an equestrian statue of Louis XIV. The monastic grounds and gardens have been mostly covered with buildings since the revolution. Among the principal buildings are the splendid *hôtel de ville*, next to that of Amsterdam the finest in Europe; the palace of commerce and the arts, connected with which are lecture-halls, where various courses of lectures are delivered; the vast prefect house, formerly a Dominican convent, with an extensive garden; the principal hospital, or *hôtel Dieu*; the Gothic cathedral of St. Jean, &c. There are also numerous hospitals and churches, a *palais de justice*, and an extensive prison. The tower of Pitrat, erected on an elevation to the west of the city, for an observatory, fell down in 1824, and has since been reconstructed. Many antiquities have been found in the part of the city situated on the ancient *Forum Trajani*, and on the site of an imperial Roman palace. Medals, coins, vases, urns, lachrymatories, &c., with remains of aqueducts, a theatre, and Roman baths, are among the relics of antiquity. On the hill of Fourvières is a pagan cemetery, adorned with trees and handsome walks, laid out in 1806. Lyons contains one of the best libraries in France, consisting of 92,000 volumes. Among its scientific and useful institutions are a royal college, medical and theological schools, an academy of science, literature, and the arts, agricultural, Linnæan, medical, law, Bible, and other societies; a *mont de piété*, savings-bank, &c. The commerce and manufactures are extensive. Its most important article is silk, the manufactures of which are celebrated for their fineness and beauty; silk and woollen, and silk and cotton stuffs, beautiful shawls, crapes, silk hose, gold and silver lace, &c., are among the products of her industry. A large proportion of all the silk raised in France, and great quantities imported from Italy, are wrought up here. The silk raised in the vicinity is remarkable for its whiteness. In 1828, the number of establishments for the manufacture of silk was within the walls 7140, and that of the towns 1800. Printing and the book trade, paper hangings, the manufacture of glass, jewels, artificial flowers, &c., give occupation to numerous hands. Lyons has an extensive transit trade of provisions for the southern cities, and of the oil and soap of Provence, and the wines of Languedoc, for the north. Numerous and extensive warehouses and docks facilitate the great commercial operations of this quarter of Eastern France. The Lyonnese are industrious, independent, acute, intelligent, and honest.

The time of the foundation of Lyons is uncertain. Augustus made it the capital of *Celtæ Gaul*, which received the name of *Lugdunensis*. In the reign of Nero, it was burned to the ground. In the fifth century, the Burgundians made it their capital. In the twelfth century, the sect of Waldenses was founded by Peter de Vaud, a merchant of Lyons. Italian fugitives, who came to seek refuge from the rage of parties in their country, in the thirteenth century, brought with them their arts and wealth. Lyons suffered much during the religious wars of the sixteenth century, and was recovering from its ruins when the revolution of the eighteenth again visited it with desolation. The citizens having massacred the terrorists, in their municipal government, the Jacobin club (May 29, 1793), the convention sent an army of 60,000 men against the devoted city, which, after a brave resistance of sixty-three days, was taken. Collot d'Herbois and Coustou ordered the guillotine, *en permanence*, and, decorated with this slow method of execution, massacred the citizens, in crowds, with grape-shot. The fortifications, and many buildings were demolished the same of Lyons

abolished, and that of Ville-Affranchie substituted for it. In 1814, it was the theatre of several bloody actions between the French and the allies. In 1834, serious political disturbances broke out at Lyons, which, after continuing for two or three days, were suppressed, with great severity, by military force.

LYONS, GULF OF (*Gallicus Sinus*); a bay of the Mediterranean, on the south-eastern coast of France, between lat. 42° 20' and 43° 35' N., and between lon. 3° and 6° 20' E. The principal ports on this gulf are Toulon, Marseilles, and Cette. It is now called, by the French writers, *Golfe du Lion*, the name being derived from the agitation of its waters. See *Lion, Gulf of*.

LYRE; the most ancient stringed instrument among the Egyptians and Greeks. The mythological tradition of the origin of the Egyptian lyre, the more ancient of the two, is curious. After an inundation of the Nile, a tortoise was left ashore among other animals; after its death, its flesh decayed, and some of the tendons were dried by the sun, so as to produce a sound when touched by Hermes, as he was walking on shore. He immediately made an instrument in imitation of it, and thus invented the lyre. This lyre, originally, had but three strings. The Greeks ascribed the invention of the lyre to their Hermes (Mercury), the son of Jupiter and Maia. (*Paus. v.*) But the Greeks also say, that Hermes first used the shell of a tortoise. According to others, Mercury merely improved the invention of the Egyptian. Diodorus tells us that Apollo felt so much repentance for his cruelty towards Marsyas, that he tore the strings from his cithern. The muses, after this, invented a tone, and Orpheus, Linus, and Thamyras, use each. These, being added to the three-stringed Egyptian lyre, gave rise to the heptachord, or seven-stringed lyre of the Greeks. The invention of the instrument has also been ascribed to each of its chief improvers. The Egyptian and Grecian lyres were, at first, strung with the sinews of animals. The number of the strings was at last increased to eleven. It was played with the *plectrum*, or lyre-stick, of ivory or polished wood, also with the fingers. The lyre was called by different names—*lyra*, *phorminx*, *cithara*, *barbitos*, *barbilon*, *cithara*. The body of the lyre was hollow, to increase the sound. Few objects are so graceful in form, and susceptible of such various application in the fine arts, as the lyre, which even yet used as a musical instrument. It is the symbol of Apollo, yet other deities also bear the lyre; and mythology mentions many gods, who distinguished themselves on this instrument. It was used by educated Greeks in general; and Themistocles having once declined playing when requested, was considered a person without cultivation. *Unmusical* (unmusical) signified an illiterate man. In the work of Doni, entitled *Lyra Barberina*, the various uses of the lyre are collected in two large volumes. *Lyric* was, originally, what belongs to the lyre; was applied to songs sung to the lyre, odes, &c., and soon came to designate a species of poetry distinguished from dramatic poetry, which was accompanied by flutes. See *Lyrics*.

LYRICS. Lyric poetry is that species of poetry which the poet directly expresses his emotions. The predominance of feeling in lyric poetry is what chiefly distinguishes it from dramatic poetry, in which action and character, independent of the individualization of the poet, predominate; and from epic poetry, of which a series of actions and characters, contemplated and exhibited by the poet, is the characteristic. No definite limit can be readily drawn between such departments of the art. There may be lyrical passages in an epic, or a drama, when

opportunity is afforded to the poet to pour out his own excited and exalted feeling; but it is an irregularity, and a dangerous one. Poets of moderate talents, or little experience, are apt to burden the reader with themselves, unable to follow up the representation of life in a form not individually their own. Lyric poetry is more limited than the drama (q.v.), and the epic (q. v.) because feeling is limited to the present; but, on this account, it is more excited and stirring. From the nature of lyric poetry, it has flourished better at court than the dramatic and epic, both of which, like history, require liberty, because they must represent truly the character of man in his manifold strivings, which cannot be done but by viewing life impartially, and depicting it freely; whilst the lyric poet, in most of his highest efforts, aims to express his adoration, be it of a hero, or his mistress, or nature, or God; and this tone coincides very well with the adulation of courts. Hence, when the drama and epic have gone down with the decay of national independence and spirit, and genius, debarred from action, lives only in contemplation, lyric poetry continues, and not unfrequently even flourishes, because man always feels; admiration, love, and hatred cannot die. Even the slave may express in verse the accents of love or adulation; and religion, in all circumstances, is a never-failing spring of elevated feeling. We must not suppose, however, that every expression of feeling, in verse, deserves the name of a lyrical poem, although the mistake is a very common one, as the crowds of unfledged aspirants to lyric honours testify. It is necessary that the feeling represented should be itself poetical, and not only worthy to be preserved, but accompanied by a variety of ideas, beauty of imagery, and an eloquent flow of language. One distinct feeling should predominate, giving tone to the whole: the feeling must be worthy of the subject which caused it, corresponding to the same both in degree and kind, and must be so exhibited as to give a living picture of the poet's mind; while, at the same time, what is merely individual and accidental must be excluded, so that the poet shall be truly the representative of his race, and awaken the sympathy of all. But this requires genius of a high order. From the nature of feeling results the limited range of lyric poetry, and the variety of style and rhythm, exhibited in almost numberless metres, the bold associations of ideas, and the peculiar imagery belonging to this species of poetry. The tone of lyric poetry is warmest if it expresses feeling called forth by present circumstances. It is more composed when it represents feelings which are past. The hymns of the ancients, the ode in general, the song and hymn, with which are connected several metrical forms of the Italians and Spaniards (sonnets, *canzoni*, &c.), belong to the former; the epigram, in the Greek sense of the term, the elegy, &c., to the latter. See the various articles, and *Lyre*.

LYSANDER; a Spartan general, who terminated the Peloponnesian war by the conquest of Athens, B. C. 404. With the activity, and ambition, and penetration of Themistocles, he united the pliancy and insinuating address of Alcibiades. He gained more easily, and retained longer the favour of the great and powerful, than Alcibiades did the hearts of women and of the multitude. He sacrificed the welfare of his country to his own ambition. He used every means to elevate his friends and ruin his enemies. Justice and truth to him were empty words. He used to say, that if one cannot accomplish his purposes in a lion's skin, he must put on the fox's. Force and fraud were his political instruments. In the court of Cyrus the Younger, where he resided a long time, he endured, without a mur-

mur, the haughtiness of the Asiatic satraps; and, soon after, he exhibited the same arrogance towards the Greeks. His hatred was implacable, and his revenge terrible. His ruling passion was ambition. He destroyed the powerful city of Athens, and conceived the plan of raising his country to the summit of greatness, at the same time, it was to be under his own rule. He used every means to accomplish this object; he collected a fleet, and repulsed the Athenians, who lost in the engagement fifty vessels. The glory of this victory he endeavoured to increase by intrigues. When, therefore, Callicratides, who succeeded him in the command, had been defeated by the Athenian Conon, in an engagement near Arginusæ, in which he lost his life, Lysander, contrary to the established custom of Sparta, was a second time appointed admiral of the fleet. He immediately sought the Athenian fleet, which was much superior to the Spartan; it lay at anchor before Ægospotamos. Only nine of the ships escaped the fury of his attack; one carried the news of the defeat to Athens; with the rest, Conon, the Athenian admiral, escaped to Evagoras, king of Cyprus. The remainder of the fleet fell into the hands of the Spartans, almost without resistance, and Lysander sailed with it into the port of Lampacus in triumph. He put to death the prisoners (3000), with their generals, because they had thrown from a rock the crews of two Corinthian vessels, and had determined to cut off the right hand of all the Peloponnesian prisoners. After this defeat, all the Athenian allies went over to the Spartans. In the cities and islands which had surrendered, he abolished the democratic government, and founded an oligarchy. With a fleet of 180 ships, he then surrounded Athens by sea, while Agis and Pausanias enclosed it with a powerful army on land. Famine at length compelled the Athenians to surrender. They lost their independence, and considered themselves happy that their city was not destroyed. An oligarchy of thirty tyrants was now established, which was administered with the most terrible cruelty. Lysander then returned to Lacedæmon, where his character was well understood; yet the splendour of his victories, his extraordinary liberality, and his apparent disinterestedness, gave him such an ascendancy that, in fact, if not in name, he was sovereign of all Greece. Contrary to the laws of Lycurgus, he brought into Sparta immense sums of money, and valuable treasures, and thus ruined the Spartan virtue. He now attempted to accomplish, by artifice, his long-conceived plan of destroying the constitution of his country, by admitting to the throne not only all the Heracliidæ, but all native Spartans, and, finally, assuming the sceptre himself. Apollo himself was said to have declared that, to secure the prosperity and happiness of Sparta, its worthiest citizens should sit upon the throne. But the moment that the fraud was to have been committed in the temple at Delphi, one of the priests retracted his consent, from fear of the consequences, and frustrated the whole plot, although it was not discovered until after the death of Lysander, when the plan was found among his papers. He was killed in a battle, in the Boeotian war, in which he commanded the Spartan forces (B. C. 394). His memory was honoured in Sparta; for the nation, blind to his guilt, regarded him as a virtuous citizen, since he did not enrich himself, but lived always in great poverty. His life has been written by Plutarch.

LYSIAS; an Athenian orator, who flourished between the eightieth and hundredth Olympiads, about 458 B. C. His father, Cephalus, was likewise an orator, of whom Plato makes honourable mention in his Republic. Soon after his father's death, Lysias, then in the fifteenth year of his age, went to Thurium,

in Magna Græcia, to study philosophy and eloquence under Tisias and Nicias of Syracuse. Having settled in Thurium, he was employed in the government, but, on the defeat of the Athenians in Sicily, he was banished, with many of his countrymen. He returned to Athens; but the thirty tyrants banished him from that city, and he retired to Megara. After Athens had recovered its freedom, he exerted himself for the advantage of the city, and even sacrificed much of his property for the public welfare. Yet, notwithstanding his generosity, the rights of an Athenian citizen were never granted him. At last, he gave instruction in eloquence; but, finding himself surpassed by Theodorus, another teacher of oratory, he devoted his time to writing orations for others. He wrote more than 800, some say 400, orations: *correct* however, were regarded as genuine. In these he excelled all the orators of his time; and has rarely been surpassed by succeeding orators. Dionysius praises the purity, clearness, conciseness, and elegance of his expression, the beautiful simplicity of his eye to knowledge of men, and his lively description of their peculiarities, and, above all, his unparalleled gun. His style is applauded as a perfect example of the simple Attic eloquence. The efforts of Lysias a panegyric, however, according to Dionysius, was unsuccessful; he strives to be magnificent and lofty but does not fully reach his object. None of his eulogies is extant, except the one entitled *Epitaph*, and the genuineness of this is doubted; hence we cannot form an opinion of this class of his works. Only thirty-four of his orations have come down to our times: editions of them have been published by Taylor (London, 1739, 4to; and Cambridge 1748), Auger (Paris, 1783, 2 vols.), and Reiske (in the Collection of Greek Orators). John Gillies, the husband of Isocrates, translated the orations of Lysias as Isocrates, and accompanied his translation with an Account of their Lives, and a Discourse on the History and Manners of the Greeks (London, 1779).

LYSIMACHUS; son of Agathocles, a general and friend of Alexander, in the division of whom conquests he received a part of Thrace. The inhabitants stubbornly opposed his authority, and he was obliged to conquer the country. After this, he took the city of Lysimachia, on the Thracian Chersonese, assumed the royal title, like the other generals of Alexander, and formed a league with some of them against Antigonus, who had brought under his own power the territories conquered by Alexander in Asia. After the battle of Ipsus, in Phrygia (B. C. 301), which cost Antigonus his life and his crown, Lysimachus became master of Asia Minor, Cappadocia Proper, and all the provinces between the Taurus and the Antitaurus. He next made war on the nations on the borders of Thrace, and enlarged his territories by conquest. In attempting to subjugate the Getæ, who lived beyond the Danube, he and himself fell into their hands. He was compelled to surrender, with his army, to the barbarians, who, with horrid cries, demanded his death. But their king treated him more generously than the ambitious Lysimachus dared to hope. He provided for his prisoners an entertainment in the manner of the Greeks, and left them their own splendid furniture and utensils; his own food, on the contrary, was mean, and his vessels were all made of clay or wood. After the meal was concluded, he asked the captive monarch whether the rude living of the Getæ, or the splendid banquets of his own country, seemed to him most desirable, and advised him to make peace with a nation from whom so little was to be gained, returned him his power, admitted him to his friendship, and dismissed him without a ransom. This generous conduct made a deep impression on the Spartan

conqueror. He restored to the king of the Getæ the countries which he had gained beyond the Ister, and gave him his daughter in marriage. From this time, the power of Lysimachus became more and more extended, till his domestic relations involved him and his kingdom in ruin. Having put away his first wife, he married Arsinoë, a daughter of Ptolemy, who led him to commit many acts of folly, and even revealed upon him to murder Agathocles, his son by his first wife, in order to secure the succession to her own children. The virtues of Agathocles had gained him many powerful friends, who determined to take vengeance upon his weak and cruel father. They fled to Seleucus, and engaged him in a war against Lysimachus. Seleucus conquered all Asia Minor almost without a blow. A general battle was fought at Courpedium, in Phrygia, and, after a valiant resistance, Lysimachus was totally defeated and slain, B. C. 282, in the seventy-fourth year of his age.

LYSIPPUS; a sculptor, who flourished in Sicily, about 330 B. C., in the time of Alexander the Great. Alexander would permit no one but Apelles to paint his portrait, and no one but Lysippus to make his statue. The statues of Lysippus were principally portraits. He was first a coppersmith, and afterwards devoted himself to sculpture. The painter Apollonius, whom he asked what master he should follow, told him to follow nature. His statues were wrought with much greater beauty and elegance than those of his predecessors. He made the body more slender; the head smaller; the hair more natural, flowing, and delicate; he avoided angularity, and endeavoured to give to every part more roundness and softness of outline. He used to say, he represented men as they appeared to his imagination, but his predecessors represented them as they really were. Even the minutest parts were laboured with the greatest care. It is not known whether he executed any marble statues, but many in bronze are still preserved. The most celebrated are, a man bathing himself in a bath (*Apoxymenus*); several statues of Alexander, representing him in all the different stages of his life; a group of Satyrs, which is found at Athens; Alexander and his friends, a number of statues which were intended to bear an exact resemblance to the original; and a colossal piper at Tarentum. The first mentioned statue (*apoxymenus*) was placed by Agrippa in front of the public baths at Rome. The emperor, Tiberius, having removed it to his palace, was compelled by

the populace to restore it to its original station. It has been supposed that the mutilated statue now at Rome, called the Torso, which was so much admired by Michael Angelo, is in fact the remaining portion of this very celebrated statue; although Winckelman considered it as being a fragment of a Hercules reposing after his labours.

LYTTLETON, GEORGE, lord, an elegant writer and historian, was the eldest son of Sir Thomas Lyttleton, baronet, of Hagley, in Worcestershire, where he was born in January, 1709. In his nineteenth year, he set out upon a tour to the continent, and, on his return, in 1730, was chosen member of parliament for Okehampton, and concurred in the measures of the opposition, led by Pitt and Pulteney. When Frederic, prince of Wales, formed a separate court, in 1737, he was appointed his secretary. On the expulsion of Walpole, he was appointed one of the lords of the treasury; but, although he spoke with elegance and fluency, his oratory wanted force, and he never attained the rank of a political leader. In early life, he had imbibed sceptical opinions; but, being subsequently led into a conviction of the divine origin of Christianity, he composed his well-known Dissertation on the Conversion of St Paul, first printed in 1747. About this time he lost his first wife, on whom he wrote the celebrated monody, and, in 1749, married a lady from whom, after a few years, he separated by mutual consent. In 1751, he succeeded his father in his title and ample estate, and, by his elegance and taste, rendered Hagley one of the most delightful residences in the kingdom. At the dissolution of the ministry, he was raised to the peerage by the title of baron Lyttleton, of Frankley, in the county of Worcester. From this time, he lived chiefly in literary retirement, and, in 1760, published his Dialogues of the Dead. The latter years of his life were chiefly occupied in his History of Henry II., which is the result of assiduous research, but too prolix. He died in August, 1773, in the sixty-fourth year of his age, leaving a son, who succeeded him in his titles, and, with great talents, became conspicuous for a conduct entirely opposite to that of his father. The poems of lord Lyttleton maintain a place among the collection of British poets, for their correct versification, and delicacy of sentiment, rather than for higher qualities. His miscellanies, in prose, also display good taste, and a cultivated mind. His works were first collected and printed, in 1774, 4to, and since in 8vo. See Johnson's *Lives of the Poets*.

## M

the thirteenth letter and the tenth consonant in the English alphabet, a labial, produced by a slight vibration with a compression of the lips. It is one of the liquids or semivowels, and was not therefore considered by the Romans a consonant; but, was faintly pronounced, rather as a rest between two syllables, than as an articulate letter (*Quint. ix. 4*), which explains why it was subject to elision. 1. It is one of the first letters which children learn to pronounce, in connexion with the easy vowel *a*. (See

2. It passes easily into other letters, losing *f* in the preceding or succeeding letters—a circumstance which the etymologist must bear in mind, seeking the derivation or connexion of words hav-

ing an *m* in their root; thus, for instance, the German *Wange* (cheek) is the ancient *Mangon*, and the middle Latin gives *hombarius* as well as *hobarius*. The Italians use *o* for the Latin *um*, at the end of words. We even find the *m* suppressed at the end of words, on some ancient medals and inscriptions; thus, on the medals of the Æmilian and Plautian families, we find PREIVERNV. CAPTV.; on others, AVGVSTORV. If the *m* is fully pronounced, the sound passes partly through the nose, as is also the case with *n*. Hence, in French, it is nasal at the end of a word, as in *parfum*, *faim*, some foreign words excepted, as *Abraham*, *Jerusalem*. The *mem* of the Hebrews, as a numeral, signified forty; the

same was the case with the Greek  $\mu'$ ,  $\mu$ , however (characterized by the stroke before it) signified 40,000. In Latin it signified 1000; the original designation of this number was double D or (CIC), which gradually became an M. MM denotes 2000, and  $\overline{M}$  1,000,000, or a thousand thousand. In numismatics, M stands for a great number of words; for Macedonia, as LEG. M. XX. *Legio Macedonica Vicesima*; Malea, Massilia, Mamertini, and many other places or countries; for Marcus, Manlius, Marcellus, and other names; for *magnus, militaris, menses, mater, magister*, &c.; EQ. M. for *equitum magister*. M. D. signifies *medicina doctor* (doctor of medicine); A. M. *artium magister* (master of arts); MS. *manu scriptum* (manuscript); MSS. (manuscripts). D. O. M. signifies *Deo optimo maximo* (To the best and greatest God, or, To the Most High). On tombs, D. M. S. means *Dis Manibus Sacrum*. M stands for noon, from the Latin *meridies*. Hence P. M. *post meridiem* (afternoon). A. M. *ante meridiem* (forenoon). In medicine, it signifies *misce or misceatur* (mix); also *manipulus* (a handful). On modern coins, it signifies—1. the mint of Toulouse; 2. with a small o over it, Mexico; 3. with a crown, Madrid. M, in French, often stands for *Monsieur*; MM. for *Messieurs*. In music, it is used for the Italian words *meno* (less), *mano* (hand), *mezzo* and *moderato* (moderate). M' stands, in Scotch and Irish names, for *Mac*. M is likewise used by printers for the unit of measure of printed matter. Types of the same fount have bodies of equal thickness in one direction, and the square of this dimension is used in determining the amount of printed matter in a given space, as a page for instance, and is termed an m.

MAB; the queen of the fairies, so fancifully described by the sportive imagination of Shakspeare, in *Romeo and Juliet*. Chaucer speaks of a king and queen of Faerie, but seems to attribute the royal dignity to Proserpine and Pluto. The origin of the more amiable Oberon and Titania or Mab (if they are not the same) is uncertain. Poole, in his *Parnassus* (1657), thus describes the Fairy court: Oberon, the emperor; Mab (*amabilis*), the empress; Periwiggin, Puck, Hobgoblin, Tom Thumb, &c., courtiers; Hop, Mop, Drop, Tib, Tit, Tin, Tick, Pip, Trip, Skip, &c., &c., maids of honour; Nymphidia, mother of the maids. Puck is the emperor's jester. Drayton's *Nymphidia*, and the *Midsummer Night's Dream*, are delightful illustrations of the antiquities of queen Mab's empire.

MABILLON, JOHN, a learned French Benedictine of the congregation of St Maur, a writer on ecclesiastical antiquities and diplomatics, was born in 1632, in Champagne, and studied at the college of Rheims. He took the monastic vows in 1654, and, in 1660, was ordained a priest. After having assisted father D'Acheri, in his *Spicilegium*, he edited the works of St Bernard; and, in 1668, published the first volume of the *Acta Sanctorum Ordinis S. Benedicti*, of which the ninth and last volume appeared in 1702. One of his most important productions is his treatise *De Re Diplomatica, Lib. vi.* (1681, folio). This procured him the patronage of the French ministry. He was sent to Italy, with a commission from the king, to make a literary collection; and, returning to France with books and MSS. for the royal library, he published an account of his journey, &c., under the title of *Museum Italicum* (1687, 2 vols., 4to). In 1701, he was chosen a member of the academy of inscriptions, and, in that year, began to publish his *Annales Ordinis S. Benedicti*, four volumes of which appeared previously to his death, in 1707. Father Mabillon was the author of many other works of research, distinguished for

liberality of sentiment and freedom of opinion, as well as for profound learning.

MABLY, GABRIEL BONNOT DE, a French jurist and historical writer, was born at Arras, in 1705, and died at Paris, 1785. He was educated by the Jesuits at Lyons, but as soon as he was at liberty to follow his inclination, he abandoned those studies for Thucydides, Plutarch, and Lay. The young abbe now went to Paris, where he was favourably received by madame De Tenac, one of the cardinal, to whom he was related, and on whom he published his *Parallele des Romains et des Français* (1740), which was received with applause and obtained him the patronage of cardinal Tencin. This minister employed Mably to write his memoirs and reports; and it was from memoirs sent by himself, for the use of the cardinal, that Mably prepared his *Droit public de l'Europe jusqu'en 1713*. He was appointed, in 1763, to act as the secret negotiations with the Prussian ambassador at Paris, with whom he concluded a treaty against Austria. The instructions of the French minister at the congress of Brede (1740) were drawn up by him. Notwithstanding this prospect of success in politics, a misunderstanding with the court induced him to retire from affairs, and devote himself to study. The tone of his subsequent productions is somewhat different from that of his first. Among them are *Observations sur l'Histoire de la Grèce*; *Observations sur les Romains* (1761); *Entretiens de Phocion* (in which he gives his views of virtue, patriotism, and the system of government of the state and the citizens towards each other); *Observations sur l'Histoire de France* (of which an edition has lately been published by Goussier, with notes); *Entretiens sur l'Histoire*. His other works appeared at Paris, in 1794, 15 vols. His style is easy, pure, often elegant, but with a views often partake of the asperity of his subject.

MABUSE, or MAUREUZE, JACQUES, an artist, was born at Maubeuse, a village of France, in 1492, and studied the works of the great masters in Italy. His habits were so disengaged that his patience, fidelity, and beauty with which his pictures were executed, were doubly remarkable. He painted a great altar-piece, representing the descent from the cross, for a church in Middleburg, but the church and the picture were destroyed by lightning. To their descent from the cross, by him, is said a Maubeurg. His irregularity occasioned his imprisonment in this place; and, during his confinement, he painted several fine pieces, which are lost. He afterwards came to England, and painted several pictures in the XVIII. Several excellent works of his are at Middleburg; the best of which is the altar-piece representing the descent from the cross. Having received a piece of rich brocade, in order to appear before emperor Charles V., he sold it at a tavern, and painted a paper suit so exceedingly like a real one, that the emperor could not be convinced of the deception until he examined it with his own hands. He died in 1562.

MACABER; according to some, an early Greek poet, author of a work entitled the *Dance of Death*, or the Dance of Macaber, consisting of a series of dialogues between Death and a number of various ages belonging to various ranks of society. We suppose the word merely a corruption of the Hebrew *magbarah*, a cemetery. (See *Dance of Death*, an English translation of these dialogues was published by Dugdale and Dodsworth, in the church volume the *Monasticon Anglicanum*; and French and Latin versions have been repeatedly printed.

MACAO, China, in Quing-tong: lon. 113° E.; lat. 22° 13' N. This town is built on a point

islands, or rather on a small island, which has an area of 106 square miles, and contains 33,800 inhabitants. It is the only European settlement in China, and was ceded to the Portuguese in 1580. (See *India, Portuguese*.) The Portuguese fortified the place, and surrounded it with strong walls. Macao has a Portuguese governor, and a Chinese mandarin; and the English and other nations have factories here. The houses are of stone, built after the European manner; but they are low, and make little show. The city is defended by three forts, built upon eminences; its works are good, and well planted with artillery. It was formerly a place of the greatest importance, being the centre of the trade of the Portuguese in the eastern part of Asia. Since the decline of the Portuguese trade, the town has sunk into a place of comparatively little importance. In the garden of the Chinese factory is shown a cave, called the *grotto of Camoens*, in which he is said to have composed the *Lusiad*.

MACARTHY, SIR CHARLES, an Irish officer, who commanded at Cape Coast, in 1821. Whilst making preparations to repel the Ashantees, the king sent his compliments to him, and said he hoped to have his head, as an ornament to his great war-drum. In 1823, Sir Charles marched against the Ashantees, with a mixed force of Europeans and blacks, the latter of whom ran away, and the whites being defeated, their commander was captured by the victor, who ferociously realized his menace, January 21, 1824. In a subsequent battle, the Ashantees were entirely defeated, and this barbarous trophy was recovered and conveyed to the relations of Sir Charles.

MACARTNEY, GEORGE (earl Macartney), the son of a gentleman of Scottish descent, was born in Ireland, in 1737, and educated at Trinity college, Dublin; after which he became a student of the Temple. In 1764, he was appointed envoy extraordinary to Russia, afterwards became secretary to the lord-lieutenant of Ireland, and was created knight of the Bath. In 1775, he was made captain-general and governor of the Caribbee islands, Grenada, the Grenadines and Tobago. Grenada was invaded and taken by the French, and the governor was sent a prisoner to France. On his return to England, he was appointed to the presidency of Madras, having previously received an Irish peerage. On his embassy to China, in 1792, he behaved with great address, and succeeded in the chief object of his mission. His only subsequent public situation was that of governor of the cape of Good Hope, whence he returned, on account of ill health, in 1797. He died March 31, 1806. His English earldom was bestowed on him for his services in China. Lord Macartney was the author of a *Journal of his Chinese Embassy*, and other publications. See Staunton's *Embassy to China*, and Barrow's *Life of Lord Macartney*.

MACASSAR; a city of Celebes, on the south-east coast, capital of a kingdom called *Macassar*. *Bony*; lon. 119° 50' E.; lat. 5° 10' S.; population, according to Hassel, 100,000. This town is the chief settlement of the Dutch on the island, and called by them *Fort Rotterdam*. The town is built on neck, or point of land, at the mouth of a river which forms a harbour, with water enough for a ship to come within cannon shot of the walls. The town large; the houses are of wood, built on piles, to ward against the inundations. The country round out is level and beautiful, abounding with plantations and groves of cocoa-nut trees. At a distance land, the country rises into hills of great height, and becomes rude and mountainous. See *East India Company, Dutch*.

MACASSAR, STRAITS OF; the channel or narrow

sea between Celebes and Borneo, about 350 miles long, and from 110 to 140 wide, except at the north entrance, where it is contracted to fifty miles.

MACAULEY, CATHERINE, or GRAHAM, the name of her second husband, was born in Kent, at the seat of her father, John Sawbridge. She was well educated, and became early attached to the perusal of history. In 1760, she married doctor George Macauley, a physician, and, in 1763, published the first volume (4to.) of her *History of England from the Accession of James I., to that of the Brunswick line*. This was continued in successive volumes, to the eighth, which completed the work, in 1783. The spirit of this history is almost purely republican. The other works of Mrs Macauley are *Loose Remarks on some of Mr Hobbes' Positions*; an *Address to the People of England on the present Important Crisis* (1775); a *Treatise on the Immutability of Moral Truth*, afterwards republished, with additional matter under the title of *Letters on Education* (1790). Her last publication was a *Letter to Earl Stanhope, in reply to the opinions of Burke on the French Revolution* (1791). In 1785, Mrs Macauley married a young man of the name of Graham, and the disparity of their ages subjected her to much ridicule. She paid a visit to general Washington, in America, in 1785, and died in 1791.

MACAW. These magnificent birds belong to the parrot tribe, and are distinguished by having their cheeks destitute of feathers, and the feathers of the tail long. They form the sub-genus *ara*. They are only found in the tropical regions of South America. They prefer moist situations, from the palm growing in such spots, of the fruit of which they are very fond. They usually go in pairs; sometimes, however, they assemble, in the morning and evening, in great numbers. Although they fly well, they seldom wander far, except in quest of food, and regularly return in the evening. They build their nests in the hollow of rotten trees, and lay twice in the year, generally two eggs at a time. The male and female share alternately in the labour of incubation and rearing the young. When young they are easily tamed, and soon grow familiar with persons whom they frequently see. But like all the parrot tribe, they have an aversion to strangers, and particularly to children. In a domesticated state, they will feed on almost every article, but are especially fond of sugar, bread, and fruits. They do not masticate the latter, but suck them by pressing their tongue against the upper mandible. Like the other parrots, these birds use their claws with great dexterity, though, in climbing, they always begin by taking hold with their bill in the first instance, using their feet only as a second point of their motion. When they were first carried to Europe, their great beauty and size caused them to be in much request, and they were considered as valuable presents between sovereign princes. This bird was spoken of, by Aldrovandus, as early as 1572.

MACBETH lived about the middle of the eleventh century. He served against the Danes as general of his relation Duncan I. or Donald VII., king of Scotland. The Danes were completely defeated, and Macbeth now conceived the idea of obtaining possession of the Scottish throne. He appears, like most men in his time, to have believed in the predictions of the pretenders to supernatural knowledge. On his return from his victory over the Danes, three old women met him with the insignia of the witches of that period, and saluted him—the first, as Thane of Glamis; the second as Thane of Cawdor; the third, as about to be king of Scotland. The two first predictions being almost immediately fulfilled, Macbeth was led to hope for the accomplishment of the last,

and, after brooding over the subject for a time, determined to assassinate the king; and perpetrated the crime when the king was visiting him at his castle of Inverness. The king's sons were obliged to save themselves by flight; and Macbeth brought the nation to favour his cause, by liberality to the nobility, and by strict justice in his administration. For ten years, he reigned with moderation; but, after this period, he suddenly became a tyrant. His first victim was Banquo, who had been privy to the murder of the king. Feeling insecure, he erected a castle on Dunsinane, from which he could overlook the whole country. This is the legend, which has been adopted by poetry. But history shows no such person as Banquo; Duncan was slain near Elgin, and not in Macbeth's own castle; and Macbeth, though he ascended the throne by violence, had in fact a better claim to it than Duncan, and was a firm, just, and equitable prince. Macduff, thane of Fife, fled to England, and urged Malcolm, the son of the murdered Duncan, to take vengeance. Assisted by Siward, earl of Northumberland, they returned to their country. Macbeth was defeated, fled to his castle, and was slain in the seventeenth year of his reign, A. D. 1057.

**MACCABEES**; two apocryphal books of the Old Testament, which contain the history of Judas surnamed Maccabeus, and his brothers, and the wars which they sustained against the kings of Syria, in defence of their religion, and the independence of their country. (See *Jews*.) The author and the age of these books are uncertain. The council of Trent placed them among the canonical books, but the Protestants have rejected them as apocryphal.

**MACCARONI**, **MACARONI** or **MACCHERONI**; a preparation of fine flour, which forms a favourite article of food among the Italians. It is eaten in various ways, generally simply boiled, and served up with grated cheese. Macaroni is generally made in pieces resembling a long pipe handle, of small diameter; sometimes, however, in other shapes, as flat, square, &c. It is a wholesome food, and a national dish of the Italians, particularly of the Neapolitans. It is made best in the neighbourhood of Naples, whole villages living almost solely by the manufacture; and, in Naples, it is continually sold in the streets, cooked for the lower classes, particularly for the *lazzaroni*. The pieces being very long, and being held in the fingers during the process of eating, some skill is required to manage them. This fashion of eating yard-long macaroni, forms a subject of ridicule against the Neapolitans, in more than one Italian comedy. The modes of cooking macaroni are various; the simplest are the best. The fashion of cutting it into pieces, and stewing it with eggs, &c., as is done in England, is not to be recommended. Macaroni is well made at Aix in France, and pretty well also in Germany.

*Macaroni* is also used as a term of contempt for a coxcomb—*homo crassa Minerva*.

**MACCARONI POEMS**; a kind of facetious Latin poems, in which are interspersed words from other languages, with Latin inflections. They were first written by Teofilo Folengi, under the name of *Merlino Coccaino*, a learned and witty Benedictine, born in 1484, at Mantua. He was a contemporary and friend of Sanasario. Ferdinand of Gonzaga, with whom he resided ten years in Sicily, was his patron, and Folengi often celebrates his praises. He spent the rest of his days in a monastery at Bassano, where he died in 1644. Various grave and religious poems of his, in Italian and Latin, are still extant, and are not without value. He is regarded by the Italian poets as the inventor of heroic-comedy. His principal poem in this style was called *Maccaronea*, because it was mixed up of Latin and Italian, as macaroni is

made up of various ingredients. An edition of the poem, printed in 1521, is still extant. A measure of Virgil, he carries the hero of his poem through numerous circumstances, and, at last, to the *macaroni* regions. Here, among other things, is seen the punishment of poets. For every macaroni exaggeration in their works, devils were appointed to extract a tooth, which grew again every day. The poem contains many satirical accounts of the manners of the age, with beautiful passages in genuine *macaroni*. Besides this, he wrote a smaller comic poem, called *Moschea*, or the War of the Gents and the Ladies—a youthful production; also *Etiogon* and *Epica*; all in the macaronic style. Heinsius (*Tristram*, p. 171) mentions a German poem of the same kind. *Cortum versicale de Flou surartibus, ubi invenitur quæ omnes fere Minuscos, Marinos, Nidros, Jucos, &c., behuppere, et Spitzibus suis archibus ducere a bitere solent; Autore Grifpheldeo à sanctissimo à Solandia* (anno 1593, 4to), of which he gives the introduction. A new edition of this work appeared in 1822, at Hamm; and a translation at Leipsic, in 1824. We find an example of French macaronic verse in the third interlude of Molière's *Médecin malgré lui*. It was introduced into England in the reign of Henry VII., when Skelton exhibited some specimens of it. It was fashionable under Elizabeth, in whose reign a poem on the Armada, of which Warton gives a specimen, was written. Drummond, of Hawthornden, also wrote a macaronic poem, of which the following will be a sufficient specimen:—

*Contraact extemplo burlesco-minuscos aliquid ludum.  
Jackmannusque Minuscosus, plerumque Minuscosus capis propriis  
manibus,  
Tumultuanteque simul, recessu ex hisce Minuscosi, hunc  
Hunc qui dicitur ferat terribiliter cum dischordante Minuscosi, &c.*

**MACCHIAVELLI**, **NICCOLO**. It is not easy to determine a man's disposition and character from his writings. When, however, as was the case in the governments of antiquity and the Italian republics of the middle ages, a man's writings are more the offspring of his political situation than mere exercises of his intellect, and especially if they coincide with his conduct, they afford fair grounds for judging of the author's character. This is the case with Niccolò Macchiavelli, the famous Florentine secretary. The prejudices against him, arising from an imperfect understanding of his treatise called *Il Principe* (The Prince), have caused him to be regarded as the teacher of a detestable line of policy, called even *Macchiavellism*, intended to enable despots to perpetuate its existence by fraud and violence, though there are few men on record who have shown so much of a truly civic spirit.—He was born at Florence in the year 1469, of a noble family, whose members had enjoyed the highest dignities in the republic. Little known of his youth, and nothing of his education, except that he studied under Marsilio Ficino. On account of his distinguished talents, he was early appointed chancellor of the Florentine republic, and, not long afterwards, was advanced to the post of secretary of state, for which reason he is most commonly called *Segretario Fiorentino*. When Florence had recovered her liberty by the expulsion of the Medici (see *Medici*), and, from fear of the exiled family, had become involved in the ambitious wars and intrigues of Charles VIII. at a time when great political adroitness, and a spirit of genuine republicanism, were required in her councils, Macchiavelli was several times charged with important embassies. He was four times ambassador at the French court, twice at that of the pope, and twice, also, at that of the emperor Maximilian. The republic acknowledged his great services, but rewarded them sparingly, so that he was sometimes

obliged to petition the *signoria* (supreme authority of the state) on account of his poverty. His advice was of great use to the commonwealth, at the time of the insurrection of Val di Chiana. The leading principles of his counsels, at this juncture, may be deduced from his numerous letters, preserved in the Florentine archives. They were to maintain a peaceful and friendly spirit in the settlement of difficulties, to provide for an upright and strict administration of justice, to make the burden of taxes as light as possible, and to keep a watchful eye on the smallest circumstances that had relation to public concerns. Even in regard to military affairs, the late was so convinced of the sagacity of his views, that they preferred his counsel to any other. Among other things, a Tuscan legion was established by his device. This band, at a later period, distinguished itself remarkably under the command of Giovanni de' Medici. When pope Julius II. had succeeded in establishing a league in Italy against the overwhelming power of the French, Louis XII., to revenge himself, and wound the dignity of the pope in the tenderest point, attempted to assemble a council in Italy, and requested the Florentines to allow Pisa, which had become again subject to them, to be the place of meeting. Macchiavelli feared the papal dangers, and advised his countrymen to evade the proposal. He went with this view as envoy to the king, but the king would not be refused. After his return, he was sent to Pisa, to watch the proceedings of the council, and to labour for its dissolution. Nevertheless, the pope was so indignant against the Florentines, that he formed an alliance with Ferdinand of Arragon to deprive them of their freedom, and, by their means, the power of the Medici was re-established. As Macchiavelli had laboured incessantly for the good of the republic, Lorenzo de' Medici, now dictator of Florence, seized the opportunity, in spite of a public decree, to strip him of his dignities. He was afterwards accused of participating in the conspiracy of the Boscoli and Capponi against the cardinal Giovanni de' Medici, imprisoned, put to the torture, and banished; all which he endured with a firmness approaching to indifference. After the cardinal became pope (Leo X.), his punishment was remitted. He returned to his native country, and wrote his discourses on the ten first books of Livy; also his Prince, which he dedicated to Lorenzo de' Medici. Upon this, he was received again into favour by this powerful family; and cardinal Julius, who ruled Florence in the name of Leo X., and earnestly desired to reform the condition of the place, availed himself of the advice of Macchiavelli, in extinguishing various civil commotions. He was suspected of being concerned in a new conspiracy against the Medici; but the only consequence was, that he was obliged to return to private life and indigence. When Julius, under the name of Clement VII., ascended the papal chair, Macchiavelli was again employed in public business: in particular, he was sent to aid the allied forces of the pope and the Florentines in the defence of Tuscany against the army of Charles V. The confidence now reposed in him by the Medici alienated from him the affections of the Florentines; and, after his return to Florence, he died, June 22, 1527, neglected and poor. It appears, from the letters of his son Pietro to Francisco Nelli, that he manifested on his death-bed the feelings of a Christian. The account of the inaccurate Paolo Giovio, that he died a suicide and an atheist, is not to be depended on. The writings of the immortal Florentine may be arranged under four heads,—history, politics, belles lettres, and military treatises. His eight books on the history of Florence, written at the command of

Clement VII., begin with the year 1215, and end with Lorenzo de' Medici, in the year 1492. They are among the first historical works of modern times, which deserve to be placed side by side with the beautiful remains of antiquity. Macchiavelli was probably prevented by death from completing this work, and is said to have left his collection of materials to Guicciardini. The history is distinguished for its pure, elegant, and flowing style: its impartiality is doubtful. The Life of Castruccio Castracani, lord of Lucca, is more properly a romance than a biography. The hero, who is as great a villain as Cæsar Borgia, is continually quoting apophthegms from Plutarch. Under the head of politics are included his two most important works—the Prince (of which more will be said hereafter), and the Discourses upon the ten first books of Livy. His purpose, in these last, is to show how a republic may be supported, and how it is exposed to ruin. The work breathes, throughout, a warm love of freedom. Filippo Nerli relates, in his commentaries, that Macchiavelli was induced to write these discourses, and those on the Art of War, by a number of young men who were accustomed to assemble with him in a garden in Florence, and had been made republicans by the perusal of the ancients. Montesquieu and Rousseau have both drawn freely from these works. In a treatise, composed in the year 1519, upon a reformation in the state of Florence, he advises the pope Leo X. to restore the republican form of government to this city, although he pretends to have the aggrandisement of the Medici in view. His object in the seven books on the Art of War was, to show the Italians that they were able to recover their freedom without the assistance of the foreign mercenaries, so generally employed in the states of Italy; and he shows himself fully sensible of the great importance of infantry, then little valued. Frederic the Great knew and esteemed this treatise. For the restoration of the comic drama, also, the world is indebted to the Florentine secretary. His comedies, *La Mandragola* and *La Clizia*, are the first regular dramas written since the time of the Romans. Voltaire preferred the first to any of the plays of Aristophanes. His other poems are full of thought. The novel entitled *Belfagor* is very fine, and has been versified by La Fontaine. His description of the pestilence, which raged in Florence in the years 1522—3, may be compared to the similar account in Thucydides. He has written, also, many other treatises, all of which show the great man, and several poems. Among his papers is a constitution for the regulation of a gay company, called *Compagnia di Piacere*.

The Prince has been often translated. The opinions on this work are very various. Some persons condemn it as intended to instruct tyrants in the art of oppression. This idea originated with the archbishop of Consa, Ambrosio Catarino, long after the book was given to the world. Bayle, in his famous dictionary, and Frederic the Great, in his Anti-Macchiavelli, which was translated, together with the Prince, by the order of Mustapha III., are of the same opinion. But they mistake Macchiavelli's meaning, for his other writings, as well as his life, prove that he loved liberty ardently. Others consider the Prince as a satire; but this is impossible. The tone of the work is most serious throughout: no trace of satire can be discovered. Others think it a work full of valuable counsel for princes, but infected with a looseness of morals which prevailed in the age of the writer: but Macchiavelli hated Alexander VI., Cæsar Borgia, and all the tyrants of his age; and the full consideration with which he advances his starting principles, shows that they could not have sprung

from the unconscious influence of his time. They are well weighed and thoroughly understood. Others believe that Macchiavelli's object was to make tyrants odious; but tyrants, such as he describes, need no colouring to make them abhorred. Others maintain that Macchiavelli treated the question of tyranny, in the abstract, without reference to morality, not in order to give advice, but as a mere scientific question, on the ground of lord Bacon, that "there be not any thing in being or action which should not be drawn and collected into contemplation and doctrine;" just as a person might write a treatise on poisons, investigating all their effects, without touching on their antidotes. But could a mind like Macchiavelli's, if his object had been merely scientific discussion, have contemplated, long and closely, crimes so shocking to his love of liberty, without ever betraying his horror? Could we believe a man to possess a pure spirit, who could write a long and scientific treatise on the seduction of innocence, as skilful in its way as Macchiavelli's in his, though such a treatise might afford much interesting analysis of the springs of human conduct? In our opinion, the Prince must be considered as a work written for a certain purpose, time, and person, although particular questions, doubtless, are often treated abstractly, and the application left open. As a whole, the Prince is not to be considered, originally, nor in its execution, as a mere scientific treatise. Many questions are left undiscussed; the titles of the chapters are often of a general nature, while the chapters themselves are not. Macchiavelli's feeling was, that union and freedom from a foreign yoke were even more important than civil liberty; that they formed the very elements of the life of a nation. In the first part of his career, he had been thoroughly Florentine in spirit, but his misfortunes forced him to elevate his views, to become Italian; and, for the purpose of saving Italy, he could have seen, with patience, even Florence enslaved. No noble-minded Italian has written or sung, since Dante's *di dolor ostello*, without giving vent to his grief for the unfortunate condition of his beautiful country; and Macchiavelli, one of the noblest spirits of Italy, burned to see her united and freed from foreigners. He sought the cure of Italy; yet her state appeared to him so desperate, that he was bold enough to prescribe poison. But it must be kept in mind that he does not advise all the measures which he discusses. He often treats them like mechanical principles in the abstract, and leaves the consideration of their expediency in practice to him who wishes to make the application. Undoubtedly Macchiavelli believed that many things are permitted for the purpose of uniting a distracted country, which would be criminal in any other case; and, to determine the true spirit of his famous work, the reader should have a full knowledge of the history of the age. If he had written at the present day, he must have recommended very different means. In the last chapter of the Prince, he calls upon Lorenzo of Medici to save his country. Lorenzo was the nephew of pope Leo X. Julian, brother to Leo, was expected to become king of Naples, while Lorenzo, a man of a warlike and fierce spirit, was expected to unite the country between the Tuscan and Adriatic seas, and to found a kingdom of Tuscany. On him all eyes were turned, and him it was Macchiavelli's purpose to urge to the deliverance of Italy. Macchiavelli was far from being alone in expecting salvation for Italy only from a conquering king. Polydore Virgil, in 1526, when he dedicated his work *De Prodigis* to Francesco Maria of Urbino, expressed this opinion. Twenty years earlier, John Anthony Flaminus said the same to pope Julius; and Varchi says, "Italy cannot be tranquil until ruled by

one prince." Some of the best observations on Macchiavelli are to be found in a work probably less known to our readers,—professor Lamber's *Zur Kritik neuerer Geschichtsschreiber* (Bonn and Leipzig, 1824.)

In regard to Macchiavelli's personal character, even his enemies acknowledge that he was kind and affable, a friend of the virtuous, cautious and brave. He was one of the greatest statesmen and indefatigable in the service of his country as long in his manner of life. He well deserves the inscription placed over his tomb in the church of Santa Croce, in Florence—

*Tanto nomini tantum par obitus.*  
Nicolaus Machiavellus  
Obiit An. A. P. 7 MDXXII.

The reader will recollect the stanza in *Chastel* (canto four, stanza liv.), in which his remains are described as lying in company with those of Jean, Michael Angelo, and Alfieri.

MACCHIAVELLISM, in politics; that view of policy which overlooks every law, and makes use of any means, however criminal, to pursue its purposes. The word originated from a erroneous view of Macchiavelli's Prince. See *Macchiavelli*.

MACE. Clubs of various descriptions are used among almost all savages, formed of a kind of heavy wood, some broad and flat, when seen, angular, long or short, some plain and rude, others neatly carved. From this simple implement, or mallet, hammer of arms, and mace originated, were generally used, of old, both in Great Britain and on the continent of Europe. The progress of improvement having rendered armor impenetrable by edged weapons, some instrument of effectual demolition became necessary. As early on military affairs, of the sixteenth century, recommends a leaden mallet, five feet long. The mace was wielded with both hands, and harnessed to a hung by a thong or chain from the pommel of the saddle. The hammer of arms greatly resembled a common hammer. It differed from the mallet in being square or a little rounded or convex, whereas the side of the mallet was square and the other pointed or edged. The mace, in its simplest form, is only an iron club, short and strong. Its shape varied among different nations and at different times. One, well preserved, is of iron, two feet one inch long, with a hollow handle, and a head seven inches long, consisting of seven iron leaves perpendicularly fixed round a cylinder, and equidistant. The whole weighs three pounds nine ounces. Two maces, said to have belonged to Roland and Olivier de Barre, famous champions under Charlemagne, were preserved in France towards the beginning of the last century, and perhaps later, consisting of a handle two feet long, to which an iron ball was attached by a triple chain. It appears that the head was frequently covered with iron spikes, and was attached to the handle by a single chain. Mr Green states that similar implements were long used by the mounted bands of London, under the name of *morning stars*. (See *Battle-Axe*, and *Arms*.) At present, the mace is used as an emblem of the authority of officers of state (e. g. the speaker of the house of commons, before whom it is carried). It is made of the purest metals, or of copper, gilt, and ornamented with a crown, globe, and cross.

MACE; the outer, fleshy, and concave coat of the nutmeg. When the fruit is gathered, the mace is carefully separated from the nut, dried in the sun, and afterwards is packed in chests of different sizes, in which state it is obtained in commerce. See *Spice*.

MACEDONIA (now Makdonia or Filiba Vilajeti, a territory containing 15,250 square miles, and 700,000 inhabitants); the northern part of the peninsula in Europe, inhabited by the Greeks, a mountainous and woody region, the riches of which consisted chiefly in mines of gold and silver; the coasts, however, produced corn, wine, oil, and fruits. It was separated from Thessaly on the south by the Olympus and the Cambunian mountains (now Monte di Voluzzo); and on the west, from Epirus, by the Pindus (now Stymphe). In regard to the eastern, northern, and north-western boundaries, we must distinguish between the time before and after Philip, the father of Alexander. Before his time, all the country beyond the Strymon (Strumona), and even the Macedonian peninsula from Amphipolis to Thessalonica, belonged to Thrace; and Pæonia, likewise, on the north. On the north-west, towards Illyria, it was bounded by lake Lynchnitis (Achrida). Philip conquered this peninsula, all the country to the river Nessus (Karasu) and mount Rhodope; also Pæonia and Illyria, beyond lake Lynchnitis. Thus the widest limits of Macedonia were from the Ægean Sea to the Ionian, where the Drino formed its boundary. The provinces of Macedonia were, in general, known by name even before the time of Herodotus. At the time of Philip, they were nineteen. The Romans divided the country into four districts—the eastern on the Strymon and Nessus (chief city, Amphipolis); the peninsula (capital, Thessalonica); the southern, including Thessaly (capital, Pella); and the northern (chief city, Pelagonia). They made Illyria a separate country. Macedonia was inhabited by two different races—the Thracians, to whom belonged the Pæonians and Pelagonians, and the Illyrians, to whom the Macedonians are shown to have belonged by their language and customs. It speaks of 150 different tribes, who dwell here in an early period; but we have no particular accounts of them. The Macedonians were a civilized people long before the rest of the Greeks, and were, in fact, their instructors; but the Greeks regarded them as barbarians. They were divided into several different states, which were incessantly at war with the Thracians and Illyrians, till Philip and Alexander made the ascendancy to one of these states, and made it the most powerful in the world. We have no particular account of this state, but it is known to have been a limited monarchy; to have been tributary, for a long time, to the Illyrians, Thracians, and Persians, and to have been obliged to give up all its resources to the Athenians. The succession of its princes begins with the Heracleide Caranus, but first becomes important with the accession of Philip (q. v.). The prince, taking advantage of the strength of the country and the warlike disposition of its inhabitants, reduced Greece, which was distracted by intestine wars, in the battle of Chæronea, B. C. 338. His son Alexander, subdued Asia, and by an uninterrupted series of victories, for ten successive years, made Macedonia, in a short time, the mistress of the world. After his death, this immense empire was divided. Macedonia received anew its ancient limits, and, after several battles, lost its independence over Greece. The alliance of Philip II. with Carthage, during the second Punic war, gave occasion to this catastrophe. The Romans delayed revenge for a season; but, Philip having laid siege to Athens, the Athenians called the Romans to assistance; the latter declared war against Macedonia; Philip was compelled to sue for peace, to surrender his vessels, to reduce his army to 500 men, and defray the expenses of the war. Perseus, the successor of Philip, having taken up arms against

Rome, was totally defeated at Pydna by Paulus Æmilius, B. C. 168, and the Romans took possession of the country. Indignant at their oppressions, the Macedonian nobility and the whole nation rebelled under Andriscus. But, after a long struggle, they were overcome by Quintus Cæcilius Macedonicus, the nobility were exiled, and the country became a Roman province, B. C. 148. Macedonia now forms a part of Turkey in Europe, and is inhabited by Wallachians, Turks, Greeks, and Albanians. The south-eastern part is under the pacha of Saloniki; the northern, under beys or agas, or forms free communities. The capital, Saloniki, the ancient Thessalonica, is a commercial town, and contains 70,000 inhabitants. See the *History and Antiquities of the Doric Race*, translated from the German of C. O. Müller, (Oxford, 1830).

MACERATION (from *macero*, to soften by water) consists in the infusion of substances in cold water, in order to extract their virtues. It differs from digestion only as the latter operation admits the application of heat. Maceration is preferable in cases where heat would be injurious, as where volatile and aromatic substances are used.

MACHAON. See *Æsculapius*.

MACHINERY. The utility of machinery, in its application to manufactures, consists in the addition which it makes to human power, the economy of time, and in the conversion of substances apparently worthless into valuable products. The forces derived from wind, from water, and from steam are so many additions to human power, and the total inanimate force thus obtained in Great Britain (including the commercial and manufacturing) has been calculated, by Dupin, to be equivalent to that of 20,000,000 labourers. Experiments have shown that the force necessary to move a stone on the smoothed floor of its quarry is nearly two-thirds of its weight; on a wooden floor, three-fifths; if soaped, one-sixth; upon rollers on the quarry floor, one thirty-second; on wood, one-fortieth. At each increase of knowledge, and on the contrivance of every new tool, human labour is abridged: the man who contrived rollers quintupled his power over brute matter. The next use of machinery is the economy of time, and this is too apparent to require illustration, and may result either from the increase of force, or from the improvement in the contrivance of tools, or from both united. Instances of the production of valuable substances from worthless materials are constantly occurring in all the arts; and though this may appear to be merely the consequence of scientific knowledge, yet it is evident that science cannot exist, nor could its lessons be made productive by application, without machinery. In the history of every science, we find the improvements of its machinery, the invention of instruments, to constitute an important part. The chemist, the astronomer, the physician, the husbandman, the painter, the sculptor, is such only by the application of machinery. Applied science in all its forms, and the fine and useful arts, are the triumphs of mind, indeed, but gained through the instrumentality of machinery. The difference between a tool and a machine is not capable of very precise distinction, nor is it necessary, in a popular examination of them, to make any distinction. A tool is usually a more simple machine, and generally used by the hand; a machine is a complex tool, a collection of tools, and frequently put in action by inanimate force. All machines are intended either to produce power, or merely to transmit power and execute work. Of the class of mechanical agents by which motion is transmitted,—the lever, the pulley, the wedge,—it has been demonstrated that no power is

gained by their use, however combined. Whatever force is applied at one part, can only be exerted at some other, diminished by friction and other incidental causes; and whatever is gained in the rapidity of execution, is compensated by the necessity of exerting additional force. These two principles should be constantly borne in mind, and teach us to limit our attempts to things which are possible. See *Hydraulics, Hydrostatics, Mechanics, Steam*.

1. *Accumulating Power.* When the work to be done requires more force for its execution than can be generated in the time necessary for its completion, recourse must be had to some mechanical method of preserving and condensing a part of the power exerted previously to the commencement of the process. This is most frequently accomplished by a fly-wheel, which is a wheel having a heavy rim, so that the greater part of the weight is near the circumference. It requires great power, applied for some time, to set this in rapid motion, and, when moving with considerable velocity, if its force is concentrated on a point, its effects are exceedingly powerful. Another method of accumulating power consists in raising a weight, and then allowing it to fall. A man, with a heavy hammer, may strike repeated blows on the head of a pile without any effect; but a heavy weight, raised by machinery to a greater height, though the blow is less frequently repeated, produces the desired effect.

2. *Regulating Power.* Uniformity and steadiness in the motion of the machinery are essential both to its success and its duration. The governor, in the steam-engine, is a contrivance for this purpose. A vane or fly of little weight, but large surface, is also used. It revolves rapidly, and soon acquires a uniform rate, which it cannot much exceed; because any addition to its velocity produces a greater addition to the resistance of the air. This kind of fly is generally used in small pieces of mechanism, and, unlike the heavy fly, it serves to destroy, instead of to preserve, force.

3. *Increase of Velocity.* Operations requiring a trifling exertion of force may become fatiguing by the rapidity of motion necessary, or a degree of rapidity may be desirable beyond the power of muscular action. Whenever the work itself is light, it becomes necessary to increase the velocity in order to economize time. Thus twisting the fibres of wool by the fingers would be a most tedious operation. In the common spinning-wheel, the velocity of the foot is moderate, but, by a simple contrivance, that of the thread is most rapid. A band, passing round a large wheel, and then round a small spindle, effects this change. This contrivance is a common one in machinery.

4. *Diminution of Velocity.* This is commonly required for the purpose of overcoming great resistances with small power. Systems of pulleys afford an example of this: in the smoke-jack, a greater velocity is produced than is required, and it is therefore moderated by transmission through a number of wheels.

5. *Spreading the Action of a Force exerted for a few minutes over a large Time.* This is one of the most common and useful employments of machinery. The half minute which we spend daily in winding up our watches is an exertion of force which, by the aid of a few wheels, is spread over twenty-four hours. A great number of automata, moved by springs, may be classed under this division.

6. *Saving Time in natural Operations.* The process of tanning consists in combining the tanning principle with every particle of the skin, which, by the ordinary process of soaking it in a solution of the tanning matter, requires from six months to two

years. By enclosing the solution, with the hide in a close vessel, and exhausting the air, the power of the hide being deprived of air, exert a capillary attraction on the tan, which may be aided by pressure so that the thickest hides may be tanned in six weeks. The operation of bleaching affords another example.

7. *Exerting Forces too large for human Power.* When the force of large bodies of men or animals is applied, it becomes difficult to concentrate it simultaneously at a given point. The power of steam, air, or water is employed to overcome resistance which would require a great expense to be mounted by animal labour. The twisting of the largest cables, the rolling, hammering, and casting of large masses of iron, the draining of mines, require enormous exertions of physical force, continued for considerable periods. Other means are used when the force required is great, and the space through which it is to act is small. The hydraulic press can, by the exertion of one man, produce a pressure of 30 atmospheres.

8. *Executing Operations too delicate for human Touch.* The same power which twists the most cable, and weaves the coarsest canvas may be employed, to more advantage than human hands, in spinning the gossamer thread of the cotton, and in twisting, with fairy fingers, the meshes of the most delicate fabric.

9. *Registering Operations.* Machinery affords a sure means of remedying the inconstancy of human agents, by instruments, for instance, for counting the strokes of an engine, or the number of coils wound in a press. The tell-tale, a piece of mechanism connected with a clock in an apartment to which a watchman has not access, reveals whether he is neglected, at any hour of his watch, to put a stop in token of his vigilance.

10. *Economy of Materials.* The precision with which all operations are executed by machinery, and the exact similarity of the articles made, produce a degree of economy in the consumption of materials which is sometimes of great importance. In reducing the trunk of a tree to planks, the saw was formerly used, with the loss of at least half the material. The saw produces thin boards, with a loss of not more than an eighth of the material.

11. *The Identity of the Result.* Nothing is more remarkable than the perfect similarity of things manufactured by the same tool. If the top of a hat is to be made to fit over the lower part, it may be done by gradually advancing the tool of the sliding rest; after this adjustment, no additional care is requisite in making a thousand boxes. The same result appears in all the arts of printing: the impressions from the same block, or the same copperplate, have a similarity which no labour of the hand could produce.

12. *Accuracy of the Work.* The accuracy with which machinery executes its work is, perhaps, one of its most important advantages. It would hardly be possible for a very skilful workman, such as a polish substance, to form a perfect cylinder out of a piece of steel. This process, by the aid of the lathe and the sliding rest, is the every day employment of hundreds of workmen. On these two last advantages of machinery depends the system of copying, by which pictures of the original may be multiplied, and thus almost unlimited pains may be bestowed in producing the model, which shall cost no more than the price of each individual specimen of its productions. Operations of copying take place, by printing, by casting, by moulding, by stamping, by painting, with elongation, with altered dimensions. A remarkable example of the arts of copying has before the eye of the reader in these pages. 1. They are com-

obtained by printing from stereotype plates. 2. Those plates are copies obtained (by casting) from moulds formed of plaster of Paris. 3. The moulds are copies obtained by pouring the plaster, in a liquid state, upon the moveable types. 4. The types are copies (by casting) from moulds of copper, called *matrices*.

The lower part of the matrices, bearing the impressions of the letters or characters are copies (by inching) from steel punches, on which the same characters exist in relief. 6. The cavities in these steel punches, as in the middle of the letters, *a, b, &c.*, are produced from other steel punches in which those parts are in relief. For machinery, in political economy, see *Labour-saving Machines*.

*Machinery*, in poetry. See *Poetry*.

MACK, CHARLES, baron von; an Austrian general, born in Franconia, in 1752. On leaving college, his inclination led him to enlist as a private in a regiment of dragoons, and his good conduct soon obtained him the rank of a petty officer. In the war with Turkey, he obtained a captain's commission. His spirit of enterprise procured him the favour of Laun, who recommended him to the emperor. On the occurrence of war with France, Mack was appointed quarter-master-general of the army of the prince of Coburg, and directed the operations of the campaign of 1793. In 1797, he succeeded the archduke Charles in the command of the army of the line. The following year, he was sent to Naples, when he was invaded by the French; but, being beaten in the field, and suspected of treason by the Neapolitans, he fled to the French camp, and was sent as a prisoner to Dijon. He found means to justify his conduct in the opinion of the emperor, who, in 1804, constituted general Mack commander-in-chief in the role, Dalmatia, and Italy. In 1805, Napoleon ordered him to retreat beyond the Danube, and to submit to the famous capitulation of Ulm, by which 100,000 of the Austrians became prisoners. Mack was permitted to go to Vienna, where he was tried before a military tribunal, and received the sentence of death as a traitor to his country. His doom, however, was commuted by the emperor for imprisonment; and he was, after a time, released, and died in captivity, in 1828.

MACKENZIE, SIR GEORGE, a celebrated Scottish lawyer and state officer, was born at Dundee, in 1660. His father was Simon Mackenzie of Lochslin, brother of the earl of Seaforth, and his mother Elizabeth Bruce, daughter of Dr Peter Bruce, principal of Leonard's college, St Andrews. His progress at school was so rapid, that in his tenth year he was master of all the classical authors usually taught in schools. He afterwards studied Greek and philosophy in the universities of St Andrews and Aberdeen, civil law in that of Bourges in France; and, in 1689, before the termination of his twenty-first year, entered as an advocate at the Scottish

bar. In 1660, he published his *Aretina*, or *Serious Romance*, in which, according to his kind biographer, *Edinburgh*, he gives "a very bright specimen of his mind and exuberant genius." His talents must have been early observed and appreciated, for in 1661, in his third year at the bar, he was selected as one of the counsel of the marquis of Argyle, then tried by a commission of parliament for high treason. On this occasion he acted with so much firmness, and evenness, as at once established his character.

His purely literary labours of this eminent person, however, are to have been chiefly executed during his early years. His *Religio Stoici*, or a short Discourse upon several Divine and Moral Subjects, appeared in 1663. Two years afterwards, he published a *Moral Essay on Solitude*, preferring it to public

employment, with all its appendages, such as fame, command, riches, pleasures, conversation, &c. This production was answered by the celebrated Evelyn, in a Panegyric on Active Life. "It seems singular," says the *Edinburgh Review*, "that Mackenzie, plunged in the hardest labours of ambition, should be the advocate of retirement, and that Evelyn, comparatively a recluse, should have commended that mode of life which he did not choose." But it is probable that each could write most freshly on circumstances disconnected with the daily events of his life, while speculative ingenuity was all they cared to reach in their arguments. In 1667, Mackenzie published his *Moral Gallantry*, one of the reflective treatises of the period, intending to prove the gentleness of virtue, and the possibility of establishing all moral duties on principles of honour. To this production he added a *Consolation against Calumnies*. The fiery course of politics which he had afterwards to run, made a hiatus of considerable extent, in the elegant literary pursuits of Mackenzie; but after his retirement from public life, he wrote another work which may be classified with those just mentioned—*The Moral History of Frugality*; nor in this classification must we omit his *Essay on Reason*. During his early years at the bar, he also wrote *Celia's Country House and Closet*, a poem in English epics, and written in a manner more nearly akin to the style of Pope and his contemporaries, than that which flourished in the author's own time.

Soon after the Restoration, he was appointed a justice-depute, or assistant to the justiciar or chief justice; a situation, the duties of which were almost equivalent to that of an English puisne judge of the present day, in criminal matters. Within a few years after this period, (the time is not particularly ascertained,) he was knighted. In 1679, he represented the county of Ross, where the influence of his family was extensive, in parliament. During that year, the letter of Charles, proposing the immediate consideration of a plan for an incorporating union of the two kingdoms, was read in parliament. Sir George, an enemy to every thing which struck at the individual consequence and hereditary greatness of the country, in which he held a stake, opposed the proposition. His speech on the occasion is generally understood to be the earliest authentically reported specimen of legislative eloquence in Scotland. It is compact, clear, accurate, well composed, without flights of ardour, and, therefore, destitute of the burning impetuosity which afterwards distinguished Fletcher and Belhaven. Sir George sought distinction in his course through parliament by popular measures. In 1669, an act had been passed, compelling merchants to make oath as to their having paid duties on their merchandise. "The commissioner had that day said, that the stealing of the king's customs was a crime, which was to be provided against: whereupon, Sir George Mackenzie replied, that if it was a crime, no man could be forced to swear for it; for by no law under heaven was it ever ordained that a man should swear in what was criminal." He opposed the act of forfeiture against the western rebels, insisting that no man ought to be found or proved guilty in absence. He would have gone to the grave with the character of a patriot, had he not been placed in a position where serving a king was more beneficial than serving the people.

On the 23d of August, 1677, he was named king's advocate, on the dismissal of Sir John Nisbet. As the trial of the earl of Argyle in 1661 was the first important political case in which he had tried his powers as a defender, so was that of his son in 1681, the first in which he exercised his abilities as a state prosecutor.

In the father's case he had to resist the oppressive fictions of the crown lawyers, but all he suffered was amply repaid on the son. After this celebrated trial, he appears to have obtained, as part of the spoil, a gift of the barony of Bute, ratified by the parliament of 1681. On the recapture of the earl after his escape, Mackenzie was one of those who objected to a new trial, and he accordingly recommended his suffering on his former sentence; he is alleged to have done so from the probability, that, owing to the extreme injustice of the sentence, his heirs might probably be restored to their heritage. Meanwhile his professional ingenuity had been employed in the case of the lawburrows, by which a legal form, useful in the defence of the subject against lawless aggression, was, by adding to its natural power the weight of the royal influence, made an engine of oppression. It would be a vain task to enumerate the minor state prosecutions, which, in this eventful period, gave full employment to this active servant of government: most of them are well known, and they were at any rate numerous enough to stamp him in the minds of his opponents with a character which must live with his name—"The blood-thirsty advocate." Sir George found it necessary to attempt a vindication of his acts, under the title of *A Vindication of the Government of Charles II.* "No age," he says, "did see so many thousands pardoned, nor so many indemnities granted, as was in his time: which, as it must be principally ascribed to the extraordinary clemency of the kings he served, so it may be in some measure imputed to the bias which Sir George had to the merciful hand." Sir George leaves out of view, that it is possible for one lord advocate so far to exceed another in the number of his prosecutions, as both to acquit and sacrifice more than the whole number accused by his brethren. It was not those who were forgiven, but those who were not forgiven, that fix upon the reign of Charles II., and also upon his Scottish advocate, the indelible character of oppression and blood-thirstiness. It must, at the same time, be allowed, that the acute mind of Sir George Mackenzie was never asleep to practical improvements in jurisprudence, although the lust of power was sufficient to subdue his efforts, or turn them into another course. While he wielded the sword of persecution himself, he did much to unfit it for the use of others. He countenanced and cherished a principle, which called for the examination of all witnesses in criminal cases, in presence of the accused, instead of the secret chamber of the privy council. A frightful fiction of the law of both countries, by which no evidence could be led by a prisoner in opposition to the assertions of the libel made by the prosecutor, as representing the king, was removed by Sir George, forty years before it ceased to exist in England; and he put a stop to the system of permitting the clerk of court to be enclosed with the king, for the purpose of assisting him. In 1686, Mackenzie showed that he had a feeling of conscience, and that his religion, if entirely political, was not accurately squared to personal aggrandizement, by suffering himself to be dismissed for not agreeing to the catholic projects of James II. In 1688, however, he was restored, on the advancement of his successor, Dalrymple, to the presidency of the court of session.

The Revolution terminated his political career. At this feverish moment of struggle and disappointment, he could so far abstract his mind from politics, as to perform the greatest public service which is ever now connected with his name, by founding the *Advocates' Library*. The inaugural speech which was pronounced on the occasion, is preserved in his works. The institution has flourished, and redeems

Scotland from the imputation of not possessing an extensive public library. After the Revolution, Sir George threw himself into the arms of the university of Oxford, the fittest receptacle for a vindicator of the old laws of country. He was admitted a student on the 2d of June 1708, but he did not long live to feel the blessing of a university; he had praised, and for the first time received, He died at St James's on the 22d Nov 1704.

Sir George wrote several works of some almost as cast than those to which we have been. His *Institute of the Law of Scotland* is well compiled, but, in comparison with the profoundness of *Lawyer*, is meagre, and its brevity makes it of use as to the Laws and Customs in Matters Criminal, and of useful information, and is the earliest attempt (though not a very clear one) of our countrymen. His *Observations on the Laws and Customs of Nations as to Precedency*, with the *Science of Heraldry* as part of the Law of Nations, is common by heralds. When *Stillingfleet* and *Locke* made their critical attacks on the *fabulous* history of Scotland, Sir George, who seemed to consider it a serious matter to deprive his majority of hereditary actors, wrote in 1680 *A Defence of the Royal Law of Scotland*, in which he comes forward as a learned advocate, and distinctly hints to the continuance of the royal line, that, had they written a history, it might have had occasion to put his authority to rest against them. These works, along with his observations on the acts of parliament, and some other minor productions, were edited by *Rushworth*, in handsome folio volumes, in 1722. His *Memories* or account of his own times, certainly the most interesting of all his works, though pronounced to be withheld through the timidity of his friends. When long lost sight of, the greater part of it was a few years ago recovered to the world. It is full of graphic pictures of the state of the times, and from so descriptive in character as *Harlequin* or *Scots*, is often more lively in the detail of events, and more acute in perceiving the selfish motives of the actors.

MACKENZIE, HENRY, the author of the *Man of Feeling*, was born at Edinburgh, in August 1728. His father was Dr Joshua Mackenzie, an eminent physician. His mother was Margaret, eldest daughter of Mr Rose of Kilravock, a gentleman of a noble family in Nairnshire. After being educated at the high school and university of Edinburgh, Mr Mackenzie was articled to Mr Inglis of Redbank, a lawyer, to acquire a knowledge of the business of the *Exchange*. To this, though not perfectly compatible with the literary taste which he very early displayed, he applied with due diligence; and, in 1750, went to London to study the modes of English *Exchange* practice, which, as well as the customs of the court, were similar in both countries. While there, his talents induced a friend to solicit his admission in London, and qualifying himself for the *English* bar. But the anxious wishes of his family that he should reside with them, and the unambitious mind, decided his return to Edinburgh, where he became, first, partner, and afterwards successor, to Mr Inglis, in the office of *attorney at law*.

His professional labour, however, did not prevent his attachment to literary pursuits. When in London, he sketched some part of his first and most popular work, *The Man of Feeling*, which was published in 1771, without his name, and was so much a success with the public, as to become, a few years after, the occasion of a remarkable fraud. A Mr *Smith* of Bath, observing the continued success of the work, laid claim to the work as his own.

order to support his pretensions, transcribed the whole with his own hand, with an appropriate allowance of blottings, interlineations, and corrections. So plausibly was this claim put forward, and so pertinaciously was it adhered to, that Messrs Cadell and Trachan, the publishers, found it necessary to un- deceive the public by a formal contradiction. Though Mr Mackenzie preserved the anonymity of the *Man of Feeling* for some years, (probably from prudential motives with reference to his business,) he did not scruple to indulge, both before and after this period, the literary society with which the Scottish capital was connected. He informs us in his *Life of Home*, that he was admitted in boyhood as a kind of page to the a-drinkings which then constituted the principal festive entertainment of the more polished people in Edinburgh; and his early acquaintance with Hume, Smith, Robertson, Blair, and the rest of the literary coterie, then in the ascendant, is evidenced from the same source.

Some years after the publication of the *Man of Feeling*, he published his *Man of the World*, which is intended as a counterpart to the other. In his former fiction, he imagined a hero constantly obedient to every emotion of his moral sense. In the *Man of the World*, he exhibited, on the contrary, a person rushing headlong into misery and ruin, and spreading misery all around him, by pursuing a happiness which he expected to obtain in defiance of the moral sense. His next production was *Julia de Roubigné*, a novel in a series of letters, designed, in its turn, as a counterpart to the *Man of the World*.

In 1777 or 1778, a number of young men of literary taste, chiefly connected with the Scottish bar, formed themselves into an association for the prosecution of their favourite studies, which came to bear the name of the *Mirror Club*. Of this club, Mr Mackenzie is readily acknowledged chief; and when it was resolved to issue their literary essays in a small weekly paper, resembling the *Spectator*, he was appointed to undertake the duties connected with the publication. The *Mirror* was commenced on the 1st of January, 1779, in the shape of a small folio sheet, price three halfpence, and terminated on the 1st of May, 1780; having latterly been issued twice a week. Of the one hundred and ten papers to which the *Mirror* extended, forty-two were contributed by Mr Mackenzie, including *La Roche*, and several others of the most admired of his minor pieces. The sale, during the progress of the publication, never exceeded four hundred copies; but it was more than sufficient to bring it under the notice of a wide and influential circle, and to found its reputation it has since enjoyed. When re-published in duodecimo volumes, a considerable sum was realized from the copyright, out of which the proprietors presented £100 to the Orphan Hospital, and devoted themselves to a hogshhead of claret, to be drunk at their ensuing meetings. The *Lounger*, a work of exactly the same character, was commenced by the same writers, and under the same editorship, on January 6, 1785, and continued once a week till the 6th of January, 1787; out of the hundred and ten papers to which it extended, fifty-seven are the production of Mackenzie. One of the latter papers was devoted to a generous and adventurous figure on the poems of Burns, which were just then published, and had not yet been approved by the public voice. As might have been expected, Mackenzie was most fondly on the *Addresses to the Mouse of the Mountain Daisy*, which struck a tone nearest that prevailing in his own mind.

In the institution of the Royal Society of Edinburgh, Mr Mackenzie became one of the members; among the papers with which he enriched its

transactions, are an elegant tribute to the memory of his friend Lord Abercromby, and a memoir on German tragedy; the latter of which bestows high praise on the *Emelia Galotti* of Lessing, and on the *Robbers* by Schiller. For this memoir he had procured the materials through the medium of a French work; but desiring afterwards to enjoy the native beauties of German poetry, he took lessons in German from a Dr Okely, who was at that time studying medicine in Edinburgh. The fruits of his attention to German literature appeared further in the year 1791, in a small volume, containing translations of the *Set of Horses* by Lessing, and of two or three other German pieces. But the most remarkable result of his studies in this department, was certainly the effect which his memoir produced on the mind of Sir Walter Scott, then a very young man. It gave a direction to the genius of this illustrious person, at a time when it was groping about for something on which to employ itself; and harmonizing with the native legendary lore with which he was already replete, decided, perhaps, that Scott was to strike out a new path for himself, instead of following tamely on in the already beaten walks of literature.

Mr Mackenzie was also an original member of the Highland Society; and by him were published the volumes of their *Transactions*, to which he prefixed an account of the institution, and the principal proceedings of the society. In these *Transactions* is also to be found his view of the controversy respecting Ossian's Poems, and an interesting account of Gaelic poetry.

At the time of the French Revolution, he wrote various tracts, with the design of counteracting the progress of liberal principles in his own country. These services, with the friendship of Lord Melville and Mr George Rose, obtained for him, in 1804, the lucrative office of comptroller of taxes for Scotland which he held till his death.

In 1793, he wrote the life of Dr Blacklock, prefixed to a quarto edition of the blind poet's works, which was published for the benefit of his widow. In 1812, he read to the Royal Society his *Life of John Home*, which was some years after prefixed to an edition of that poet's works, and was also published separately. At the time he read this paper to the Society, he laid also before them, in connexion with it, some Critical Essays, chiefly relative to dramatic poetry, which have not been published. He was himself a dramatic writer, though not a successful one. A tragedy, written by him in early life, under the name of *The Spanish Father*, was never represented; in consequence of Mr Garrick's opinion, that the catastrophe was of too shocking a kind for the modern stage; although he owned the merit of the poetry, the force of some of the scenes, and the scope for fine acting in the character of Alphonso, the leading person in the drama. In 1773, Mr Mackenzie produced a tragedy under the title of *The Prince of Tunis*, which, with Mrs Yates as its heroine, was performed with applause for six nights, at the Edinburgh theatre. Of three other dramatic pieces by Mr Mackenzie, the next was *The Shipwreck*, or *Fatal Curiosity*, which might be described as an alteration of Lilly's play under the latter of the two names. The comedies entitled *The Force of Fashion*, and *The White Hypocrite*, both of which were unsuccessful, complete the list. Mr Mackenzie's grand deficiency as a dramatic author, was his inability to draw forcible characters. His novels and tales charm by other means altogether; but in the drama, striking characters, and a skilful management of them, are indispensable.

In 1808, he published a complete edition of his works in eight volumes. From that period, and

indeed from one considerably antecedent to it, he might be said to have abandoned literature, though, to use his own affecting image, as employed at one of the meetings of the Royal Society, the old stump would still occasionally send forth a few green shoots. The patronage of the government was unfortunately extended in a somewhat improper shape, in as far as the office bestowed upon him, though lucrative, required unremitting personal labour. He was thus unable, even if he had been willing, to cultivate literature to any considerable purpose. Such leisure as he possessed, he spent chiefly in healthy recreations—in shooting, particularly, and angling, to which he was devotedly attached, and the former of which he practised in early life, on the ground now occupied by the New Town of Edinburgh. He thus protracted his days to a healthy old age, until he finally stood amidst his fellow men, like Noah amongst his descendants, a sole-surviving specimen of a race of literary men, all of whom had long been consigned to the dust. His recollections of the great men who lived in his youth, were most distinct and interesting; but it is to be regretted, that with the exception of what he has given in his *Life of Home*, he never could be prevailed upon to commit them to paper. At length, after a comparatively brief period of decline, he died January 14, 1831, in the eighty-sixth year of his age. By his wife, Miss Peniel Grant, daughter of Sir Ludovick Grant, of Grant, bart., Mr Mackenzie had eleven children, the eldest of whom is a judge of the courts of session and judiciary.

**MACKENZIE'S RIVER**; a river of North America. In the first part of its course, it flows N. E. to the Lake of the Hills, under the name *Unigah*, or *Peace river*; thence to Slave lake, it is called *Slave river*; it then takes the name of *Mackenzie's river*, and flows 780 miles N. into the Arctic sea; lon. 130° to 135° W.; lat. 69° 14' N. Its whole course is about 2000 miles.

**MACKEREL** (*scomber*). This is a tribe of migratory fishes, which annually visit the American coast, and is among the most celebrated of that class, for its numbers, and for the great use made of it in a salted state. The European mackerel (*S. scomber*) was early known as an article of food, and was held in high esteem by the ancient Romans, as forming the celebrated *sarum*, a pickle, or sauce, of which they made great use. This was prepared from several different kinds of fishes, but that from the mackerel was deemed by far the best. The mackerel is easily taken, by a variety of baits, and the capture always succeeds best during a gentle breeze of wind, which is hence termed a *mackerel breeze* by seamen. At such a time the usual bait is a bit of red cloth, a coloured feather, &c. This fish, when alive, possesses great symmetry of form and brilliancy of colours, which are much impaired by death, though not wholly obliterated. It is said, that, in the spring, their eyes are almost covered with a white film, which grows in the winter, and is regularly cast at the beginning of summer, before which they are half blind. There are several species of mackerel on the coast of the United States, the most common of which the *S. vernalis*, closely resembles the European species.

**MACKINAC**. See *Michilimackinac*.

**MACKINTOSH**, SIR JAMES, eminent as a jurist, a statesman, and a writer,—equally distinguished for his extensive learning, his large views, and his liberal principles in law, politics, and philosophy—was descended of an ancient Scottish family, and born in the parish of Dorish, county of Inverness, in 1765. After studying at the school of Fortrose, in Ross-shire, he was sent to King's college, Aberdeen, and

spent three years at Edinburgh, chiefly in medical studies. He received his medical degree in 1791, but his attention had already been turned to general literature, history, and moral, political, and speculative philosophy, and his inclination was not less to abandon his profession. In 1793, he went to London, where he published a pamphlet on the regency question, which, on account of its address to the recovery of the king, attracted little notice. It was to the continent, at that interesting period, that he used to excite his sympathies for the French revolution, and he published a reply to the celebrated *Letters of Burke*, under the title of *Financière Causes of the French Revolution* (1797), which laid the foundation of his fame, and acquired him the friendship both of Fox and his great opponent. About this time, Mr Mackintosh entered himself a student of Lincoln's Inn, was soon called to the bar by that society, and commenced the practice of the law. Having obtained permission, though at first with much difficulty, to deliver a course of lectures in the hall of Lincoln's Inn, on the law of nations, he published his *Introductory Lecture*, under the title of a *Discourse on the Law of Nature and Nations*. The ability which it displayed obtained him a high opinion, including some of the most distinguished men of the country. On the trial of *Pekoe* for a libel against Bonaparte (then first consul of France), in which the prosecution was conducted by Mr Fortescue the attorney-general (afterwards first minister of state), and Mr Abbot (afterwards lord Treasurer), the defence was conducted by Mr Mackintosh, a sole counsel in one of the most brilliant questions made at bar or in forum, which at once raised his reputation as an advocate and an orator. His recordership of Bombay, with the dignity of a high hood, was soon after conferred on him, and under the discharge of the duties of his office, for the ten years which he spent in India were marked by his exertions in the amelioration of the criminal law, the foundation of the Literary Society in Bombay, and his valuable communications in the *Asiatic Researches*. While sitting on an admiralty case, he declared that that court was bound to decide by the law of nations, and not (as had been maintained by some of the judges in England) by any direction from the king or his ministers. His return to England was hastened by a severe illness. He left Bombay in November, 1811, retiring from the recordership with a pension of £1200 per annum.

In July, 1813, he was elected, through the influence of lord Cadwor, as representative for the county of Nairn. In 1818, he was elected for *Knaresborough* in Yorkshire, through the influence of the duke of Devonshire, and was re-elected at the subsequent elections of 1820, 1826, 1830, and 1832. He was also elected Lord Rector of the university of Glasgow in 1822, and again in 1823. Sir James now became a person to whom a national importance and consideration were attached, one of the ablest and elevated characters of the country, who had acquired a conventional right from the government, by the capacity of his judgment, and the splendour of his abilities, to take an active and prominent part in the management of her affairs. His conviction of this truth prevailing in the quarters where it could be acted upon, he was appointed in 1828, one of his majesty's joint commissioners, and on the formation of the Earl Grey administration in 1830, he was made on the 1st December, a commissioner for Indian affairs.

In parliament, Sir James took a prominent part in all questions connected with foreign policy, international law; but more especially distinguished himself in the discussions on the slave trade, the

nal law, the liberty of the press, religious toleration, the slave trade, the settlement of Greece, reform in parliament, and on the right of our colonies to self-government. In politics he was a whig, and all his votes and speeches in parliament were in favour of the opinions and sentiments of that party; but he was, perhaps, one of the most moderate and tolerant politicians that ever existed, as the natural mildness and benevolence of his disposition never failed to single largely in whatever character he assumed, whether author, statesman, or judge.

In private life, he displayed all the domestic virtues, and all the better qualities of human nature. He was mild, benevolent, generous, humane, and unaffected. His conversational powers were of the first order, and never failed to delight all who had the good fortune to enjoy his society. His person is well formed, and above the middle stature. His countenance was intelligent, and exhibited a pleasing compound of grave and gay expression, indicative of readiness to sympathize with either of these feelings, as chance might direct their appeals to him. Mr James died in May, 1832, and was buried at Amplestead. As an author, his most finished production is his Dissertation on the progress of philosophy in the Encyclopedia Britannica. He also published a life of Sir Thomas More in Lardner's Encyclopedia, and two volumes of an abridged history of England. These two little volumes contain some striking passages and disquisitions; but in the opinion of Mr Campbell, they were merely the expansion of the prefatory matter which he intended for a great historical work on the affairs of England since the revolution, and which he had contemplated for several years, and in part written, but was too much impeded in his progress, both by his parliamentary duties and the infirm state of his health, to bring to conclusion. His labours were, nevertheless, given to the world in 1834, as a History of the British revolution. It was the opinion of Sir James that history ought to be written with feeling, but without passion; and to this excellent dogma he has himself firmly adhered. He also contributed various excellent articles to the Edinburgh Review.

Mr James was twice married; first in 1789, to Miss Catharine Stewart of Gerrard Street, Soho, near to the Messieurs Stewart, formerly proprietors of the Morning Post, by whom he had issue, a son, who died in infancy, and three daughters—viz., Mary married to Claudius James Rich, Esq., of Bonbay—Elizabeth, married to W. Erskine, Esq.—and Catharine married to Sir W. Wiseman, Bart. Mrs Macklin died in 1797.—He was afterwards married to Catherine, daughter of J. B. Allen, Esq. of Cressella, Wiltshire. By this lady, who died at Chesne, near Genoa, on the 6th May, 1830, he had one son and a daughter; viz., Robert Mackintosh, Esq., a fellow of New College, Oxford; and Frances, married to H. Wedgewood, Esq. Staffordshire.

MACKLIN, CHARLES, an actor and dramatist of some celebrity, was born in Ireland, 1690, and employed in Dublin, as a bargeman, until his thirty-first year, when he went to England, and joined a company of strolling comedians. In 1716, he appeared as an actor in the theatre at Lincoln's-fields. It was not, however, until 1741, that he established his fame as an actor, by his admirable performance of Shylock, that being, indeed, the only character in which he stood pre-eminent. He continued on the stage until 1789, which long interval marked by the usual vicissitudes of theatrical success rendered still greater by the temper of the individual. During the last years of his life, his understanding became impaired, and in this state he died July 11, 1797, at the age of 107. His Man of

the World, a comedy, discovers a keen knowledge of life and manners, and exposes meanness, sycophancy, and political servility, with considerable skill. His Love A-la-mode also possesses kindred merit. Macklin was an entertaining companion, although dictatorial, and very irascible.

MACKNIGHT, JAMES, a learned Scottish divine, born in 1721, was educated at Glasgow and Leyden, and, on his return, was ordained minister of Maybole, where he remained sixteen years, and composed his Harmony of the Gospels, and his New Translation of the Epistles. In 1763, he published his Truth of the Gospel History. In 1772, he became one of the ministers of Edinburgh. Dr Macknight employed nearly thirty years in the execution of his last and greatest work, on the apostolical epistles—a New literal Translation from the Greek of all the Apostolical Epistles, with Commentaries and Notes, philological, critical, explanatory and practical (1795, 4 vols., 4to). He died in 1800.

MACLAURIN, COLIN; a celebrated mathematician and philosopher, born at Kilmoddan, in Scotland, in 1698. He studied at Glasgow, where he took the degree of M. A. at the age of fifteen, and defended a thesis on the Power of Gravitation. In 1717, he obtained the mathematical chair in the Marischal college at Aberdeen, and, two years after, was chosen a fellow of the royal society. In 1725, he was elected professor of mathematics at Edinburgh, where his lectures contributed much to raise the character of that university as a school of science. A controversy with bishop Berkeley led to the publication of Maclaurin's great work, his Treatise on Fluxions (Edinburgh, 1742, 2 vols., 4to). He died June 14, 1746. He was the author of a Treatise on Algebra; an Account of Sir Isaac Newton's Philosophical Discoveries; papers in the Transactions of the Royal Society; and other works.

MACPHERSON, JAMES; distinguished in literary history for his translations or imitations of Gaelic poems, said to have been composed in the third century. He was born, in Inverness-shire, in 1738, and studied at Aberdeen and Edinburgh. Having published Fragments of Ancient Poetry, translated from the Gaelic or Erse Language, a subscription was raised to enable him to collect additional specimens of national poetry. He produced, as the fruit of his researches, Fingal, an ancient Epic Poem, translated from the Gaelic (1762, 4to); Temora, and other Poems (1763, 4to); professedly translated from originals by Ossian, the son of Fingal, a Gaelic prince of the third century, and his contemporaries. (For an account of the controversy on this subject, see *Ossian*.) From the evidence of the contending parties, it may be concluded, that Macpherson's prose epics were founded on traditional narratives current among the Highlanders; but the date of the oldest of their lays is comparatively modern; and it is now difficult, if not impossible, to ascertain the precise extent of his obligations to the Gaelic bards of former ages. Mr Macpherson was afterwards agent to the nabob of Arcot, in consequence of which he had a seat in the house of commons from 1780 to 1790. He died in 1796, and was interred in Westminster abbey. He was also the author of a prose translation of Homer's Iliad, and of some other works.

MACRABIOTICS (from *μακρος*, long, and *βίος*, life); the science of prolonging life. Hufeland called his well known work *Makrabiolik*, or the Art of prolonging human Life. See *Longevity*.

MACROBIUS, AURELIUS AMBROSIIUS THEODOSIUS; a Latin author, in the reign of the emperor Theodosius, to whom he officiated as an officer of the wardrobe, and enjoyed a considerable share of

the imperial favour. The country of his birth, as well as the religion which he professed, are both uncertain. He was the author of a miscellaneous work, entitled *Saturnalia*, curious for its criticisms, and valuable for the light it throws upon the manners and customs of antiquity; a commentary on Cicero's *De Scipione*, in two books, valuable for the exposition of the doctrines of Pythagoras, and with respect to the harmony of the spheres; and a *De Differentiis et Societatibus Græci Latine Verbi*. There are several editions of this author's writings, the best of which are those of 1670, Amsterdam, and 1774, Leipsic. He is supposed to have died about the year 420.

**MADAGASCAR**; an island of Africa, on the eastern coast, separated from the continent by the channel of Mosambique, which is about 270 miles across. It extends from  $11^{\circ} 57'$  to  $25^{\circ} 40'$  S. lat., and from  $43^{\circ} 33'$  to  $50^{\circ} 25'$  E. lon., and is about 900 miles long, and from 120 to 300 broad; square miles, about 220,000; population, uncertain; estimated by Flacourt at 1,600,000; by Rondoux, at 3,000,000; by Rochon, at 4,000,000. It is one of the largest islands in the world, and is remarkable for its fertility. The surface is greatly diversified, being intersected, throughout its whole length, by a chain of lofty mountains, the highest summits of which are said to be about 11,000 feet above the sea. The scenery of these mountains is often grand and picturesque. The forests abound in beautiful trees, as palms, ebony, wood for dyeing, bamboos of enormous size, orange and lemon trees. The botany of the island is interesting; iron mines abound in various parts; other minerals are found; but the mineralogy of the island has been but little explored. The country is well watered by numerous streams, mostly small, which descend from the mountains. In this genial climate, they produce a luxuriant fertility. Rice is the staple food of the inhabitants. Other productions are potatoes, sugar, silk, &c. The sheep produce fine wool. The cocoa-nut, banana, &c., flourish. The inhabitants are composed of two distinct races, the Arabs or descendants of foreign colonists, and the Negroes or original inhabitants of the island. The character of the inhabitants differs much in the different parts of the island; and the accounts of writers are very discordant on this subject. But, in reality, too little is known of the greater part of the island, to afford grounds for any safe opinions. The annexed cut exhibits their usual costume.



The name and position of this island were first made known to Europeans by Marco Polo, in the thirteenth century, although it had been known to the Arabs for several centuries. It was visited by

the Portuguese in the beginning of the sixteenth century. The French made attempts to found colonies there in the middle of the seventeenth century but abandoned the island after many struggles with the natives. In 1745, they made new attempts, but without much success. In 1814, it was claimed by Britain as a dependency of Mauritius, which had been ceded to her by France, and some settlements were established. One of the more brave of the interior, who had shown himself eager to procure a knowledge of European arts for his subjects, consented, in 1820, to relinquish the sovereignty on condition that ten Madagascars should be sent to Britain, and ten to Mauritius, for education. Those sent to Britain were placed under the care of the London missionary society, who sent numerous mechanics to Madagascar. In 1826, 175 children were taught in the missionary schools, and part of the Scripture have since been translated into the native language. This king died in 1828, and we do not know what has been the disposition of the new ruler.—See Rochon, *Voyage à Madagascar*; Flacourt, *Histoire de Madagascar*; Copland, *History of Madagascar* (1822).

**MADAME**, in France; the title of the wife of the king's brother, or the sister of the king's father, or the sister of the king's mother, or of the *Fu de France* (the daughter of the king or of the *Dauphin*, deceased during the life of the *Dauphin* *Mesdames de France*; the common title of the mothers of the French kings. *Mademoiselle*, a title of honour of the daughters of the king's brother or daughters of the king's father's brothers, or the daughters of the king's mother's brothers. In 1744, it was ordered that it should be given only to the princesses of the blood.

**MADDER** (*rubia*); a genus of plants that has given its name to an extensive family, including among others, the genus *galium* or *bedstraw*. It closely resembles in habit, but differs in its fruit, which consists of two globular coriaceous berries. Fifteen species are known. They are chiefly herbaceous, with rough branching stems, simple or arranged in whorls of four or six, and small leaves which are usually disposed in terminal panicles. *Al tinctorum*, or dyer's madder, is by far the most important of the genus, on account of the fine scarlet colour afforded by the roots; and, indeed, this substance is essential to dyers and calico-printers in their manufactures could not be carried on without it. In consequence, it has become an important article of commerce, and is imported into this country from Holland to a very great extent. Though raised in France for a century and a half, the supply is inadequate to the consumption in that country, and it is largely imported from the Levant as well as from Holland. The plant grows wild in many parts of the south of Europe. The root is perennial, and creeping, about as large as a quill, and red both out and within; from it arise several trailing quadrangular stems, rough, branching, and two or three feet in length; the leaves are oblong, and prickly on the margin and mid-rib; the flowers are yellow and small, and are disposed in panicles at the extremity of the branches, and in the axils of the superior leaves; they make their appearance in June and July, and are succeeded by blackish berries. The most approved method of culture is from seed, and where this practice is pursued, certain precautions are requisite. As the madder of this climate affords more colouring matter, as well as a deeper tint, it is best for those who live in a northern region to import the seed from the south. Again, when the seed is too much dried, it may remain in the ground two or three years before it will germinate. On the

account, it should be kept in a bed of moistened earth or sand, whenever there is any delay in sowing it. A light, rich, and deep soil is the most suitable, and it should be ploughed to the depth of two feet. The time of sowing is in February, or the beginning of March, for the more northern, and September or October for the more southern regions. This kind of crop requires but little care and attention: for the first year, it is necessary only to keep it free from the weeds, and to hoe it slightly once during the summer; for the second, it requires hoeing in the spring, in the summer, and again, a little more deeply, in the latter part of the season; the same is requisite for the third year, except that the earth is heaped up about the base of the stems, in order to make it shoot with more vigour, and enlarge the roots. It is usual, before the second time of hoeing, to cut the stems for cattle, who are very fond of it; but this practice should not be repeated during the season, as recommended by some writers, or the roots will suffer. It is only at the end of the third year, that the crop is ready for harvesting; and, if it is suffered to remain in the ground beyond this period, more is lost than gained. The roots, at this time, contain the greatest quantity of colouring matter, and have attained their full size. The best method of obtaining the roots, is the following: A trench is dug along the rows, to the depth of two feet, when, by loosening the earth about the roots, they may be taken up entire. In a good soil, a single plant may yield forty pounds of the fresh roots, which diminish, in drying, six-sevenths or seven-eighths of their weight. The roots should be immediately washed, freed from all decayed parts, and dried as quick as possible, either by the sun or in a kiln. It is well observed, that madder is a hazardous crop, as, from its yielding a return only after a lapse of three years, it is often impossible to foresee what will be the state of the market at that time. Another mode of cultivation is from the roots, which are divided and set out. Twenty thousand plants may be allotted to an acre. The madder from Holland is most esteemed, and it is cultivated in that country to a very great extent. The process of pulverizing the roots, which is done by pounding or grinding, was, for a long time, kept a secret by the Dutch. In the state of a powder, it is of an orange-brown colour, and is liable to become damp, and to be spoiled, if kept in a moist place. Madder is used for dyeing woollen, silk, and also cotton goods, and the colour is very lasting, and resists the action of the air and sun. Within a few years, a method has been discovered of rendering the red exceedingly brilliant, and approaching to purple. It also forms a first tint for several other shades of colour, and besides, has, of late, been successfully used by painters, and is found to yield a fine rose colour. Madder also possesses the singular property of imparting its red colour to the bones of those animals which have used it for food, and also to the milk of cows, if they have eaten of it freely.

**Composition of Madder, and its Employment in Dyeing.** All the parts of the plant contain a yellow colouring matter, which, by absorption of oxygen, becomes red; the root is, however, most productive of this colouring matter, and is the only part employed in dyeing. It is distinguished into three parts—the bark, the middle portion, and the interior woody core. The bark contains the same colouring matter as the wood, but mixed with much brown extractive matter which degrades the hue. The bark may be separated in the milling, for it is more readily ground, and may thus be removed by the sieve. In the middle part of the root, which contains the finest colouring matter, and that in largest quantity, there may be distinguished, by the microscope, a great many

shining red particles, dispersed among the fibres. These constitute the rich dyeing material. The fibres contain a brown substance, similar to what is found in the bark. The roots occur in commerce, dried and in powder. They are also sold fresh; in which state they yield finer colours, dye more, and give up their colouring matter with one third less water. According to experiments made in England, five pounds of fresh roots go as far as four of the dry ones; and it is estimated that eight pounds of fresh roots are reduced to one in drying; hence the great advantage of using the green roots becomes apparent. The roots produced in the south of France, when sold in the fresh state, are called *alizari*. They are reddish-yellow, but, when ground, take a fine red tint. The madders of Germany and Holland are orange-yellow, passing into brown-red, having an acid and saccharine taste, and a strong smell. Jahn found, in 100 parts of madder,

Fatty matter, of a red-brown colour, resembling wax,	1.0
Red resinous matter,	3.0
Red extractive matter,	20.0
Oxidized extractive,	5.0
Brownish gum,	8.0
Ligneous fibre,	43.5
Acetate of potash and lime,	8.0
Phosphate, muriate, and sulphate of potash, about	2.0
Silica,	1.5
Oxide of iron,	0.5
	100.0

According to other analyses, madder contains free tartaric acid. Kuhlmann finds, in the madder of Alsace, red colouring matter, dun colouring matter, ligneous fibre, vegetable acids, mucilage, vegetable animal matters, (azotized), gum (4 per cent.), sugar (16 per cent.), bitter matter, resin, salts; the last consisting of carbonate, sulphate, and muriate of potash, carbonate, and phosphate of lime, with silica. The recent researches of M. M. Robiquet, Colin, and Kuhlmann, seem to prove that the differences in the madder dyes proceed from the relative proportions of two distinct colouring principles in madder, which they have called *alizarine* and *xanthine*. By digesting the powder of madder in water, and acting upon the jelly-like solution thus obtained, by boiling alcohol, an extract is afforded, which, at a subliming heat, yields the proper red colouring matter of madder, or *alizarine*. Or the ground madder may be treated directly with boiling alcohol; and to the alcoholic solution, dilute sulphuric acid is added, which precipitates the *alizarine* in a copious orange precipitate. *Alizarine* has a golden-yellow hue, is insoluble in water, soluble in alcohol and ether, is precipitated by acids, but not by alkalies, showing distinctly an analogy to resins. The *xanthine* was obtained from a fawn-yellow matter, soluble in alcohol and water, by precipitation with oxide of lead, washing the precipitate with alcohol, and extricating the colour by sulphuric acid. It has an orange-green tint, and a saccharine taste; alkalies cause it to pass into red, and acids to lemon-yellow. It is inferred by these chemists, that, in those fabrics which exhibit rose tints, the *xanthine* predominates; while in the violet, it is nearly wanting. From a knowledge of these facts, it becomes easy for a skilful dyer to promote the absorption, by the cloth, of one or other of these colouring principles, or to remove one of them, should both together have been attached to it. Kurrer has published, in the Polytechnic Journal of Dingler for 1827, a process, by a spirituous or vinous fermentation, and an immediate subsequent washing, which gives a perfect result with all the madders of commerce. The madder, penetrated with water, and covered over merely one inch, ferments in from thirty-six to forty-eight hours, when the whole is transferred into a tub containing a considerable quantity of cold water. Here the madder precipitates, and must be

washed with several cold waters. The ordinary madder-red dye is given in the following way:—the yarn or cloth is put into a very weak alkaline bath, at the boiling temperature; then washed, dried, and galled; or, when the calico is to be printed, for this bath may be substituted one of cow-dung, subsequent exposure to the air for a day or two, and immersion in very dilute sulphuric acid. In this way the stuff becomes opened, and takes and retains the colour better. After the galling, the goods are dried, and alumed twice; then dried, rinsed and passed through the madder bath. This is composed of three-fourths of a pound of good madder for every pound weight of the goods. The bath is slowly raised to the boiling point in the course of fifty or sixty minutes, more or less, according to the shade of colour wished for. When the boiling has continued for a few minutes, the stuff is taken out, washed slightly, dried, and treated a second time in the same manner, and with as much madder. It is then washed and dried, or passed through a hot soap bath, which carries off the taw-coloured particles. Other dyes likewise are added to the madder bath, to obtain other shades of colour; for instance, a decoction of fustic, weld, logwood, quercitron, knoppert, the mordants being modified accordingly. Hoelterhoff prescribes for *ordinary madder-red*, the following proportions:—twenty pounds of cotton yarn, fourteen pounds of Dutch madder, three pounds of gallnuts, five pounds of alum; to which are added, first, one pound and a half of acetate of lead, and, subsequently, a quarter pound of chalk. When bran is added to the madder bath, the colour becomes much lighter, and of a more agreeable tint.

*Adrianople madder-red* is given by many distinct operations. The first consists in cleansing or scouring the goods by alkaline baths, after which they are steeped in oily liquors, brought to a creamy state by a little carbonate of soda in solution. Infusion of sheep's dung is often used as an intermediate or secondary steep. The operation of oiling, with much manual labour, and then removing the superfluous or loosely adhering oil with an alkaline bath, is repeated two or three times, taking care to dry hard, after each process. Then follows the galling, aluming, maddering, and brightening, for removing the dun-coloured principle, by boiling at an elevated temperature, with alkaline liquids and soap. The whole is often concluded with a *roving* by salt of tin.

MADIRA; an island off the western coast of Africa, belonging to Portugal; lon. 17° W.; lat. 32° 30' N.; square miles 407; population estimated at 100,000. The body of the people are of Portuguese descent, negro slavery not being permitted. The peasants are very poor, rude, and ignorant; the hardest labour is performed by females. The religion is Catholic. The island consists of a collection of mountains, the most elevated of which is 5068 feet high. The lower slopes are covered with vines, the loftier summits with forests of pine and chestnut. A great part of the sides of the hills consists of abrupt precipitous rocks, supposed to be of volcanic formation. Most of the rocks along the coast are composed of a white lava. The productions, besides wine, are wheat, rye, sugar, coffee, maize, kidney-beans, arrow-root, pine-apples, &c. The great production is wine, of well-known excellence. The quantity annually made is about 20,000 pipes, of which two-thirds are exported principally to Great Britain and the British colonies. The best vines grow on the south side of the island. There are several varieties of wines; the best is called *London particular*. The tax-gatherer takes the tenth part of the must: the rest is divided between the proprietor and the farmer. Goats abound, and still more hogs, which, being

allowed to run wild, acquire a taste of venom: the rabbit also is very common in the mountainous districts. Bees are very common, and the honey they produce is very delicate. Beggary is common among the peasants, and is considered to degrade the Portuguese gentry live in a proud and noisy manner, associating little with strangers. It is the most opulent part of the inhabitants consist of British merchants, established there for a long trade. The commerce of the island consists almost entirely in the export of its wine. Farmers supplying at Madeira, provisions and refreshments are exorbitantly dear. Adjacent to Madira is the Santo, a small island, and the Desertas, viz. the Madeira itself, compose the group of the Azores. Funchal, the capital, with 20,000 inhabitants is lon. 17° 6' W.; lat. 32° 37' N. Porto Santo is covered by Zarco, a Portuguese navigator, in 1481 unless we may believe the romantic story of Macham, an Englishman of obscure condition, who is said to have eloped with a young lady of noble birth, and sail for France, but was driven to this region. The lady is said to have died in consequence of her sorrows, and Macham did not long survive. See the Voyage of Robert Macham in Hakluyt II. p. 114. Zarco discovered the island which he called *Ilha da Floresta*, on account of the magnificent number of the trees that covered it, and which have almost entirely disappeared. For the history of the recent events in Madeira, see *Portugal*. See Staunton, and Bowdich's voyages contain information relative to this island. For information respecting the wines, see Henderson's *History of Wine*.

MADIRA; a river in South America, very abundant, and navigable; about 1100 feet rising in the mountains of Chuquisaca, in the republic of Peru. It runs an easterly course to the Cruz de la Sierra, with the names of La Plata, Chiquisaca, Cachimayo, and Guapay; and, turning to the north, enters the Amazon river, with the name of *Madeira* (Portuguese for wood), on account of the vast quantity of wood which it carries down to the current. It abounds in excellent fish.

MADNESS. See *Mental Derangement*.

MADOC; according to a Welsh tradition, a Welsh prince, who, in consequence of some domestic dissensions, went to sea with ten ships and 30 men in the twelfth century, and discovered and crossed the ocean far to the west. He made several voyages to and from this unknown land, but finally lost the knowledge of his countrymen. The story may be found in the Welsh *Trads*, and Hakluyt gives an account of the voyages in his collection. Later travellers have imagined that they had discovered some of these early emigrants in different parts of the country, and we have had stories of other Welsh and Welsh Indians, &c. See Humboldt's *Personal Narrative*, book ix., note A.

MADONNA (*Italian*); properly, any holy female. Petrarch often calls Laura *madonnina*; but the name is more particularly applied to the Virgin Mary, who is called in other languages, *our lady*. Many excellent pictures are known under the name of *Madonna*, the famous *Madonna di Sesto* of Raphael, is in the gallery of Dresden.

MADRAS, PRESIDENCY OF; part of the British possessions in Hindoostan, comprehending the whole of the country south of the Krishna, excepting a narrow strip on the western coast and the Northern Circars. A considerable portion of it is governed by native princes subordinate to the British, and protected by a subsidiary force; the rest is under the immediate direction of the government and revenue. Madras, and, in 1822, was subdivided into four districts, with an area of 166,500 square miles.

and a population of 13,677,000. The commerce of this presidency is inconsiderable, compared with that of the others, in consequence of the want of a harbour, and of navigable rivers. Madras, the capital of the presidency, is the largest city on the coast of Coromandel. Lat.  $13^{\circ} 5' N.$ ; lon.  $80^{\circ} 21' E.$ ; 1044 miles from Calcutta, 770 from Bombay; population, by census, in 1823, 415,751. It consists of fort St George, the Native or Black town, and the European houses in the environs, surrounded by gardeus. The heavy surf which beats on the shore, and the rapid current in this part of the gulf, render the landing often dangerous and always difficult. Boats, formed of three planks sewed together, are used for crossing the surf; but in stormy weather, when no boat can venture through it, the native fishermen pass it on rafts called *alamarans*. The Black town is an irregular assemblage of brick and bamboo houses, crowded together in narrow and dirty streets, inhabited by Hindoos, Mohammedans, Armenians, Portuguese, and other Europeans engaged in the company's service. The houses of the Europeans are generally of but one story, surrounded with verandas; wet mats of pusa grass are placed before the doors and windows, in the rainy season, to perfume and cool the apartments; the heat is then excessive. Besides some literary and charitable institutions, Madras contains the government houses, and is the seat of the supreme court of the presidency.

MADRID; the capital of Spain, is situated in New Castile, and in a province of the same name, on the Manzanares, near the centre of the kingdom, about 200 miles from the sea; 650 miles S. S. W. of Paris, 350 W. by S. of Rome; lon.  $3^{\circ} 38' W.$ ; lat.  $40^{\circ} 25' N.$ ; population, by a census in 1825, 201,344, including strangers. It is built on several eminences, and is 2200 feet above the level of the sea, being the most elevated capital in Europe. Seen at a distance, it presents nothing that announces a great city, and, he environs being destitute of wood, and even of vines, while most of the villages are in hollows, the prospect is uncommonly dreary. On drawing near, the prospect is more cheerful. The city is of an oblong form, about six miles in circuit, surrounded by a high earthen wall, but has no ditch, or any other means of defence. The old streets are narrow and crooked, but many others are wide, straight, and handsome. They are paved, kept clean, and lighted. The city has 15 gates, 42 squares, mostly small, 506 streets, 77 churches, 75 convents, 8 colleges, and 18 hospitals, 65 public edifices, 17 fountains, and several promenades, among which the Prado is the principal. The private houses are uniform, generally low, with rated windows, and have little striking in their exterior. The churches are less magnificent than in several other cities in Spain. There are two palaces on a large scale—the *Palacio Real* at the western extremity, and the *Buen Retiro* at the eastern. The *Palacio Real* is of a square form, extending each way 404 feet, 86 feet high; the enclosed court 120 feet square. It is strongly built, the exterior elegantly ornamented, and contains a collection of paintings of the best masters of Flanders, Italy, and Spain. The royal library contains about 130,000 volumes, and 2000 manuscripts. The great school of Madrid is sixteen masters, who teach the various arts and sciences. There is another seminary, on an equally extensive plan, for the sons of the nobility and gentry. There are academies for the study of the several fine arts, a botanic garden, and a variety of charitable institutions. Madrid is the *Mantua Carpetanorum* of the Romans, and the *Majoritum* of the middle ages. Philip II. first made it the capital of the kingdom, on account of its central position. It was occupied by French troops in 1808, and was the residence of

Joseph Bonaparte until 1812. It was afterwards occupied by the British. In the French expedition into Spain in 1823, it was again entered by the French, under the duke d'Angouleme. See *Spain*.

MADRIGAL; a short lyric poem adapted to express ingenious and pleasing thoughts, commonly on amatory subjects. It contains not less than four, and generally not more than sixteen, verses; and consists, commonly, of hendecasyllables, with shorter verses interspersed, or of verses of eight syllables irregularly rhymed. In the soft Provencal dialect, it was called *madrial*, because used for subjects of a *material*, that is, of a common and low character. Other derivations are given, as from *mandra*, which signifies, in Greek and Latin, a sheepfold. The earliest madrigals were those of Lemmo of Pistoia, set to music by Casella, who is mentioned by Dante. They were afterwards subjected to stricter rules in regard to the number of verses and the rhyme. In the sixteenth and seventeenth centuries, we find madrigals for the organ and other instruments. The madrigals of Tasso are among the finest specimens of Italian poetry. This form has been successfully cultivated by the Germans.

MADURA; a territory celebrated in the Hindoo mythology, now forming a part of the Madras presidency. The capital, of the same name, contains the vast palace of the ancient rajahs, now going to decay, with its lofty dome, ninety feet in diameter, and the Great Temple, one of the most remarkable monuments of Hindoo architecture, with its four gigantic porticoes, each surmounted with a pyramid of ten stories. Mahadeva, under the mystic form of the *lingam*, is the principal object of adoration. Among other remarkable places in this territory is the island of Rameswara (the Lord Rama), separated from the main land by a narrow strait, across which stretches a line of rocks called *Adam's bridge*. Rama, seized with compunction for the slaughter of the Brahmins in his wars, here set up the holy *lingam*.

MÆANDER, now MEINDER; a river of Asia Minor, which takes its rise in Phrygia, on mount Celanus: it forms the boundary between Caria and Lydia, and flows into the Ægean sea between Priene and Miletus. It was celebrated among the ancients for its winding course. The name was thence transferred to the intertwined purple borders on mantles and other dresses, as well as upon urns and vases; hence, figuratively, *meandering paths*, *meandering phrases*; that is, artificial turns and circumlocutions, &c.

MÆCENAS, C. CILNIUS, the favourite of Augustus, and patron of Virgil and Horace, traced his genealogy from the ancient Etrurian kings. He has been described as a pattern of every political virtue, and a most generous patron of the sciences. He was never, in fact, however, a public minister; for even the office of prefect of Italy and Rome, which he held after the victory at Actium, was only a private trust; and the notions which are entertained of him as the protector of the learned, and which have made his name proverbial, seem to be very much exaggerated. It is true that he collected at his table poets, wits, and learned men of every description, if they were pleasant companions, sought their conversation, and sometimes recommended them to Augustus; but it was from political motives, for the purpose of gaining friends for Augustus, and extending his fame. It is true, also, that he gave Horace a farm, and obtained his pardon and freedom, and that he enabled Virgil to recover his property; but, for a man whom Augustus had made exorbitantly rich, the present to Horace was a trifle, and Virgil merely received from him what was justly his own. *Mæcenas* was

not a man of great qualities; but he well understood how to employ the favours of fortune. Without strong passions and a lofty ambition; endowed with a fine taste and a sound judgment; prudent, and cool enough to do whatever he did rightly and thoroughly, and sanguine enough not to shrink before difficulties, and always to anticipate a happy result, but too fond of ease and pleasure to love or to pursue any business, if he was not compelled by necessity; of an agreeable person, gay in conversation, affable and generous; inclined to rally others, and equally willing to receive their attacks in return; artful, and skilful in employing others for his own purposes; careful in the choice of his intimate friends, but faithful and constant after he had once chosen them; and, if necessity required, capable of any sacrifice;—these qualities gained him the confidence of Augustus, which he enjoyed undiminished till his death. Augustus used to banter him on his effeminacy, his love for curiosities, precious stones and gems, his affectation in mixing old Etrurian words with Latin, and making new words. In return, Mæcenas ventured to make use of great freedom, or rather of severity of expression, as, for instance, during the triumvirate, when Octavius was in the tribunal, passing many sentences of death, Mæcenas presented him his tablets with the words, "*Surge tandem, carnifex!*" (Rise, executioner!)—a reprimand which produced its effect; and Octavius did not take offence at it. When Augustus consulted with Agrippa and Mæcenas, whether to retain or resign the supreme power, Mæcenas, in opposition to the advice of Agrippa, urged him to retain it. Thus he proved, that he preferred the profitable to the honourable. Mæcenas appears less worthy of esteem as a private man. He had a palace, in the form of a tower, on the Esquiline hill, which was surrounded with splendid gardens. Here, at the close of the civil wars, being about forty years old, he resigned himself to indolence, luxury, and frivolous pleasures. Of all spectacles, he was most fond of the pantomimic dance, which he himself introduced into Rome. Bathyllus (q. v.), who was famous for his beauty, and his skill in this exhibition, was his favourite. He was no less fond of the pleasures of the palate. His indolence betrayed itself in his dress, in his gait, in his manners, and even in his style. He died in the year of Rome 745. His writings are mentioned by Seneca, Isidorus, and others; but none of them are extant.

MAELSTROM, or MOSKOE-STROM; a whirlpool in the North sea, near the island of Moskoe. In summer, it is but little dangerous, but is very much so in winter, especially when the north-west wind restrains the reflux of the tide. At such times, the whirlpool rages violently, so as to be heard several miles, and to engulf small vessels, and even whales, which approach it.

MENADES (from *μαιναμαι*, I am mad); a name applied to the Bacchanalians, the priestesses of Bacchus.

MEONIDES. (See *Homer*.) The Muses were likewise sometimes called *Meonides*, because Homer was viewed as their greatest favourite.

MEOTIS. *Palus Meotis* was the name given by the ancients to what is now called the Sea of Azoph. See *Azoph*.

MAESE. See *Meuse*.

MAESTRICH. See *Mastricht*.

MAESTRO; the Italian for *master*, and not unfrequently used in *maestro di capella*, chapel-master. *Maestro del sacro palazzo* is the papal censor of books and the pope's confessor, a Dominican.

MAFFEI; a celebrated Veronese family, which has produced many eminent men.

1. *Alessandro* (marquis), born 1682, served under Maximilian Emanuel, in the campaign against the Turks and the French, distinguished himself in the war of the Spanish succession, and, after the treaty of Belgrade (1717), was made field-marshal, and lived at Munich, 1730. The memoirs which appeared under his name (Verona, 1737), were written by his brother, Scipio.

2. *Bernardine*, born at Rome, 1511, created a cardinal at the age of thirty, and died at the age of forty. He possessed a large number of coins, of which he made use in his attacks from Medals.

3. *Francesco Scipio* (marquis), born at Rome, 1675, studied in the Jesuits' college at Pisa, and went to Rome in 1698, where he devoted himself to poetry, and was received into the Acadia. He afterwards entered the military service, served under his brother, Alexander, in the Spanish succession war, and, in 1704, was present at the battle of Donauworth as a volunteer. His literary taste soon recalled him to Italy, where he wrote his *Della Scienza chiamata Cavalleria*, a work full of learned research into the manners of the ancients in settling private quarrels, and in which he maintains that duelling is contrary to reason, honour, and the welfare of society. To improve the condition of Italian literature, the decline of which he lamented, he undertook, in connection with Zeno, and Vallisneri, the publication of a periodical, the object of which was to criticize modern works, make his countrymen acquainted with foreign literature. At the same time, he directed his attention to the Italian drama, which he enriched by his *Furberie Italiane*—a collection of the best comedies and tragedies (3 vols., 1723)—and by his original tragedy of *Merope*. (See *Italian Theatre*, in the next Italy.) This production, although only a short essay towards uniting the Greek and Roman tragedy, met with the most brilliant success. The comedy *La Cereemonia* was also brought upon the stage with applause. To revive the study of the Greek language, which was much neglected by his countrymen, he invited skilful teachers to Rome, whom he supported at his own expense. The discovery of some important manuscripts in the cathedral of his native city, gave his learned labours, in turn, one of the results of which was *Il tesoro trovato* (1731). Maffei's reputation had now spread to foreign countries, and, in 1732, he set out on a visit to France, Britain, Holland, and returned to the way of Vienna, where he was received in the most flattering manner by Charles VI. He died at Verona, in 1755, and a monument is there erected to his memory. Among his numerous works, the most important, besides those already mentioned, are *Rime e Prose* (1719); *Lettere diplomatiche: Roma e Veronese*, and other writings relative to his native city. His complete works appeared at Venice 1784, 21 vols., 4to).

4. *Giorganni Pietro*, one of the most learned writers among the Jesuits, was born at Bergamo in 1646, went to Rome, where he became acquainted with Annibal Caro, and other distinguished men, and afterwards professor of rhetoric at Genoa, the secretary of the republic, and, two years later, entered the order of the Jesuits. In Rome, he published a Latin translation of Acosta's *History of India* (1570). He was invited by Henry of Portugal to Lisbon, and employed to write a general history of India; for which purpose he had access to original documents in the archives. This work (*Historiarum Indicarum Libri xvi.*) appeared at Frankfurt in 1588 (better edition, Cologne, 1805), and is characterized rather by beauty of style than by profound

ness of research or acuteness of judgment. He died at Tivoli, 1603.

5. *Paolo Alessandro*, born at Volterra, 1653, died in Rome, where he had chiefly resided, in 1716. By an industrious study of museums and cabinets, he acquired an extensive knowledge of ancient works of art. His principal works are *Raccolta di Statue Antiche e Moderne* (Rome, 1704), and an edition of Agostini's *Gemme Antiche*, which he enriched with valuable notes and additions; it is less prized by connoisseurs than the old and scarce edition of 1657, which is remarkable for the beauty of its engravings.

6. *Raphael*, called also *Raphael of Volterra*, born at Volterra, in the middle of the fifteenth century, died there in 1522. His chief work is *Commentarii rerum Urbanarum Libri xxxviii.* (Rome 1506), of which the first twenty-three books contain geographical and biographical treatises: the remainder is a general view of the state of knowledge at that time.

MAFRA; a town of Portugal, province of Estremadura, six leagues north-west of Lisbon, containing a magnificent palace, erected by John V. It is constructed of marble, and is nearly a square of 728 feet. The church is placed in the centre of the fabric, having the palace on one side and the convent on the other. It was begun in 1717, and finished in 1742. A beautiful park and fine gardens are attached to it. The kings of Portugal have often resided here. The palace includes a college, which has a library of 40,000 or 50,000 volumes, and a fine mathematical apparatus. Population, 2,800. See Murphy's splendid work, published in London, in 1791, the text of which is by Luis de Sousa.

MAGADOXO, MAGADOSHO, or MAKDIHO; a kingdom of Africa, situated on the coast of the Indian sea, extending from the river Juba, near the equator, to beyond the fifth degree of north latitude. How far it extends to the westward, is not known. It has its name from its capital, situated in large bay, formed, as has been said, by the mouth of the river of the same name, which is called by the Arabs the *Nile of Magadoxo*, by reason of its annual overflowing. Owen's chart (1827) lays down no river between the Juba and 8° north, an extent of 50 miles. The city of Magadoxo is a place of great commerce, and vast resort from the kingdoms of Senegal, and other parts; whence their merchants bring cotton, silk, and other cloths, spices, and a variety of drugs, which they exchange with the inhabitants for gold, ivory, wax, and other commodities. It is chiefly inhabited by Mohammedans. The town is situated in lon. 45° 19' E.; lat. 2° 1' N.

MAGALHAENS, or MAGELLAN, FERNANDO; a famous Portuguese navigator, who discovered the straits at the extremity of South America, and conducted the first expedition round the world. He served under Albuquerque in the East Indies, and distinguished himself, especially at the taking of Malacca, in 1510. He afterwards entered into the service of Spain, and was intrusted, by Charles V., with the command of a fleet destined to explore a passage to the Molucca islands, by sailing westward. The voyage was commenced September 20, 1519. About the end of October, 1520, he entered the straits since called after his name, and, on the 27th November, discovered the Pacific ocean. Continuing his course, he arrived at the Ladrone islands, and subsequently at the Philippines, on one of which he lost his life in a skirmish with the natives, in 1521.

MAGAZINES. See *Periodicals*.

MAGDALEN, or MARY OF MAGDALA, a town on the lake of Galilee, in Palestine, by an old Hebrew interpretation, is confounded with the sin-

ner mentioned in Luke vii., whose name is not given, and who, on account of her repentance and trust in Christ, was assured by him of the forgiveness of her sins. The history of her conversion from a licentious life being confounded with the story of Mary of Magdala (see *Mary*), the ideal of St Magdalen was formed, and has given occasion to some of the most celebrated productions of the pencil. Penitent females who had lived licentious lives, early banded together, and formed a religious order, under the protection of St Magdalena, which existed in Germany before 1215; and similar institutions arose about the same time in France, Italy, and Spain. In France, they termed themselves *Madelonettes*. They adopted the rules of St Augustine, and formed various congregations, distinguished by the colour of their dress (white, gray, or black), and by the different degrees of strictness in their mode of life. This order, which admitted, at first, only courtesans and females who had lost their honour, has spread into both Indies; and, although the members of it were only bound to social exercises of devotion, and did not apply themselves to useful offices, and have, moreover, departed from their ancient laws, by the reception of virtuous women, yet the institutions continue till the present day. The Catholic Magdalen establishments now remaining in Protestant countries, have been obliged to devote themselves to the care of the sick; such as that at Lauban, in Upper Lusatia.

*Magdalen Societies*, so called from the view of the character of Mary Magdalen already given, have also been established, of late years, to afford a retreat to penitent prostitutes, and enable them to pursue the work of their own reformation. Such a society was established in London, in 1758, principally by the exertions of doctor Dodd, and, since that period, between 4000 and 5000 abandoned women have enjoyed the benefits of the establishment, and have been restored to their families and society. By far the greater number of those who have been protected here have subsequently continued respectable and correct in their behaviour. No female who has conducted herself with propriety in the house, is allowed to leave it unprovided for. Similar societies also exist in some other of our principal cities.

MAGDALENA, a large river of South America, rises from lake Pampas, in the Colombian province Cundinamarca, receives many other rivers, and falls, after a course of 900 miles, by two branches, into the Caribbean sea. It contains numerous alligators. It gives name to a department of Columbia. There is another river of the same name in Texas.

MAGDALENE ISLANDS; a cluster of islands, seven in number, situated in the gulf of St Lawrence, about forty-two miles north-west from the island of Cape Breton. They are thinly inhabited by fishermen. Lon. 61° 40' W.; lat. between 47° 13' and 47° 42' N.

MAGDEBURG, one of the most important fortresses of Germany, and, from the time of Charlemagne, of considerable commercial interest, capital of the former duchy, and present Prussian government of the same name, in the province of Saxony, is situated on the left bank of the Elbe, which is crossed by a wooden bridge, about ninety-five miles from Berlin; lon. 11° 38' E.; lat. 52° 8' N.; with 36,000 inhabitants, exclusive of the garrison. Magdeburg, with her sixteen bastions, extensive outworks, &c., forms one of the strongest fortresses of Europe, and commands the middle Elbe. The Gothic cathedral is worthy of notice. Magdeburg has two excellent gymnasia, many other establishments, and considerable transit trade between the coasts and the interior of Germany, with some manufactures,

&c. In 1743, a canal was constructed uniting the Elbe and Havel, and, therefore, the Elbe and Oder. Magdeburg was the favourite residence of Otho I. The town took an active part in the reformation. It was taken by assault, May 20 (10), 1631, by the Catholic generals Tilly and Pappenheim, and was the scene of great cruelties. In 1806, it was dishonourably surrendered, by general Kleist, to Ney, after the battle of Jena. By the peace of Tilsit, it was ceded to France, which annexed it to the kingdom of Westphalia, and, by the peace of Paris, it was restored to Prussia. Carnot lived here, when in banishment as a regicide, and died here.

**MAGDEBURG, CENTURIES OF.** See *Centuries of Magdeburg*.

**MAGELLAN.** See *Magalhaens*.

**MAGELLAN, STRAITS OF;** the passage between the Atlantic and Pacific oceans, at the southern extremity of the continent of America; upwards of 300 miles in length, from cape Virgin, in the Atlantic, to cape Desire, in the Pacific ocean, in some places several leagues over, and in others not half a league. The passage through these straits is difficult and dangerous. Lon.  $70^{\circ}$  to  $77^{\circ}$  W.; lat.  $52^{\circ}$   $30'$  to  $54^{\circ}$  S.

**MAGELLANIC CLOUDS;** whitish appearances, like clouds, seen in the heavens towards the south pole, and having the same apparent motion as the stars. They are three in number, two of them near each other. The largest lies far from the south pole; but the other two are about  $11^{\circ}$  distant. They may be multitudes of stars, like the milky way.

**MAGELLONA THE BEAUTIFUL;** the name of an old French novel, reproduced in various forms, in many languages, probably composed in the eleventh or twelfth century, by a Provençal minstrel. Magellona is the daughter of the king of Naples; Peter, son of the count of Provence, is her lover. Petrarch is said to have given the present form to the novel. Its title is *L'Histoire du noble et vaillant Chevalier Pierre de Provence et aussi de la belle Maguellone, Fille du Roy de Naples* (1496, 1524, 1625). There are other editions, without year and place. The duke of Marlborough paid, in 1813, for a copy in folio, £22 1s. Lope de Vega made use of the subject in his drama, the *Three Diamonds*. See Millin's *Voyage en France*, vol. iv, p. 354; also Gorres's *Deutsche Volksbücher*.

**MAGGIORE, LAKE.** See *Lago Maggiore*.

**MAGIANS (Magi)** derive their name from *mag* or *mag*, which signifies *priest* in the Pehlvi language. (See *Indian Languages*.) They were the caste of priests with the Persians and Medians. They were in exclusive possession of scientific knowledge. As sacrifices and prayers could be offered to Ormuz only through them; as Ormuz revealed his will only to them, and they therefore could pry into futurity; in short, as they were considered mediators between the people and the Deity,—they necessarily possessed great authority, which they abused. Zoroaster was their reformer. He divided them into learners, teachers, and perfect teachers. For the doctrine of Zoroaster, see the article.

**MAGIC.** Men, as soon as they began to observe the phenomena around them, could not help seeing the close connexion which exists between man and external nature. When the sun sets, he wants rest, and sleep approaches with night; atmospheric changes affect his health; certain wounds become painful with the change of weather, or at certain phases of the moon; some men are painfully affected in the presence of particular animals (see *Antipathy*); certain liquids exhilarate, others destroy life. Such and similar observations, combined with many of an erroneous and exaggerated character, springing from

credulity and ignorance, soon led men to seek the mysterious connexion of man and nature, and the influence of things or causes without him, upon his mind and body, as a peculiar science, which his occupations were not yet divided, as came forward to the priests, whose exclusive possession of knowledge made them the guides of men in science and the arts as well as in religion. This is witnessed by some, the natural origin of superstitions; others, on the contrary, believe that men have actually existed a deeper knowledge of the powers and influences of nature, transmitted from earlier and purer ages, but lost with increasing time and age, and others believe that men once possessed a power of producing supernatural effects with the aid of evil spirits, as those particularly gifted with a tendency were able to produce supernatural effects with the assistance of God. Main, the common notion of things, is, in the Indian mythology, the basis of intellectual as well as of sensual love. In magic signification, she is the muse, the guide of prophecy and poetry, and also of deception, as a word *magic* seems to be connected with the root *mag*, so various, yet easily conjoined meanings. Thus Persia, and the neighbouring countries, famous for their knowledge of astronomy and astrology, are described as the chief seats of the ancient magi, whose doctrine seems to be, in part, of great scope. This doctrine represented opposition or strife as a parent and original cause of all things. After opposition between light and darkness, Ormuz as Ahriman, was established, the whole series of his beings, the whole sensual world, proceeded from a constant struggle of light and darkness, good and evil. The change of day and night, light and darkness, the whole series of ages, time itself, are the consequence of this struggle, in which constant light, sometimes darkness, appears, and finally light shall conquer for ever. If as time stand under the influence of preserving and destroying powers in nature, it is clear that he who can master these powers could dispose of his power of the things subject to them; and the doctrine of the Magians was, that, by prayer and a true knowledge of those laws of opposition, love and hatred, light and darkness, such power could be obtained; and that thus, also, it was possible to pry into futurity. But it was believed that as the world became with the light of the ancient doctrine of the magi so obscured, and those who bore the same doctrine, at last, only evil-disposed survivors. The magical branch of their art was, now, the essence of it, by potions and enchantments. Their art consisted partly of ingredients, which were used by physicians as stimulents, partly of charms directed to who had died longing for food or sex, or the restless hungry dogs, and other still more disgusting circumstances. Magic, at this period, also occupied itself with fortune-telling, calling up the dead, travelling by the look (with the Romans and Greeks, called *phantasmagoria*—a superstition which we find existing to the present times against witches in modern times, with the preparation of amulets, the inducing of pain on a person by correspondent applications to his organs, &c. &c. He who wishes to become acquainted with the poetical side of magic, ought to read the *Arabian Nights*. It can hardly be doubted, that the doctrine of the ancient magicians was founded, to a considerable degree, upon a superior knowledge of the physical nature. The name of the magi, magus, or *magus*, or *chanting stone* (according to one derivation), seems to indicate that it was not unknown to the ancients, that some of their phenomena seem referable to spiritualism.—Interesting information on the subject is contained in Klecker's *Zendavesta*, and other sources as I

*Magikon*, which contains the history of numerous secret doctrines; see also Creuzer's *Symbolik und Mythologie*; Windischmann's *Inquiries respecting Astrology, Alchemy, and Magic*, (in German, Frankfurt, 1818); also, George Conrad Horst, *On Ancient and Modern Magic, its Nature, Origin, and History* (in German), with his *Zauberbibliothek* (6 vols., Ments, 1820—25). See *Divination, Demon, Witchcraft*.

MAGINDANAO; See *Mindanao*.

MAGISTER ARTIUM. See *Master of Arts*.

MAGISTER EQUITUM. See *Master of the Horse*.

MAGISTER MATHSEOS. See *Pythagoras*.

MAGISTRATE; a public civil officer, invested with the executive government or some branch of it. Thus, in monarchical governments, a king is the highest or first magistrate. But the word is more particularly applied to subordinate officers, as governors, intendants, prefects, mayors, justices of the peace, and the like. In Athens, Sparta, and Rome, the chief magistrates were as follows: From Cecrops to Codrus, Athens had seventeen kings; from Medon to Alcmaeon, thirteen archons for life; from Charops to Eryxias, thirteen decennial, and from that time, annual archons. The democracy established by Solon was changed into a monarchy by Pisistratus, who was succeeded by his sons Hippias and Hipparchus. The ancient democracy was then restored, but was interrupted for a year, after the unhappy issue of the Peloponnesian war, by the domination of the thirty tyrants, and, for a short time, by that of the decemviri. Under the Macedonian kings, and afterwards under the Romans, except at intervals, the freedom of Athens was only a name. Antipater decreed that 9000 of the principal citizens should administer the government, and Cassander made Demetrius Phalereus prefect of the city. In Sparta, the magistrates were kings, senators, ephori, &c. Chosen by a majority of suffrages, they held their offices, some, as the kings and senators, for life, others for a limited time. Among the Romans, there were different magistrates at different times. The first rulers were elective kings. After the expulsion of Tarquin the Proud (in the year of the city 244, B. C. 510), two consuls were elected annually to administer the government. In cases of pressing danger, a dictator was appointed, with unlimited power, and, in case of a failure of all the magistrates, an interrex succeeded. This course continued, with occasional interruptions, till the year of the city 672, or B. C. 81, when Sylla assumed the supreme power, as perpetual dictator. After three years, however, he voluntarily laid aside his authority, and the consular government lasted till Julius Cesar caused himself to be declared perpetual dictator, B. C. 49. From this time, the consular power was never entirely restored. Soon after the assassination of Cesar, the triumvirs, Octavius, Lepidus, and Antony, assumed still more absolute sway; and Octavius finally became chief ruler of the Roman empire, under the title of *princeps* or *imperator*. He retained the magistrates of the republic only in name. In the beginning of the republic, the consuls seem to have been the only regular magistrates. But, on account of the constant wars, which required their presence in the army, various other magistrates were appointed, as pretors, censors, tribunes of the people, &c. Under the emperors, still different officers arose. The Roman magistrates were divided into ordinary and extraordinary, higher and lower, curule and not curule, patrician and plebeian, civic and provincial. A distinction between patrician and plebeian magistrates was first made in the year of Rome 260 (B. C. 494); that between civic and pro-

vincial, when the Romans extended their conquests beyond the limits of Italy. The ordinary magistrates were divided into higher and lower; to the former belonged the consuls, pretors, and censors; to the latter, the tribunes of the people, ediles, questors (q. v.), &c. The most important extraordinary magistrates were the dictator, with his master of horse, and the interrex. The difference between curule and not curule magistrates depended on the right of using the curule chair, which belonged only to the dictator, consuls, pretors, censors; and curule ediles. During the republic, magistrates were chosen at the *comitia*, particularly in the *centuriata* and *tributa*; in the former, the higher ordinary authorities were chosen, and in the latter, the lower ordinary authorities. Under the emperors, the mode of the election of magistrates is uncertain.

MAGLIABECCHI, ANTONIO; a learned critic, who was librarian to the duke of Tuscany, celebrated alike for the variety of his knowledge and the strength of his memory. He was born at Florence, in 1633, and, in the early part of his life, was engaged in the employment of a goldsmith, which he relinquished to devote himself to literary pursuits. He was assisted in his studies by Michael Ermini, librarian to cardinal Leopold de' Medici, and other *literati* residing at Florence. Through unremitting application, he acquired a multifarious stock of erudition, which made him the wonder of his age. Duke Cosmo III. made Magliabecchi keeper of the library which he had collected, and gave him free access to the Laurentian library, and the Oriental MSS.; of the latter collection he published a catalogue. His habits were very eccentric. His attention was wholly absorbed by his books; among which he took his rest and his meals; dividing his time between the ducal library and his private collection, interrupted only by the visits of persons of rank or learning, attracted towards him by the report of his extraordinary endowments. He left no literary work deserving of particular notice; but he freely afforded information to those authors who sought his assistance in their own undertakings. Notwithstanding his sedentary mode of life, he was eighty-one years old when he died, in July, 1714. See Spence's *Parallel between R. Hill and Magliabecchi*.

MAGNA CHARTA LIBERTATUM; the Great Charter of Liberties, extorted from king John, in 1215. (See *John*.) The barons who composed the Army of God and the Holy Church, were the whole nobility of England; their followers comprehended all the yeomanry and free peasantry, and the accession of the capital was a pledge of the adherence of the citizens and burgesses. John had been obliged to yield to this general union, and June 15, both encamped on the plain called Runnymede, on the banks of the Thames, and conferences were opened, which were concluded on the 19th. The preliminaries being agreed on, the barons presented heads of their grievances and means of redress, in the nature of the bills now offered by both houses for the royal assent. The king, according to the custom which then and long after prevailed, directed that the articles should be reduced to the form of a charter, in which state it issued as a royal grant. Copies were immediately sent to every county or diocese, two of which are yet preserved in the Cottonian library in the British museum. To secure the execution of the charter, John was compelled to surrender the city and Tower of London, to be held by the barons till August 15, or until he had completely executed the charter. A more rigorous provision for securing this object is that by which the king consented that the barons should choose twenty-five of their number, to be guardians of the liberties of the kingdom, with power,

in case of any breach of the charter, and the delay or denial of redress, to make war on the king, to seize his castles and lands, and to distress and annoy him in every possible way (saving only the persons of the royal family), till justice was done. Many parts of the charter were pointed against the abuses of the power of the king as lord paramount; the tyrannical exercise of the provisions of the forest laws was checked, and many grievances incident to feudal tenures were mitigated or abolished. But beside these provisions, it contains many for the benefit of the people at large, and a few maxims of just government, applicable to all places and times, of which it is hardly possible to overrate the importance of the first promulgation by the supreme authority. "No scutage or aid shall be raised in our kingdom (except in three given cases) but by the general council of the kingdom." This principle, that the consent of the community is essential to just taxation, has been the life of the British constitution. The thirty-ninth article contains the celebrated clause which forbids arbitrary imprisonment and punishment without lawful trial; "Let no freeman (*nullus liber homo*) be imprisoned or disseized, or outlawed, or in any manner injured or proceeded against by us, otherwise than by the legal judgment of his peers, or by the law of the land. We shall sell, delay, or deny right or justice to none." This article contains the writ of *habeas corpus* (q. v.) and the trial by jury, the most effectual securities against oppression, which the wisdom of man has devised, and the principle that justice is the debt of every government, which cannot be paid without rendering law cheap, prompt, and equal. The twentieth section is hardly less remarkable:—"A freeman shall be amerced in proportion to his offence, saving his contenment, a merchant saving his merchandise, and the villain saving his wagonage." The provision which directs that the supreme civil court shall be stationary, instead of following the king's person, is an important safeguard of the regularity, accessibility, independence, and dignity of public justice. Blackstone has given an edition of the Charter, with an introduction, in his Law Tracts. See also the histories of Hume and Mackintosh.

**MAGNÆAN INSTITUTE**; founded by professor Arnus Magnæus, for the publication of Icelandic manuscripts at Copenhagen.

**MAGNA GRÆCIA**; the southern part of Italy, which was inhabited by Greek colonists. D'Anville bounds it, on the north, by the river Silar or Selo, which empties into the gulf of Pæstum. But it seems more natural to annex Campania to it, and to take for the boundaries on the one side, the Vulturnus, where the territory of Cuma ceased, and on the other the Frento or Fortore, which forms the boundary of Apulia, and flows into the Adriatic, as the Grecian colonies reached to that point. The tribes, indeed, which had emigrated into Italy from the north, in the earliest times, spread through all Italy, but always confined by the Apennines, and in the interior of the country. Several centuries after, Greeks came hither, began to build cities on the unoccupied coasts, and intermingled by degrees with the inhabitants of the interior. The foundation of these Grecian colonies was unquestionably after the destruction of Troy. Athenians, Achæans, Eubœans, &c., with some Trojans, repaired hither. According to Dionysius of Halicarnassus, the followers of Æneas were scattered through the different parts of Italy. Some landed in Iapygia, others retired to both sides of the Apennines, and founded colonies. Subsequently the Romans sent colonies to Calabria, and partly in that way, partly by conquest, became (272 B. C.) masters of all the

Greek colonies. The Greek was no longer the sole language in Calabria; the Latin was a second, and an intermixture of the Grecian and Roman manners and usages took place, which is yet seen. Magna Græcia comprised the provinces of Calabria, Apulia, Iapygia, Lucania, and Bruttia. The celebrated republics were Tarentum, Sybaris, Crotona, Posidonia, Locris, and Rhegium.

**MAGNATES** (in low Latin, the great men) formerly in Poland, and is still in Hungary, is now applied to the noble estates, who took part in the administration of the government. In Poland, they were the spiritual and temporal senators, or councillors and high nobility. Among the Hungarians, they reckoned the archbishop of Giesen, and the archbishop of Lemberg, the bishops, the counts, the castellans, and royal officers or ministers. In Hungary, the barons of the kingdom are called *Magnates*. These are—1. the greater; 2. the lesser. The Palatine, royal and court judges, the Ban of Croatia, Sclavonia, and Dalmatia, the treasurers, the highest officers of the court; 2. the counts, counts and barons. To the prelates, bishops, and royal free towns, this denomination does not extend.

**MAGNESIA**; one of the earths, having a basis called *magnesium*. It exists in nature in various states of combination, with acids, water, &c. other earths, and is found in various rocks, springs, and the water of the ocean, mixed with sulphuric and muriatic acids. It may be obtained by pouring into a solution of its sulphate a solution of subcarbonate of soda, washing the precipitate, drying it, and exposing it to a red heat. It is procured in commerce, by acting on magnesian stone with the impure muriate of magnesia, or salt of the sea-salt manufactories. The muriate goes to the lime, forming a soluble salt, and behind the magnesia of both the bitters and the limestone; or the bitters is decomposed by subcarbonate of ammonia, obtained from the solution of bones in iron cylinders. Muriate of ammonia and subcarbonate of magnesia result. The bitters is evaporated to dryness, mixed with chalk, and sublimed. Subcarbonate of ammonia is then removed with which a new quantity of bitters may be superimposed. 100 parts of crystallized Epsom salt require for complete decomposition, 56 of subcarbonate of potash, or 44 dry subcarbonate of soda, to produce of pure magnesia after calcination. Magnesia solves very sparingly in water, requiring 2500 of its weight of water at 60°, and 3000 at 100°. Water, for solution. The resulting liquid undergoes a change the colour of violets; but when pure magnesia is put upon moistened turmeric paper, it gives a brown stain. It possesses the strong alkaline character of alkalinity in forming neutral salts, and acid in an eminent degree. It absorbs carbonic acid, when exposed to the atmosphere. It is infusible, except in the intense heat of a compound blow-pipe. The salts of magnesia are generally very soluble, and crystallisable, and possess of a bitter taste. The carbonate is prepared for medicinal use, by dissolving equal weights of sulphate of magnesia and carbonate of potash, evaporating to twice their weight of water; mixing three parts of water and diluting with eight parts of warm water. The magnesia attracts the carbonic acid, and is precipitated, being insoluble, is precipitated, and the sulphate of potash that remains continues in solution. The mixture is made to boil for a few minutes after cooling a little, it is poured upon a filter, and clear fluid runs through, and the precipitate of carbonate of magnesia is washed with water, and is tasteless. When the process is conducted in

large scale, the bitter or liquor remaining after the crystallization of sea-salt, which is principally a solution of muriate and sulphate of magnesia, is substituted for the pure sulphate, and this is precipitated by a solution of pearlsh or of carbonate of ammonia. Carbonate of magnesia is perfectly white, friable, and nearly tasteless. It is very sparingly soluble in water, requiring at least 2000 times its weight at 60°. When acted on by water impregnated with carbonic acid, it is dissolved; and from this solution, allowed to evaporate spontaneously, the carbonate of magnesia is deposited in small prismatic crystals, which are transparent and efflorescent.

*Nitrate of magnesia* has a taste bitter and acrid. Its crystallization exhibits a mass of needle-like crystals, deliquescent, soluble in half their weight of water at 60°.

*Sulphate of magnesia*, generally known by the name of *Epsom salt*, is made directly by neutralizing dilute sulphuric acid with carbonate of magnesia; but in the large way, by the action of dilute sulphuric acid on magnesian limestone, and the native carbonate of magnesia. It is possessed of a saline, bitter, and nauseous taste. It crystallizes readily in small quadrangular prisms, which effloresce in a dry air. It is obtained also in larger six-sided prisms, terminated by six-sided pyramids. Its primary form is a right rhombic prism, the angles of which are 90° 30' and 89° 30'. It is soluble in an equal weight of water at 60°, and in three-fourths of its weight of boiling water. It undergoes the watery fusion when heated. On mixing solutions of sulphate of magnesia and sulphate of potash in atonic proportion, and evaporating, a double salt is formed, which consists of one equivalent of each of the salts, and six equivalents of water. A similar double salt (isomorphous with the preceding) is formed by spontaneous evaporation from the mixed solutions of sulphate of ammonia and sulphate of magnesia.

*Phosphate of magnesia*, formed from the combination of the acid and the earth, crystallizes in prisms, which are efflorescent, soluble in about 15 parts of cold water, and which, by heat, melt into a glass.

A *triple phosphate of magnesia and ammonia* exists, which is formed by adding phosphoric acid rich ammonia, in excess, to a magnesian salt. It is insoluble, and is precipitated in a soft white powder of shining lustre. It forms one variety of urinary calculus, and its formation affords one of the best tests for the discovery of magnesia.

*Muriate of magnesia* has such an affinity to water, that it can be obtained in acicular crystals only by exposing its concentrated solution to sudden cold.

*Chloride of magnesia* may be formed in the same manner as chloride of lime. Chloride of magnesia may be obtained by heating the magnesia in chlorine gas, when the oxygen escapes, and the chlorine combines with the metal. It has the same bleaching power, and it has been proposed to apply it to the same purpose. When the chloride of lime is used, a small quantity of lime is left on the cloth: this, in the last operation of washing the cloth with water acidulated with sulphuric acid, is converted into sulphate of lime, which, being insoluble, remains, and affects the colours, when the cloth is dyed. The advantage of employing the chloride of magnesia is, that, if sulphate of magnesia is formed, it is so soluble as to be easily removed by washing. Magnesia is a very useful article of the *materia medica*. It is used as an antacid and cathartic. It is, however, nearly inoperative, unless there is acid in the stomach, or unless acid is taken after it. The carbonate and sulphate are the most frequently used of the preparations of magnesia; but the pure earth, sold under the name of *calcined magnesia*, is some-

times preferred; it is liable, however, to form large and dangerous accumulations in the bowels, of several pounds weight, when its use has long been persevered in.

*Magnesian Minerals.* Of these, the *hydrate of magnesia*, or *native magnesia*, deserves to be mentioned in the first instance. It is a rare substance, having hitherto been met with only at two localities—Swinaness in Uist, one of the Shetland Isles, and Hoboken, in New Jersey; in the latter place, occurring in thin seams, traversing serpentine. It exhibits a lamellar, or broad columnar structure; is but little above talc in hardness, or in the difficulty of its cleavage; sectile; thin laminae flexible; specific gravity 2.350. Its colour is white, inclining to green; lustre pearly; translucent. Before the blow-pipe, it loses its transparency and weight, and becomes friable. In acids, it is dissolved without effervescence, and consists of 70 magnesia, and 30 water.

The *siliceous hydrate*, or *Deuylite*, is a compact, white, or yellowish-white mineral, found in the serpentine of Middlefield, Massachusetts, and near Baltimore, Maryland. It has a hardness between calc-spar and fluor, and is composed of silica 40, magnesia 40, and water 20. It appears to be identical with the *kerolite* of Breithaupt.

*Carbonate of magnesia*, or *magnesite*, is found crystallized in radiating and parallel fibres, reniform, tuberoso, and massive; fracture, when massive, flat conchoidal. It also occurs pulverulent; fracture flat conchoidal, sometimes earthy; dull; colour yellowish-gray, cream-yellow, yellowish and grayish-white; streak white; opaque; adheres to the tongue. Some of the compact varieties are very tough, giving fire with the steel, though too soft to impress fluor; specific gravity, 2.808. It is infusible before the blow-pipe; dissolves with a slow effervescence in the dilute nitric and sulphuric acids. It consists of magnesia 48.00, carbonic acid 49.00 and water 3.00. It is found in Stiria, Silesia, and Spain. A variety of it, possessing an earthy fracture, and containing about four per cent. of silex, is found in the islands of Samos and Negropont, in the Archipelago, and is called, by the Germans, *Meerschaum*, and by the French, *Ecume de Mer*. It is soft when first dug, and, in that state, is made into pipes, but hardens by exposure to the air. The most remarkable deposit of this mineral, however, is found at Hoboken, in New Jersey, where it occurs disseminated, in seams, through a serpentine rock; and is sometimes crystallized, at others pulverulent.

*Sulphate of magnesia* is found in crystalline fibres, parallel and divergent, and in the shape of crusts; more rarely, also, it has been found pulverulent. It is easily recognised by its bitter saline taste. Specific gravity, 1.75; colour white; lustre vitreous, translucent, or transparent. It dissolves very easily in water, deliquesces before the blow-pipe, but is difficultly fusible, if its water of crystallization has been driven off. It effloresces from several rocks, both in their original repository and in artificial walls, and then it is a product of their decomposition. It forms the principal ingredient of certain mineral waters. It occurs at Freiberg and its vicinity, efflorescing upon gneiss, also at the quicksilver mines of Idria, in Carniola, and various other places in Europe. Its most remarkable depositories, however, are the limestone caves of Kentucky, whose floors are often covered with it, in delicate crystals, to a considerable depth, intermingled with a dry earth, which has come from the decomposition or disintegration of the limestone rock: this earth is leached, in very considerable quantities, by the inhabitants of the country, who obtain from it their supply of *Epsom*

salt. For a notice of *Borate of magnesia*, see *Boracic Acid*.

**MAGNETIC NEEDLE** is a needle touched with a loadstone, and sustained on a pivot or centre, on which, playing at liberty, it directs itself to certain points in or under the horizon. See *Magnetism*, and *Compass*.

**MAGNETISM**. According to ancient tradition, a shepherd named *Magnes*, in walking up mount *Ida*, found that certain stones were attracted by his iron hook, and from the name of the discoverer these stones were afterwards called magnets. Others assert that these stones derived the name magnet from having been first discovered at *Magnesia*, a town in *Heracles*. It is not our business to inquire whether either of these traditions be true; it is sufficient for us to know that a peculiar species of iron ore, known to us by the names *natural magnet*, or *natural loadstone*, was known to the Greeks, and called by them magnet. More recent research has shown that the properties of the natural magnet (see *Iron, ores of*) may be communicated to other substances, or that artificial magnets may be formed, and the science which explains the laws of the action of magnets, whether natural or artificial, is called magnetism.

**History**. The property of the natural magnet of attracting iron seems to have been the amount of the knowledge of the ancients on the subject. Yet some suppose that they were also acquainted with the formation of artificial loadstones. The most important property of the magnet remained unobserved until about the middle of the thirteenth century; we allude to the property of the magnet's taking a certain direction when allowed to move freely on an axis. The discovery of the fact that a magnet when balanced upon a centre will dispose itself in a direction north and south, a discovery which has contributed more than all the inventions yet known to the extension of knowledge and the diffusion of happiness over the globe, is attributed to different individuals: the invention of the mariners' compass has by some been ascribed to *Flavio*, a Neapolitan; but *Dr Gilbert* supposes that the invention was brought to Europe from China by *Paulus Venetus*, an Italian. It is matter of deep regret that any uncertainty should exist respecting the name of the man who has conferred so great a benefit on the human race. From a manuscript letter of *R. Adsign*, dated 1269, still preserved in the collection of the University of *Leyden*, it would appear that he was acquainted with the principal properties of the magnet. In this MS. we find the first notice of the declination or variation of the needle, i. e. that the suspended magnet does not always point duly north and south: this discovery has been erroneously attributed to *Columbus*, whose voyage was made nearly 200 years subsequent to the date of the *Leyden* manuscript. The next important discovery was that the needle though balanced with the utmost care before it was magnetised, departed from the level after it had received the magnetic influence. This phenomenon, commonly called the *dip* of the needle, was first observed and made known by *Norman*, a mathematical instrument-maker, near *London*, who wrote a work on *The New Attraction*. The variation of the needle was not at this time known to be changeable, but *Mr Bond* in 1640, who wrote fifty-nine years after *Norman*, clearly points it out as not only observed by himself, but also by *Mair*, *Gunter*, and *Gellibrand*.

No attempt was made to form a theory of magnetism before the time of *Dr Gilbert*, queen *Elizabeth's* physician, who in 1600 published his work *de Magnete*, a work that although it contains many fanciful hypotheses, contains a statement of many important

facts, and forms an important era in the history of experimental science. *Halley* published a theory of magnetism in 1683, and in 1698, the command of one of the ships of the royal navy was given him, in order to discover the rule for the variation of the compass. An account of this voyage was published in 1701, together with a chart of the variation. The continual inverting of the needle was now regulated, although the law of the variation was not yet determined. More minute observations were made by *Mr Graham* at *London*, in 1722, and subsequently, showed that the variation hitherto observed was not the only change in the direction of the needle, but besides its tendency westward, it had a declination; he observed that the needle made not only an oscillation, the greatest variation taking place between ten and four o'clock in the day, and also between six and seven in the evening. About the middle of the eighteenth century, experiments on the same subject were made by *Wargentin*, a Swede, and also by *Canton*, an English philosopher, who has determined that the diurnal variation on a given day is more than in summer. *Mr Canton* makes the declination for January 7° 8', and for June 13°: these observations establish the fact, but the amount of the variation suffers a change; for we find the declination for January 1819, to be 6° 5', and for June 11° 15'. About 1750, professor *Wargentin* shows that the *aurora borealis* had a perceptible effect on the magnetic needle, and more recently during one of *Captain Cook's* voyages, the iron in the ship was found to affect the direction of the magnet to a remarkable degree; so much so, indeed, as to make some remedy necessary, especially in high latitudes.

The method of magnetising steel has now become properly known till about the year 1730; the discovery being due to *Dr Knight*. *De Haen*, *Cuvier*, and others improved upon his plan. *Lesser* of *Berlin* was the first who discovered the law of magnetic attraction, viz. the magnetic influence decreases from the magnetised object as the square of the distances increase, and *Coulomb* put the rest of the law beyond doubt by his experiments with the *Torsion balance*. *Mr Peter Barlow*, of the *military academy*, from a series of well conducted experiments, added much to the knowledge of the laws of magnetic action. He established the important law that the magnetic action increases with the surface, not with the mass, and that if we have a ball of iron, influence a compass needle, the sum of the tangents of deviation will be proportional to the cubes of the attractive forces. He also commented on the effect of the addition or subtraction of heat on the magnetic power. *Mr Biot* followed up these results by a beautiful experimental investigation which made its appearance in the 10th volume of the *Philosophical Magazine*. The researches of *Biot*, *Sir H. Davy*, *Oersted*, *Mr Ampere*, and more recently of *Mr Faraday*, have been devoted to the advancement of this highly interesting science, but the plan of this work will only admit of our passing into minor details; we shall therefore content ourselves with a brief notice of what has been done by the last mentioned philosopher.

*Mr Faraday*, from recent experiments, considers magnetism common to all metals. In a paper lately delivered at the royal institution, he shows the distribution of the magnetic power at a distance of 250°; and that there was a temporary loss of its magnetic power, when the metal was brought to red heat. In order to demonstrate this, he put a magnet into an iron tube, by which means it lost its magnetic power, excepting within the tube. He then inserted it into a red hot tube, until the magnet acquired sufficient heat to deprive it of its power.

By the dispersion of the fluid equally through its surface, it attracted and repelled in the same manner, as if interrupted by a sheet of paper. Nickel, as well as iron, is influenced by the magnet; but it loses its power of being attracted or repelled at a much lower temperature; and in boiling, all its powers cease. Soft iron becomes a powerful magnet, under the influence of voltaic electricity; but retains none of the magnetic power, when the current ceases. Hardened steel acquires less power under the same treatment; but becomes a permanent magnet, when the connexion is broken. From numerous experiments, he inferred that all the metals have certain properties in common, and magnetism among the rest, which require different circumstances to develop. He infers that all the forty-two metals are susceptible of magnetism, under the influence of extreme cold: the temperature being not less than  $0^{\circ}$  below zero, Fahrenheit. Mr Faraday is still prosecuting this line of inquiry, and daily bringing forth new and interesting facts, a detail of which will be found under *Thermo-Electricity*, in this work.

**Principles.** The term *natural magnet*, is chiefly applicable to the amorphous granular varieties of iron ore. The natural magnet is of a grey colour, dull metallic lustre, becoming black when pulverized; is not malleable. Some varieties have the property of attracting iron, and others of being attracted by the magnet. The specific gravity varies from 4.24 to 4.93. Artificial magnets are commonly bars of tempered steel, to which the magnetic property has been communicated. When a piece of natural magnet is surrounded with iron filings, they will be attracted to its surface; but here will be two points of the magnet to which the filings will more particularly adhere, than to any other part. These points of greatest attraction are called the poles of the magnet.

To form an artificial magnet take a bar of tempered steel, and bring one end of it into contact with one of the poles of the natural magnet, and afterwards bring the other end of the bar into contact with the other pole; it will be found that the steel bar has acquired the same property of attracting iron, as the natural magnet has. The extremities of the steel magnet are its poles. Form another magnet, in the same way, and suspend both by silk threads from the centre, so that they shall be balanced; it will be found that they will both arrange themselves, after oscillating a little, in a direction which is nearly north and south. Mark N on the pole of one magnet which points to the north, and S on the pole which points to the south. Mark, in like manner, on the north pole of the other magnet, and s on its south pole. It will be found that both magnets incline a little from the horizontal position, the north pole being inclined downwards. This is called the *tip of the needle*. By comparing the position of the magnet with the true meridian of the place, it will be found that the north pole has either an easterly or westerly direction. This is called the *variation* of the needle. Both of these last will be more fully discussed hereafter. We shall, in the mean time, draw the attention of the reader to a few experiments with the two magnetic bars we have before spoken of.

Let that magnet marked N S be kept suspended by the silk thread, and bring the pole n of the magnet marked n s near to the N pole of the suspended magnet; it will be found that the N pole will move away from, or, in other words, be repelled by the magnet n s. Present the pole n to the pole S, and the suspended magnet will be attracted by the magnet n s. In like manner, present s to S, and

repulsion will take place; then s to N, and attraction will ensue: so that it is a general law, that poles having a like direction, repel each other; and poles having a contrary direction, attract each other. It is in magnetism then, as in electricity, poles similarly excited, will repel each other; and those oppositely excited, will attract; and, therefore, whatever it may be at or near the pole of the earth which attracts the north pole of the magnet, it must be in an opposite state of magnetism; and the same with regard to the south pole. This has led some to propose that they should call the north pole of the magnet, the south pole; and the south pole, the north. This language would tend sometimes to ambiguity, and therefore we will continue in this article to call that pole which points to the north, the north pole, and that which points to the south, the south pole.

There being two distinct kinds of action in magnetical bodies, scientific men have considered that there are two distinct species of magnetic fluid, the particles of the one fluid having the property of attracting the particles of the other; but when the particles are separate, they repel; each repels the particles of its own kind, &c. It is supposed, however, that when the particles of the same kind are combined, the action is neutralized, as is the case in simple iron and soft steel bars, which are therefore said to be passively magnetized.

Soft iron or soft steel cannot be rendered magnetic for a length of time. Hard steel can be rendered magnetic for a long time; and if sufficiently hard, the magnetic power will become permanent. The magnetic fluids do not seem to be separated in the middle of the magnetic bar, but both to exist in every particle of the bar, from one end to the other; a fact proved by the circumstance, that if you cut a bar through the middle, each piece will have its two poles, one pole at each end. From this fact it has been inferred, that in all bodies capable of being magnetized, both fluids exist, combined in each particle; but, when by any means they become separated, the body becomes actively magnetic. The cohesion of soft iron opposes little resistance to the separation of the two fluids; and, again, when the separating force is withdrawn, the tendency of the fluids to unite, receives little obstruction from the cohesion of the iron. On the other hand, the cohesion of hardened steel, opposes great resistance to the separation of the two fluids, and also great resistance to their reunion. This lays the foundation of the ordinary methods that have been devised for communicating magnetism.

When a bar of steel is chosen to be magnetized, the dimensions that ought to be preferred would seem to be, thickness 1, breadth 3, and length 30; the steel being polished, and brought to as hard a temper as possible.

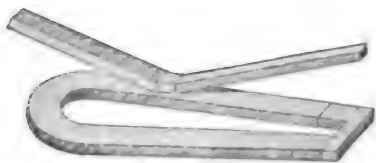
Different methods have been proposed and practised for magnetizing; but we will confine ourselves to the two that have been regarded as the best. The method of Du Hamel consists in placing two steel bars parallel to each other, but an inch or inch and half asunder, being connected at both ends by two cross pieces of soft iron. Let there now be taken two bundles of previously magnetized bars. Each bundle must have all its bars, with their like poles, in one direction. Hold now one bundle with the north pole touching the middle of one of the steel bars, and the other bundle beside it, with its south pole touching the bar; and draw the two bundles along, one to one end of the bar, and the other to the other end, repeating this process until both steel bars are completely magnetized. The advantage of employing the cross pieces of iron consists in this, that

the iron becomes, as it were, a connecting link in the succession of the particles of the magnetic fluid, holding them in a developed state, while the magnetizing bars are communicating a further degree of intensity. The annexed wood-cut represents Du



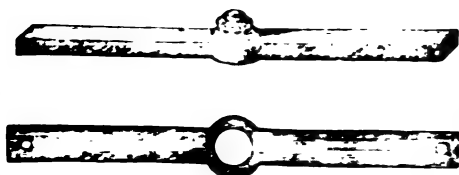
Hamel's method, where A B, A' B' are the two steel bars; A B' and A' B the two cross pieces of soft iron; and a b, a' b' are the two bundles of magnetized bars. Æquius improved this method by connecting the ends of the steel bars by strong magnets, instead of soft iron rods. He likewise made the rods to move at a small distance from each other, and inclined them in a contrary direction to that of Du Hamel.

Horse shoe magnets are formed by bending straight bars somewhat in the form of horse shoes, so that the two extremities may point in one direction, and be near each other. Connect the two extremities with a piece of soft iron, after the manner of Du Hamel. The horse shoe may then be magnetized after the manner of Du Hamel or Æquius.

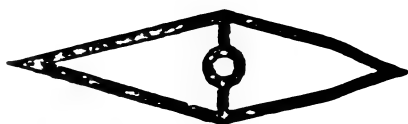


There are many other facts that might have been stated with regard to the magnetizing of iron, steel, nickel, cobalt, &c., but the nature of this work renders it necessary that we should confine ourselves to the more important points in this as well as the rest of the sciences.

The most simple magnetical instrument is the *horizontal needle*. This needle consists of a bar of hardened steel, magnetized. The bar is made of various forms, being commonly rectangular, but having a broad portion in the centre. There is a hole made in the middle of the broad portion, which is tapped with a screw, to receive an exterior screw turned upon a brass cap, into which is fitted a piece of agate, on which the needle is balanced upon a steel point. This form of the needle is exhibited in the accompanying wood engraving.



Another form of the horizontal needle is represented top of next column.

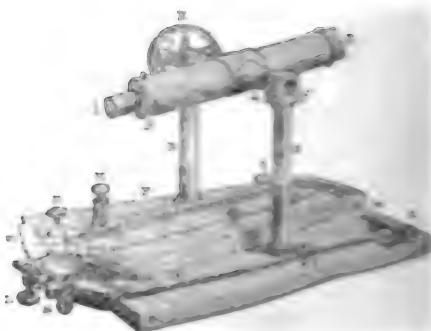


The needle, thus prepared, is suspended as before made of brass or wood. Below the needle a circular card is placed, whose circumference is divided into degrees or minutes, or more commonly into thirty-two equal parts, called points. The needle passes through the centre of the card. The four cardinal points are marked at 0, 90, 180, and 270, and the intermediate divisions are for the more very nice observations, half off an degree in minutes; and, should great delicacy be required, a needle is made to carry a vernier. When a compass is used for land surveying or astronomical purposes, the box is furnished with sights. The compass is used for observations at sea. It is also suspended upon a point, and the box in which it is contained, is hung upon gimbals, or forming a sort of universal joint, so that the needle and card may retain the horizontal position independently of the heaving of the vessel. Inside of the compass bowl or box is a small exception of a black line, caused the needle to be drawn parallel to the keel of the vessel, for the purpose of showing the difference between the ship's course to the magnetic meridian. There are various modifications of the sea compass, or variation compass, as it is commonly called, but on account of the superiority of the one over the other, in the excellence of the workmanship, and in any slight modifications in the form.

The *Azimuth compass*, or that intended for ascertaining the azimuth, or direction of any object compared with the magnetic meridian, differs in form from the sea compass, with this exception, it is furnished with sights, and the box in which the needle is suspended is capable of an horizontal motion round a pin in the centre of the bottom.

The *Variation compass*. A compass only intended for ascertaining small changes in the declination of the magnetic needle, either annual or diurnal, is commonly more limited in its arc of vibration, and generally longer than the needles used for the common purposes; it is also furnished with conveniences for reading closer than the common ones, otherwise any needle so mounted and directed, will be very sensible and capable of being read at minute divisions might be used as a variation compass.

The following cut represents the variation compass employed by Colonel Beaufoy, in making a compass



series of magnetic observations from the year 1813 to 1821; during which period the needle passed through its maximum of westerly variation in London.

The principal part of this instrument, viz., its needle, with the box and divided arc, to measure the angle of variation, is very similar to the instrument in the possession of the Royal Society; but it is greatly improved by the addition of a small transit telescope, which readily and accurately determines the true meridian, or the zero from which the degrees of the variation is to be measured. The box containing the needle is not fixed, as in many compasses, but turns horizontally on the centre, and has an index fastened to it, pointing to a divided arc on the brass frame on which it turns. The method of serving is, to move the box until a line drawn on the points exactly to the end of the needle, which being done, the angle of variation is shown by the divisions on the arc; F F is a mahogany board, which is the support of the whole instrument; it stands on the points of three screws G, H, I, by which it can be levelled. Above this is a flat plate of brass E E, attached to the board by the centre pin, and resting on three studs projecting from the board, to insure it having a perfect bearing, whilst it admits of a small horizontal motion round the centre by means of the screw W X. The plate E E has the divided arc *m*, fixed upon one end of it; and a vernier, D, moves against the divisions; it is divided upon a projecting part of a brass plate C C, which moves on the common centre pin of the plate E, and also the needle A A. The plate C C has two segments of brass at each end of the needle, and these have the centre lines drawn upon them, which are brought to the points of the needle when the observation is made. A light brass box *d d*, with a glass cover, is placed over the plate C C, to preserve the needle from disturbance by the wind; it also supports a small double microscope M, intended to assist in aiming when the index line points exactly to the end of the needle; the stem of the microscope is fixed to a dovetail groove, and can be removed to the opposite end of the box at pleasure. The centre of the plates E and C terminate in an extremely sharp point, on which the needle is suspended, having aagate cap, B, to diminish the friction as much as possible. The needle is of a cylindrical figure, about five-hundredth part of an inch in diameter, and six inches long; weighs sixty-five grains and a half, and is terminated by two conical points; the circular argument of the centre has a hole through it, for the reception of the brass socket B, which has the cap fixed in it; the needle is, of course, provided with the usual apparatus for lifting it off the point when not in use, to avoid wearing the point of pension; *a, a*, are two arms, screwing down upon the plate, carrying the vernier D; they support a brass frame, which has the usual clamp screw L, and a gentle screw R, the former to fasten it to the arc and the latter to give a slow motion, and adjust the box for the observation. The transit telescope, being supported over the instrument by two pillars, N, fixed on the brass plate, E E, and having small boxes *f*, at the top, for the reception of the index in which the pivots of the axis Q, of the telescope are supported: this axis is conical, and is fixed exactly at right angles to the tube O P, in the same manner as other transit instruments. On the extremity of one of the pivots of the axis, a small divided level R, is fixed, and has an arm at the opposite side turning about at the centre, and provided with verses to read the divisions of the circle; to this arm a small level S, is attached; the whole forming a circular index to set the telescope at any required angle, by setting the index at the proper division,

and then moving the telescope till the bubble of the level, S, shows the index to be horizontal; the eyepiece, A, of the telescope has a small dovetail in it to admit a dark glass for observation of the sun; *g g*, are the screws for adjusting the wires in the eyepiece as usual; there is also a detached level to adjust the instrument.

First, place the feet of the detached level upon the brass plate E E, in different directions, and bring it level by the screws H, I, G; then apply the level upon the two pivots of the transit, the covers of the boxes *f* opening with hinges for this purpose, and the bottom of the feet having notches to rest upon the pivots; if the axis does not prove level, one of the *y*'s must be elevated or depressed by a screw in the farther pillar N, until the level stands horizontally, and, reversing it, end for end, proves every thing to be correct.

Now set the vernier D, at zero, and put an additional object glass over the glass, P, of the telescope, and in this state the marks A A, against which the needle reads, can be seen through it when directed to them; this proves the zero of the division to be exactly in the plane of the telescope's motion; a small screw near Q will rectify it, if necessary, by moving the *y* a small quantity in the box *f*; the transit may be reversed in its *y*'s to rectify every thing.

The telescope is now to be adjusted to the meridian by the transit of the stars in the usual manner, the screws W, X, being used to turn the whole instrument round when requisite; but after these observations have been once made in a satisfactory manner, distant marks should be set up, both north and south, and these will give the means of adjusting it at once, and in the daytime.

The needle being suffered to settle, the box is turned about on its centre till its mark comes very near the point of the needle; the clamp screw, L, is then fastened, and the screw, R, is employed to make the coincidence exact, in which the microscope, M, greatly assists the eye. The vernier, D, now shows the angle of variation. It is proper, after the needle has been once observed, to attract it with a piece of iron, and cause it to make a slight vibration. When it settles again, it will not in all cases come to the same point, because of the friction of the suspending point; it is therefore advisable to make this trial three or four times, and take the mean of the whole.

The instrument is placed on a pillar in the open air, free from any iron, and is adjusted before every observation; the vernier is divided into half minutes, and if the meridian be not at a considerable distance, an advantage will be gained by diminishing the aperture of the object glass by a pasteboard cape. See *Variation*.

It may be worth while to remark, that this instrument will serve as a transit instrument for naval officers to examine the rate of their chronometers while on shore.

The only other form of the magnetic needle, which we shall here describe, is the *dipping needle*. This needle is so fixed, that instead of playing horizontally, its axis is parallel to the horizon; and therefore the only motion of the needle must be in a vertical direction. The extremities of the needle traverse a circular ring, divided into degrees and minutes, and adjusted by a spirit level, or otherwise, so that the zero shall stand at the end of the needle, when it is horizontal. The inventor of the dipping needle was Robert Norman, a compass-maker at Ratcliffe, about the year 1580. Some have endeavoured to find the latitude and longitude of places by means of the dipping needle.

**MAGNETISM, ANIMAL.** This name was given by Mesmer, in the latter part of the eighteenth century, to certain phenomena (not yet explained in an entirely satisfactory manner) produced by the action of one man upon another. The origin of the term was a fancied analogy between the action of the mineral magnet and that of the animal energy, or *vis vitalis*, to which these effects were attributed. Experience has shown the analogy to be unfounded. The principal means used to produce the effects of animal magnetism, are such as touching and stroking with the hands, according to rule (*manipulation*), breathing on a person, fixing the eyes upon him, &c.; the magnetized person must always be of a weaker constitution, and, if possible, of a different sex, from the magnetizer; and it is indispensable that he should be of a disposition to believe without doubting. The phenomena themselves consist partly in bodily sensations (for instance, chilliness, heaviness, flying pains, oppressions, &c.), partly in a diminished activity of the external senses, partly in fainting, convulsions, sleep, with lively dreams (magnetic sleep), in which the magnetized person is transported to higher spheres, observes the internal organization of his own body, prophesies, gives medical prescriptions, receives inspired views of heaven, hell, purgatory, &c., reads sealed letters laid on his stomach, and, when awakened, is totally unconscious of what he has experienced. At the same time, the soul becomes so elevated and refined, that the magnetized individual has an instinctive perception of the presence of the impure, and falls into fits at the approach of disbelievers in animal magnetism, and of all who investigate it by the rules of ordinary reason. Hence it is necessary to keep sceptics at a distance, when it is desired to witness the highest phenomena. The magnetized person shows a remarkable connexion with, and dependence on, the magnetizer, tasting what he eats, smelling what he holds before his nose, and no one else can bring him back from the magnetic state. In the sequel we shall give a brief exposition of the phenomena, as stated by Kluge, who appears, in his Attempt at an Exhibition of Animal Magnetism (in German), to have given the fullest account of them. A scientific investigation of the influence which we are considering is hardly consistent with the views entertained of it by its adherents, for they maintain that mere reason cannot approach, nor conceive this great mystery; it can be rightly apprehended only by a believer. Since the blow which magnetism received in 1821,\* the number of its adherents has been greatly diminished, and its pretensions have been much checked. The whole of its effects seem to be ascribable to a heated imagination, to an excitement, half spiritual, half sensual, and to a morbid sensitiveness. Animal magnetism originated thus: Anthony Mesmer (q. v.), in 1772, attempted cures with the mineral magnet, and excited some sensation in Vienna, but at length declared, that not the magnet, but a mysterious power in his own person caused the effects ascribed to the magnet, and that this power was related not only to the magnetic power, but to the attraction dispersed throughout the universe. But a fraud which he attempted (the pretended restoration of sight to a girl) having been discovered, he proceeded, in 1778, to Paris. The attention which he attracted there, and the final report of a committee of the academy on magnetism, or, as it is also called, *Mesmerism*, we shall speak of under *Mesmer*. The great supporters of animal magnetism have recently been Kieser, in Jena, and

Wolfart, in Berlin; the former explains the phenomena by the striking difference between life by day and life by night, both in the case of animals and vegetables; the latter adopts the system of Mesmer. (See *Archives of Animal Magnetism*, by Kieser, Nasse, and Nees von Eschscholtz, published since 1817, in numbers, and now with the title *Sphinx, or New Archives of Animal Magnetism*, and Wolfart's *Annals of Animal Magnetism*, *Lehrbuch des Magnetismus*, ten numbers, 1815 & on, among the numerous works on the subject, in German; *Histoire critique du Magnétisme Animal*, par J. J. Ennemoser's *Der Magnetismus in seiner natürlichen Entwicklung von allen Zeiten bis zu den Volkern* (Leipzig, (1819), in the spirit of these authors; Wolfart; J. C. L. Ziemann's *Geschichte der Entwicklung des Thierischen Magnetismus als Krankheitszustand* (Berlin, 1824), less prejudiced; *Des Magnétisme Animal*, by Bassevi Florence, 1824, and his book on an Inquiry into the origin, progress, and system of Animal Magnetism. By J. C. Comenius, 2d Edition, Edinburgh, 1836, 2 vols. 8vo. See also Russell's *Travels in Germany* (in Chambers' *Library*); *Foreign Review*, vol. v., where is a unfavourable historical account of the same; given; Tait's *Edinburgh Magazine* for Jan. 1840 and Chambers' *Edinburgh Journal*, No. 71.

We now proceed to an outline of the phenomena of animal magnetism, as described in the work of Mr Kluge, mentioned above. The phenomena are the case of the magnetizer and the magnetized, as follows:

1. *The Magnetizer.* He is generally superior, producing a positive effect only so far as to possess a higher degree of energy and vital power than a person magnetized. The man generally does more than the woman. If the magnetizer is a weak person, there either takes place no apparent effect, or the effects are inverted, viz. the patient does appear in him, and the negative is the person magnetized. If the magnetizer undertakes the manipulation of a susceptible subject, he experiences a glow, and the sensation of a grate like heat in the palm, and particularly from the base of the hand. If he covers his hands with wet pieces of electric bodies, he has not this latter being in operation is fruitless; but horns or leather gloves do not prevent the effect. After a certain period, the magnetizer feels a general exhaustion, a weakness in the digestive system, and a partial loss of power, in proportion to the susceptibility of the magnetized subject, and the duration of the operation. If the magnetizer, during the operation, is isolated with the magnetized and electrical bodies, his loss of power is not in the effects which he produces are stronger.

2. *Phenomena in the Person magnetized.* The phenomena produced in the subject by a passive operation, are of a double kind; either they have reference to the general state of the body, or are of a periodical, but last during the whole of the operation, therefore, may be considered as the general effects of magnetism; or they have reference to the particular activities of the organization. (1) The latter sort are 1. a general awakening and strengthening of the vital powers in all parts of the body, without considerable excitement, as well as in the system of the nerves and muscles, the vascular and digestive system, as the organs of secretion; 2. a slow movement over the whole surface of the body, in which every irregularity and local reaction is corrected, and the equilibrium restored; 3. a withdrawal of the heightened vital power from the coloring organs to others; 4. a diminution or total suppression of excitement producing the morbid action of the

\* A votary having become enceinte by a celebrated practitioner.

nerve. The magnetizer not only should have a stronger body than the person magnetized, but also a perfectly healthy one. He must have attained the maturity of his bodily powers, but must still be within the age of active life; the mind, too, must be sound and strong, in order to master the affections and passions, to have a living faith and a firm will, and thus to attain perfect control over this means of cure, as also over the patient. The phenomena of animal magnetism have been divided into six degrees. Those of the first degree are generally the following: first, the feeling of a strong current from the head to the extremities, after which a higher degree of heat follows, easily observable by the thermometer, greater redness of the skin, with increased perspiration, and a feeling of ease and comfort throughout the whole body. In the second degree, the warmth increases, and appears to the patient to diffuse itself from the stomach, as if from a central point, over the whole body. The pulse becomes generally fuller and stronger, and the breathing easier and deeper. The patient feels a heaviness in the eyelids, and an irresistible desire to close them. If he does close them, they seem to him cemented by the strongest power, and, during the remainder of the magnetic effects, it is impossible for him to open them. All the other senses, however, remain active, and their activity is often heightened. The patient knows, therefore, every thing which is done about him, though he is not always capable of speaking. At the close of the magnetic operation, he opens his eyes by himself, or with the assistance of the magnetizer, and feels generally strengthened and well. After this the patient observes, sometimes, a shining appearance before his eyes, similar to repeated lightning, a pricking in the points of the fingers and toes alternately, a heaviness and coldness in the extremities, unpleasant feelings about the region of the stomach, sickness, violent shuddering, shivering, cough, &c. The particular signs often accompanying the third degree, are, especially, swoons, convulsive tremblings, real convulsions, cataleptic and even apoplectic fits. This state generally begins with all the signs of an approaching drowsiness, repeated yawning, stretching, heaviness of the eyes, announce it. A deep sigh generally follows, after which the eyes close entirely, and a state begins similar to sleep, in which the patient seems to be deprived of all sensation and consciousness. In the fourth degree, the patient awakens, not from his sleep, but from himself, and regains his consciousness; he knows himself again, yet in a changed relation to surrounding circumstances. The external senses are either closed entirely, or their character is changed, and the internal sense only remains the same. The *somnambulist* (as he is called in this state), entirely awakened from himself, distinguishes with his eyes nothing of light and darkness, and not always even these, though, as is sometimes the case, the eyelids are open. The ball of the eye is either drawn up convulsively or stiff, the pupil widened and without sensation. Next, the sense of feeling is metamorphosed into that of seeing, so that the somnambulist can distinguish by it, not only the outlines of things, but their colours, with perfect precision. The region of the stomach becomes the central point of all sensation, and it is chiefly through this region that the sense of sight is supplied. The somnambulist, therefore, can ascertain the time perfectly well by a clock, closely held to the pit of the stomach. By repeated exercise, the patient obtains this faculty in a higher degree, and what originally appeared to him distinct becomes very clear. Persons appear to be more distinct than inanimate subjects. Hearing likewise performed in this state by the pit of the

stomach, and the sense of smell becomes sometimes so acute as to distinguish the different ingredients of compound scents. Objects which the person does not regard in a healthy and natural state, have often very sensible, and even dangerous effects on him when in a state of somnambulism. The vicinity of a living being, whom the patient perceives at a distance of ten to fifteen paces, is generally very disagreeable to him. If persons whom he dislikes touch him, paleness and coldness occur in the parts touched, and convulsions are generally the consequence. Among inanimate subjects, metals have the most unpleasant effect. To the magnet the somnambulist is still more sensitive than towards other metals. Of every thing which has occurred to the patient during this period, what he has perceived, thought, said, or done, he has, when awaking, either no recollection or a very faint one; but if he is brought again into this state, he recollects every thing very well. In the fifth degree, the patient attains, by his heightened consciousness and the increased strength of his general feelings, to that internal self-contemplation by which he is able to investigate even the minutest parts of his bodily structure. By virtue of this accurate knowledge of his internal frame, the *clairvoyant*, as he is called in this state, not only determines very distinctly the seat and quality of his disease, but at the same time an instinct develops itself in him, which makes him understand the means necessary for his cure. Besides mentioning the remedies, the *clairvoyant* also indicates the kind of magnetizing necessary, and thus directs his own cure. This deep insight is not limited to the *clairvoyant's* self, but extends to persons brought into magnetic relations with him, whose sensations are always communicated to him. Between the magnetizer and the *clairvoyant* this sympathy is the strongest and most remarkable. Very often the feeling of disease in the magnetizer is not only communicated to the patient, but the disease itself, which, in some cases, has continued after the patient was awakened. Affections of the soul also pass from the magnetizer to the *clairvoyant*. Sometimes this sympathy reaches such a height, that it remains even when the parties are distant from each other. This magnetic sympathy may be still more heightened, and then the *clairvoyant* has a clear insight into the internal physical state of persons in a magnetic connexion with him, just as he has of his own; can determine their disease, its course, and future phenomena, and prescribe the means of cure accordingly. He insists that he perceives the diseased state of others precisely as his own by the stomach. His language becomes more elevated than ordinary, and is marked by fire, spirit, precision. His perception is livelier and stronger, his thinking freer, deeper, his judgment quicker and more penetrating. He not only perceives the present, and the influence of external relations, much more distinctly than before, but penetrates also into the most distant period of past time, by way of memory. There is an obvious inclination of patients for each other, if they are treated by the same magnetizer, and particularly if they are in a state of somnambulism at the same time. The patient who has attained internal clearness by the fifth degree, penetrates, in the sixth degree, the darkness of external things, and attains a higher view of the whole of nature. With uncommon clearness he often distinguishes the secrets of the past, what is distant and unknown in the present, and the events of coming time. If the patient is asked how he knows all this, he generally answers, that it is as if he were told of it by some other person, or that he feels it through the pit of the stomach. He is always fully convinced of the truth of what he thus acquires. In respect to

the choice of proper remedies, the *clairvoyant* is less limited than before. In the former degree, it was necessary to put him into connexion with another person, by intermediate bodies; but, in this degree, he can be in this relation with any distant person, if he knows him, or feels a lively interest for him, or even if the magnetizer, or any other person brought into connexion with the *clairvoyant* by actual touch, knows the distant person, and thinks intently of him. The view of the *clairvoyant* extends even into the future condition of others. In this degree, he attains to a higher, fuller life than he had before. The body seems to be intimately amalgamated with the mind, to be blended into the most harmonious union with it. The individual is removed from everything coarse and sensual, and placed in a state of serene and elevated self-contemplation. The feeling of the greatest bodily comfort and purity of soul produces a serene peace within him, which expresses itself in the nobler expression of the whole body. In this state, which, according to the *clairvoyants*, borders on heavenly felicity, they are incapable of impurity, and even the guilty obtains the feeling of virtue.

Such are the wonders of animal magnetism, of which our readers may believe much or little. The attention which the subject has attracted in Europe is our excuse for the length of this article. The footing which it has gained, and the effects which it has produced, exemplify, strikingly, the power of imagination. It would require too much space to describe all the various manipulations and other operations by which the patient is placed in the magnetic state; for information respecting these, see Kluge's work, already cited.

**MAGNIFICAT.** The words which Mary pronounced when she visited Elizabeth (contained in chap. i. of Luke, 46—55), begin, in the Vulgate, *Magnificat anima mea dominum* (My soul doth magnify the Lord). Hence the whole of her thanksgiving, on this occasion, has been called the *magnificat*. The present usage of the Roman Catholic church is, to chant or pronounce the *magnificat* every day, at vespers. It has often been set to music, and forms part of the musical cyclus of the Catholic church. The *magnificat* is also often used in Protestant church music, on the European continent.

**MAGNIFICENCE** (*highness, eminence*); a title applied to the rectors and chancellors of the German universities, and to the burgomasters of free cities. A prince who takes the office of a rector is styled *magnificentissimus*.

**MAGNIFYING GLASS.** See *Microscope*.

**MAGNISA**, or **MANIKA** (anciently *Magnesia ad Sipylum*); a town of Natolia, near the Sarabat; twenty miles N. E. of Smyrna; lon. 27° 18' E.; lat. 38° 44' N. The streets are wide, the mosques painted white, and the houses better than in most other towns in this part of Natolia. It is situated at the foot of the ancient mount Sipylum, whose top is always covered with snow. It is celebrated in history by the victory of the Romans over Antiochus the Great. Under John Ducas, it was made the capital of the Greek empire. The greatest ornament of the ancient town was a temple of Diana, called *Leucophryene*, or the *White browed*. The environs were formerly celebrated for the production of loadstone, and it is supposed the word *magnet* is derived from it.

**MAGNITUDE, APPARENT.** If straight lines be drawn from the extremities of a visible object to the centre of the pupil of the eye, the angle formed by them is called the *visual angle* or the *apparent magnitude* of the object. This angle varies with the different distances of objects, being larger when they are near, and smaller when they are remote. Hence

our idea of the magnitude of any object, depends only upon its true dimensions, but also upon the angle under which we view it; and objects of different dimensions will appear of equal magnitude if the visual angles under which they are seen are equal. Thus, for instance, the sun and moon seem to have their diameters are vastly different and yet appear of equal angle of about a degree. Besides, various perspectives and optical illusions, which we are never overcome, modify our ideas of the magnitude of objects. One of the most remarkable causes of involuntary deception, is that which occurs when experienced in looking at the moon when it is just risen, it appears larger than when it is near the zenith. In the horizon, we are apt to judge it at a greater distance from us than in the zenith, because in the former case there are intervening objects with which we can compare it, but in the latter such objects occur. If the moon is viewed through a telescope, or an open tube, so as to remove all intervening objects, it will appear of equal magnitude in both cases, and the whole illusion is immediately vanish.

**MAGNOLIA.** The magnolia tree is so admired on account of the elegance of its form and foliage. Their leaves are alternate, point and, in one species, evergreen; and their flowers large, white or yellowish, solitary at the extremity of the branches, and, in some species, very large. The leaves and wood are also more or less smooth. They are in great request in gardens. They are in general is soft, spongy, and of no great value.

The *M. tripetala*, or *umbrella tree*, so called from the disposition of the leaves, is a rounded shrub towards the extremity of the branches, within the whole extent of the Alleghenies, as far south as the forty-third parallel of latitude. The wood is soft, and the flowers are very large, the latter having but one or twelve white petals, the three exterior ones being reflexed.

The *M. acuminata* inhabits the same district as the preceding. It is a lofty tree, attaining a height of eighty feet, with a proportional trunk. Its flowers are inodorous, and have from six to ten petals of a greenish-yellow colour. The wood is pubescent beneath. The wood is soft, but strong and susceptible of a brilliant polish; it is commonly sawed into boards, and used in the construction of houses. From the shape of the fruit, which is about three inches long, it is usually called *cornucopia*.

The *M. auriculata* is readily known by its three lobes at the base of the leaves. It inhabits the south-western parts of the Alleghenies.

The *M. cordata* also inhabits the same parts of the Alleghenies. The leaves are smooth, pubescent beneath, and the flowers are white, attains the height of forty or fifty feet.

The *M. macrophylla* is remarkable for the size of its leaves and flowers. The former are from two and three feet long, and the latter are equal of a foot in diameter. The petals are from six to nine in number, and the three exterior ones have a purple spot at the base. It inhabits the south-western parts of the Alleghenies, but seems to be confined to certain limited districts.

The *M. glauca*, or *braveo wood*, is a handsome little tree, or rather shrub, with more or less flowers much smaller than in any of the preceding. It attains the height of fifteen or twenty feet. The leaves are smooth, elliptical, obscure, and glaucous beneath. Its flowers are very elegant, and diffuse a delicate fragrance, though rather too powerful to be shut up in an apartment. The tree is said to have also a strong aromatic taste. It grows in various situations in the Atlantic states, from New York to

to Florida, and along the borders of the gulf, beyond the mouths of the Mississippi, but is not found in the upper country, nor west of the Alleghany mountains.

The *M. grandiflora*, or big laurel, is confined to the lower parts of the Southern States, from North Carolina to Florida and Louisiana. It is a lofty and magnificent tree, with large evergreen leaves, and white flowers, which are conspicuous at a great distance. Magnolias are wanting in Europe, as well as in Western Asia, but towards the south-eastern part of this latter continent, we again meet with them.

The *M. yulan* grows to the height of thirty or thirty-five feet, and the large and numerous white flowers, expanding before the development of the leaves, give it a very ornamental appearance.

The *M. purpurea* is a shrub, bearing large flowers, which are purple externally.

The *M. fuscata* is also a shrub, with small, dusky, flowery, and delightfully fragrant flowers. Some magnificent species have lately been discovered on the mountains of the north of India.

MAGOG. See Gog.

MAGPIE (*corvus pica*, L.). This crafty and well known bird in its habits and manners much resembles its brethren the crows; like them, it indiscriminately feeds on both animal and vegetable food; it is peculiarly destructive to the eggs and young of the feebler tribes of birds. It is about seven inches in length, and weighs from eight to nine ounces. It has a black bill, wings and tail; the latter are variegated with white, green, purple, and blue, of different shades. The construction of the nests of these birds shows great art, they having a thorny cover, and the entrance being at the side. The female lays from five to seven pale-green eggs, closely spotted with black. When taken young, they readily become domesticated, and learn to repeat many words, and even sentences, as well to imitate every noise within hearing. This faculty appears to have been known to the ancients, as Pliny relates an account of the performances of some of these birds belonging to a barber in Rome. Like the other birds of the crow kind, the magpie is a notorious thief, and will not only steal food, but will pry off any articles within its reach, particularly such as are shining, as buttons, spoons, jewelry, &c., which it carefully conceals in its nest. Its general character has been described by Goldsmith in the following terms:—"Were its other accomplishments equal to its beauty, few birds could be put in competition. Its black, its white, its green, and purple, in the rich and gilded combinations of the glosses of its tail, are as fine as any that adorn the feathered world. But it has many of the qualities of a beau, to appreciate these natural perfections: vain, restless, and quarrelsome, it is an unwelcome intruder everywhere, and never misses an opportunity, when it finds one, of doing mischief."

MAGYARS; the original name of the Hungarians, which they still use in preference to any other. They first became known about the year 626. They came from Asia, but there are different opinions as to their original residence. It is most probable that they lived in the region about the Caspian sea, between the river Kama and the Ural mountains. A similarity which has been thought to exist between their language and the Finnish, has led to the conjecture that they were of Finnish origin. After various expeditions in Asia, they entered Europe at the close of the seventh century, and settled in the vicinity of the Ingul, between the Dnieper and the Black Sea (in the present government of Ekaterinoslav). They remained more than 200 years, until they were finally forced to retire before the attacks of the Pet-

sheneges. In the last half of the ninth century, they passed over to Dacia, under their leader Arpad, settled in Pannonia in 896, and established a kingdom there. The ancient annalists sometimes call them *Turks*, but commonly *Ugner* (*Hungarians*). The country itself was called, from them, *Hungary*. (q. v.)

MAHA (in Sanscrit, *great, large*); a prefix to many names, as *Mahanoddy* (great river).

MAHABHARATA. See *Indian Literature*.

MAHE; a town and fortress of Hindoostan, on the coast of Malabar, belonging to the French; thirty-two miles N. W. of Calicut; lon. 75° 38' E.; lat. 11° 43' N.; population, about 6000. It is a neat town, and a station of the East India company's commercial agent, and carries on a trade in pepper, sandal-wood and cinnamon.

MAHMOUD, first sultan of the Gaznevide dynasty, was son of the governor of Chorasán, and sovereign of Gazna. He was sixteen years old when his father died, in 997. He drove the king of Turkestan from Chorasán, and, in 1001, invaded Hindoostan, and captured Gehal, a powerful prince. In 1002, he reduced Khalif, the revolted governor of Segestan. He repeated his invasion of India, returned, and overcame Ileik Khan, who had invaded Chorasán. He defeated him a second time, though Ileik had been joined by Kader Khan, with 50,000 horse. He now extended his conquests far and wide, and acquired immense treasures. In 1029, he conquered Persian Irak. He died in 1030, after a prosperous reign of thirty-one years. He is extolled by the Mohammedan writers, for his regard to justice, and his zeal for the propagation of his religion, which he spread in India by the extermination of a vast number of idolaters, and the demolition of their temples.

MAHMOUD II.; khan and padishah, sultan of the Ottomans, the twenty-ninth sovereign of the family of Osman, the twenty-sixth grand sultan, and twenty-first caliph, "the shadow of Allah upon earth;" an absolute prince, who, possessing by nature the disposition of a despot, has been obliged, for a great part of his reign, to contend against rebellions in the provinces, and the insubordination of the janizaries. He is the second son of Abd-ul-Hamid, who died in 1789. His life forms a brilliant chapter in modern Turkish history. He was born July 20, 1785, and was brought up in the ancient seraglio. (See *Ottoman Empire*.) Mustapha IV., the elder brother of Mahmoud, who ascended the throne in 1807, had already, according to ancient custom, ordered him to be put to death, that he might have no competitor to fear, when Ramir Effendi, paymaster of the army, at the head of 2000 Albanians, rescued the prince. The valiant Bairaktar, pacha of Ruschuk, immediately deposed Mustapha IV., and girded Mahmoud with the sword of Osman, July 28, 1808. Fourteen weeks afterwards, the janizaries, offended by the military reforms made by the grand vizier Bairaktar, took the seraglio by storm. Bairaktar immediately ordered the execution of Mustapha and his mother, and then blew himself up with his enemies. This happened Nov. 16, 1808. (See *Ottoman Empire*.) The battle between the Seyeims (infantry on the European system, in favour of whom the sultan Mahmoud had declared himself) and the janizaries was continued thirty-six hours longer in the seraglio and the capital, amidst pillage and conflagrations. The rebels gained the victory, and, for the preservation of his life, Mahmoud was compelled to send deputies to them, and to submit unconditionally to their demands. After these horrors, Mahmoud was not able to execute any plan of reform in the army, although he still persevered in his intention. At every attempt, the janiz-

aries obtained by force the discharge and execution of the commanders and ministers who undertook to establish order and discipline. Mahmoud thought only of securing himself upon the throne, stained with the blood of his uncle Selim and of his brother Mustapha. He therefore, according to Pouqueville, murdered the son of Mustapha IV., an infant three months old, and ordered four pregnant sultanas to be sewed up in sacks, and thrown into the Bosphorus. Thus he remained the last and only descendant of the family of the prophet. His will was now made known by the severest orders. Without advisers, without resources, and almost without an army, he continued the war with Russia, and against the Servians. At length, when he was totally exhausted, his divan concluded a treaty at Bucharest, with Russia, May 28, 1812. This measure was advised by Britain, but disappointed the expectations of Napoleon, who, in connexion with Austria and Prussia had pronounced the integrity of the Porte. (See *Ottoman Empire*.) Having been educated in the seraglio, where the *valide*, or sultana mother, according to ancient custom, never calls her son otherwise than, *My lion, my tiger!* the grand seignior knows no law, but some forms of custom, and has no regard for any constraints but those of necessity. The circumstances of horror, under which he ascended the throne, and the dangers which perpetually surrounded it, hardened his heart and blinded his judgment. As every sultan is directed to learn some art, he chose calligraphy. Vain of his skill, Mahmoud resolved to write with his own hand all the *kiat-sheriffs*, or orders, in his own name, and to keep a journal of his thoughts. His papers soon accumulated to such a degree upon his sofa, that he looked around for a private keeper of the archives. He found a suitable person for this office in his barber (Berber Baschi), who was doubly worthy of his confidence, because he could neither read nor write. Khalet Effendi, a courtier, who amused and ruled the sultan by his buffoonery, also occupied a high place in his favour. Berber Baschi introduced this Khalet to Mahmoud; he had once been his companion in the coffee-houses of Galata, a clerk of the corporation of butchers in Constantinople. He was afterwards, in 1806, the ambassador of Selim III. to the court of Napoleon. These men were the centre of all the intrigues which spread from the seraglio to the provinces. Khalet soon amassed great wealth by means of presents, and his influence became so important, that he completely governed the sultan and the submissive divan. But he was unable to persuade the mufti to admit him among the ulemas. (See *Ottoman Empire*, at the end of the article.) This privileged caste scorned to receive the universal favourite, because he was the son of a man who sold livers, and, moreover, a child of the world, who drank wine. Khalet punished the mufti with banishment. The new mufti, therefore, and Ali, the new grand vizier, were eager to employ every means to conciliate the favour of Berber Baschi and Khalet Effendi. The latter, however, avoided receiving any important office, lest he should be held responsible for the ill success of any measure which he advised. But he divided the spoil with the governors, who plundered the provinces, and who bribed the principal members of the divan; and was careful that no complaint should reach the sultan's ears. Pouqueville maintains, that the grand seignior himself shared with his favourite the sums extorted from the rich. Mahmoud exhibited, however, a proud and inflexible disposition towards Christian princes. The speedy execution of justice in the capital, united with the severe and bloody police, over which Mahmoud, who not unfrequently walked

about incognito, kept watch, show that he was not deficient in energy or talent. But the peace and the powerful always remained at a distance in humour, his avarice, and his suspicion. As high officer, whether guilty or innocent, was never his property or his life; hence the universal disposition for a revolution, and the striking policy of the divan, to make the enemy enemies of their mutual destruction, and thus to secure the treasures of both parties. The republics have therefore been a continued scene of internal rebellions. The Servians surrounded a table of the yoke of the pacha of Belgrade; Mahmud I. Pacha, conqueror of the Mameluke by the Wechabites, became almost alone master of Egypt; by means of bloody insurrections from Widdin, Damascus, Trebizond, to Jeddah, Aleppo, Bagdad, Lattakin, Anarchy, Latakia and other pashalicks, changed three times a bold and crafty Ali, in Janina, raised himself to the throne of Epirus. To make himself master of the treasures of this pacha, Mahmoud, by the son, Khalet Effendi, accused him of high treason. His policy involved the Porte in a civil war, which betrayed its weakness, drove the Greeks to despair and brought on their revolution. A French embassy informed the Porte of the plan of the Greeks, and Khalet Effendi resolved to accept them. In the name of Mahmoud, he gave the following commission to the secretary of state, Khurschid Pacha—"Every Christian capital-bearing arms must die; the boys shall be crucified and educated in the military discipline of Europe; not to offend the ulemas, they shall be styled *janizaries*."† All the decrees which manifested the fanaticism of the Mussulmans in the capital, in the provinces, the equipment of the militia for war, favourable prophecies in the name of the prophet, the proscriptions and execution of the rich, the profanation of Christian churches, &c.—all these, Pouqueville says, proceeded from the seraglio, and were the work of Mahmoud. Greed and avarice led the sultan and his favourite to measures of terror, while, by letters extorted from the patriarch, and promises of assistance, made out to be violated, they strove to persuade the Greeks to lay down their arms. The grand seignior was present when the innocent prince Constantine Morousi was beheaded. He beheld from a balcony of the seraglio the bodies of the patriarch Gregory, and of the murdered members of the Council of the dragged by Jews, and thrown into the sea. He witnessed the execution of the princes Morousi and Chantserys, with a multitude of rich merchants and bankers of the Porte. When Mahmoud died, he last, succeeded in destroying his enemies in the capital and in the two principalities where the rebellion originated, while the distracted provinces in the provinces had been subdued by various pachas, and the head of the formidable Ali by his feet; when he had happily concluded a treaty with Persia by the peace of 1813, brought about the mediation of Britain, and had no more to fear from the Wechabites,—then it was, after many perils, that, intoxicated with apparent success, every day grew more cruel and more oppressive. The children and grand-children of Ali, who had surrendered themselves on the faith of British promises, were put to death. Inflexible as that policy,

\* See Pouqueville's *Histoire de la Régénération de l'Empire Ottoman* (History of the Regeneration of the Ottoman Empire), i. 131.

† After the fall of Ali Khurschid was ordered to execute the seignior to massacre the whole Greek population of the capital, showing no compassion even to women and children, exterminate the Morousi, and to lay waste the whole of Constantinople. Pouqueville, iii. 325.

termination which he had conceived against the Greeks, he submitted to the powers of Europe in 1824 a few particulars relating to the restoration of the churches and of the advantages of trade, and, after the intercession of the British ambassadors, in three years, he consented to the evacuation of Moldavia and Walachia, June 23, 1824. When the diplomatic corps in Pera protested against the execution of the prelates, he answered—"The sultan is absolute, independent sovereign, accountable for his actions to no man." His divan, likewise, refused to send a plenipotentiary to the congress of Verona. Mahmoud trembled whenever the rage of the janizaries, whose severe generals tried in vain to die them, wasted the capital with fire and sword; sacrificed every thing to calm their fury—the stable men in the state and in the army, his nearest relatives, his most tried friends, and even Khalef Effendi, whose services were indispensable to him. In this favourite the janizaries saw the author of the fatal Greek revolution, and of those excessive exactions which were intended to supply the extravagance of the seraglio. They commenced attacks upon him by posting up pasquinades on the walls; scurrilous songs were sung in the streets respecting Khalef Effendi and Khasnadar Usta, the favourite slave of the sultan, who, it was said, cost him more than it would to support a whole army.\* In vain did Khalef endeavour to appease the storm himself, by executing the generals, whom he charged with the misfortunes in Greece, and the Greek generals, whom he accused of being traitors; in vain did he lavish gold, with an unsparing hand, on the rebels; the highest men of the empire themselves prepared his destruction, because he enjoyed the confidence of the grand seignior. He and his creatures, the grand vizier, Salik Pacha, and the mufti, were accused of wishing to dissolve the janizaries and substitute disciplined troops in their stead. A rebellion finally broke out in November, 1822, and the sultan banished the grand vizier, the mufti, Berberchani, and Khalef Effendi; a vast number of officers were executed or dismissed. Khasnadar Usta, the favourite slave, was committed to the chief of the police for correction, and shut up in the prison of the harem, with several Odalisks. Khalef retained his property, and retired to Iconium, the place of his birth, with a princely retinue. But his enemies soon succeeded in persuading the sultan to gratify his own vengeance, and confiscate the wealth of his favourite. This measure was immediately followed by a firman ordering Khalef to death. He was executed Dec. 1822. The rage of the janizaries, though he considered himself secured by a firman under the hand of the sultan, and his friends and creatures suffered the same fate. Mahmoud complied with every wish of the janizaries, which was made to him by their representatives in the divan. When peace seemed to be restored, when Scio was destroyed, and the war with Persia brought to a close, he resolved to punish the insolence of this soldiery. The grand vizier Mehmed Ali, a friend of the janizaries, and the aga of the janizaries, both enemies of Khalef, were deposed and put to death. Great preparations for the fourth campaign against the Greeks, in 1824; the prospect of speedy reconciliation with Russia, which answered to the divan the mission of the marquis de Rivaroli, as its minister, to Constantinople; the lordship by the viceroy of Egypt against Candia and Morea; the arrival of the French ambassador, M. de Guilleminot; the friendly connexion of the sultan with Austria and Britain; the fall of Ipsara,

July 3, 1824;—in fine, every thing conspired to fill the sultan with the proudest expectations. But when the severities of his son-in-law and favourite, Hussein, aga pacha of the janizaries, and the measures of the grand vizier Ghalib, renewed the old spirit of sedition; and when news arrived from Thessaly, where the seraskier, Dervish Pacha, was defeated by the Greeks in June, 1824, and from Epirus, where Omer Vrione had effected nothing for the Porte; when the Greek fleet appeared before Ipsara and the Dardanelles, and the expedition of the capudan pacha against Samos failed,—then the rage of the janizaries in Constantinople burst forth with redoubled violence. Their hatred against Mahmoud was vented in the boldest threats, and he was accused of having represented his eldest son, Abd-ul-Hamid,† who was born March 6, 1818, as subject to epilepsy; and of having, under this pretence, withdrawn him from view, that he might poison him with impunity, if the insurgents should seek to place him upon the Ottoman throne. To avoid massacres and conflagrations, and to save himself, Mahmoud deposed Hussein Pacha and the aga of the arsenal, in August, 1824; banished them from the country, and led the prince with him into the mosque. September 14, he was obliged to appoint the pacha of Silistria, a friend to the janizaries, to succeed Ghalib as grand vizier. As the dangers thickened around him, Mahmoud grew more firm. He was gradually maturing the plan of a total reformation. He commenced with severe measures: August 12, 1825, he went so far as to forbid the Bible of the Christians to be distributed in his empire. Greater activity and important improvements in the arsenal and in the marine; at last, gave the Ottoman fleet a kind of superiority over the Grecian. The new seraskier (Redschid Pacha), and the new capudan pacha (Khosrew) were more fortunate than their predecessors. From the viceroy of Egypt the divan received the most important aid in the Morea; but they delayed from month to month the redress of the complaints of Russia. At length, when the emperor Nicholas resolved to bring the affair to a speedy termination, Mahmoud was forced to accept, May 14, the ultimatum of April 5, 1826, which was delivered to him by Minskiy. The Turkish troops now evacuated Moldavia and Walachia. The question between Russia and Turkey was also settled by the treaty of Ackerman, Oct. 6, 1826, and Mahmoud granted to Russia all her demands. The treaty here agreed upon, however, was not carried into effect until May, 1829, after which the Russian minister, M. de Ribaupierre, had an audience with the grand vizier and the grand sultan, June 7 and 14. Mahmoud was made compliant principally by the dangerous reform which he had commenced in his troops. He had long resolved to dissolve the janizaries, and the burning of the village of Galata by them (Jan. 3—5, 1826), decided him to put his plans into immediate execution. With this object, he issued (May, 29, 1826) a hatt-i-sherif on the discipline of the janizaries and the reorganization of the army. In consequence of this, a general rebellion of the janizaries in Constantinople took place (June 14); but the sultan unrolled the banner of the prophet, and after a bloody contest, repulsed the insurgents on the 15th. A fetva of the mufti, seconded by a firman of the sultan, now declared the janizaries dissolved. On this occasion, the grand seignior distinguished himself, as well for his courage as for his firmness. For many days and nights, he encamped with his ministers and generals on the

in her representation, Mahmoud ordered that the villa of Scio, which supplied the harem with luxuries, should be spared.

† This prince died in 1827. The second son, Mahmud, died in 1822, and there is now living only Abd-ul-Medchid, who was born April 30, 1823, and Abd-ul-Aziz, born February 3, 1830.

Atmeidan. He used every effort for the formation of an army on the European system, and succeeded in one of the most perilous reforms ever undertaken.—For further information, see *Janizaries*; for the consequences of his refusal in regard to the Greek question, see *Greece, Revolution of*, near the end; for the late war between Russia and Turkey, declared on the part of Russia, March 14, 1828, in consequence of the breach of the treaty of Ackerman, see *Russia and Turkey*.

**MAHOGANY**; the wood of the *swietenia mahagoni*, a lofty and beautiful South American tree, allied to the *pride of India*, so commonly introduced into the southern parts of the United States, and belonging to the same family—*meliaceæ*. The leaves are pinnate, composed of four pairs of oval, acuminate, entire leaflets, and destitute of a terminal one. The flowers are small, white, and are disposed in loose panicles. The fruit is a hard, woody, oval capsule, about as large as a turkey's egg. The wood is hard, compact, reddish-brown, and susceptible of a brilliant polish. It is one of the best and most ornamental woods known, forming very elegant articles of furniture. It is brought principally from Honduras and the West Indies, from which places it is exported, in vast quantities, to Great Britain, the continent of Europe, and especially to the United States, where it is so abundant and cheap as to have brought into disuse many native kinds of wood, which otherwise would be highly esteemed in cabinet-making. The tree is of rapid growth, and its trunk often has a diameter of four feet. Mahogany-cutting constitutes a principal occupation of the British settlers in Honduras. Gangs of Negroes, consisting of from ten to fifty each, are employed in this work: one of their number is styled the *hunterman*, and his duty is to traverse the woods in search of the trees. When these have been discovered, a stage is erected against each, so high that the tree may be cut down at about twelve feet from the ground. After the branches are lopped, the task commences of conveying the logs to the water's side, which is often a work of considerable difficulty. They now float down the current singly, till they are stopped by cables, which are purposely stretched across the river at some distance below. Here the different gangs select their own logs, and form them into separate rafts, preparatory to their final destination. In some instances, the profits of this business have been very great, and a single tree has sometimes been known to have produced about £1000. Mahogany now begins to be rare in St Domingo, Jamaica, and the other West India islands. It is said to have been introduced into Britain about the year 1724.

**MAHOMET**. See *Mohammed*.

**MAHON**, PORT MAHON (*Portus Magonis*); a town on the eastern coast of the island of Minorca, of which it is the capital; lat. 39° 51' N.; lon. 4° 18' E. It is the residence of a governor and the principal authorities of the island. It is built chiefly on lofty rocks, and enjoys a pure and healthy air. The houses are generally well constructed, neatly kept, and provided with cisterns. Its harbour is one of the safest and most convenient in the Mediterranean. It is capable of accommodating large fleets, but at the entrance there are some shoals. It is defended by three batteries, and eight large pieces of cannon. There are four islets near, one of which contains a spacious naval hospital for 800 patients, founded by the British in 1711; another, the quarantine buildings; a third, one of the finest lazarettos in Europe, for 1500 inmates; a fourth, an arsenal. A natural mole runs along the harbour, and is occupied by shops with naval stores. Mahon was taken by the British in 1706; by the French in 1756; re-

stored to the former in 1783; and taken by the Spaniards, after a memorable siege, in 1812.

**MAHRATTAS**; a Hindoo nation in the west part of the Deccan. They first became known to Europeans in the beginning of the sixteenth century, and have become celebrated within the last few years. They originated from the Saptas, a warlike tribe. Being driven by the Saptas from the provinces of Hindostan, where the first settled to the mountains extending from the west. The various tribes of which the nation consisted, were united into a monarchy, the founder of which, Sevajee, died in 1680. The capital is a town named Satarah. Inured to the hardships of the campaigns of war, accustomed to live on horseback and armed with excellent swords, they met the Comacks, with their heavy horse, and a cavalry which was the terror of the empire, upon whom they made frequent marches. In 1696, Aurangzeb attacked the Comacks, and the inhabitants called in the Mahrattas to assist them. The formidable conqueror found it prudent to conclude a treaty on terms very advantageous to him. After the death of Aurangzeb, the Mahrattas took advantage of the dissensions which arose in the Mongol states, to extend their own territory. Their territory amounted to about 500,000 square miles, the greatest part of which was unincorporated. The sovereigns of this powerful monarchy, the successors of Sevajee, bore the title of *moosah* (great prince). They abandoned the administration of a government entirely to their ministers, who were held as prisoners. The last of the great Ram Rajah, ascended the throne in 1714, at the age of eight years. His prime minister, the *moosah* (grand vizier) Bajeeerow, took advantage of the minority of the prince, seized the reins of government, with the aid of Rajoojee, another minister, and confined Ram Rajah, (who remained a prisoner to death in 1777), though he left him a show of dignity. Bajeeerow, with the other minister, then partitioned the territories as independent states, the former assuming the western provinces, and his residence at Poomb. His kingdom was the empire of the Poomb-Mahrattas. Bajeeerow divided the eastern provinces, established his court at Poomb, and founded the empire of the East Mahrattas. Bajeeerow died in 1761. The dignity of prince was hereditary in his family. His successor, a government was formed in 1777, consisting of two Bramins, which left the president sitting in executive power. This division of the Mahrattas could not be effected without the consent of the principal governors of the empire, and they were gained by additions of power and money. Hence many Mahratta princes arose, and they were only in appearance dependent upon the sovereigns of the more extensive districts, such as the German princes, and the British.

1. The empire of the Poomb-Mahrattas comprehended the whole coast from Goa to Calcutta, and was surrounded by Mysore, Gouda, Raichur, and the Mahratta principalities of Gouda, Raichur, and Indore. It contains the most important portions of the Bombay presidency. Bajeeerow entered the Mussulmans in 1760, and extended his empire to the banks of the Indus. This brought the Mahrattas in contact with the territory under the Mahrattas, formerly a general of Nadir Shah. The British, having formed a plan for driving the Mahrattas out of the country, and extending the empire of the Mahrattas over all India, the whole country was divided (1759—61) into two parties. The Mahrattas adhered to Abdallah, and opposed 25,000 strong in the plains of Carnatic and Poomb. The

Mahrattas, together with the Jats, were 200,000 strong. After a long and bloody battle, the latter were defeated, and lost all hopes of the supremacy over India, which had been the object of the war. Bajeerow died soon after. His son Maderow died in 1772, his grandson Narain Row was assassinated in 1773, by his uncle Ragobah. The latter could not, however, obtain quiet possession of the *peishwaship*, for a posthumous child of Narain was acknowledged for his lawful son. Ragobah offered the British the island of Salsette, on condition that they should support his claims. But the council of Bengal was unwilling to engage in a war with the Mahrattas, and, in 1776, concluded a treaty, by the terms of which Ragobah relinquished his pretensions; the British were to remain in possession of Salsette, and to receive a territory producing a yearly revenue of three lacs of rupees. Ragobah remained at Bombay; the British maintained that the district ceded to them did not yield the sum agreed upon. The demands of Ragobah had defeated the adherents of the *peishwah* at Poonah, and the government of Bombay, with the consent of the council of Bengal, sent Ragobah, in 1778, with a British army, to Poonah. The British gained many important advantages; but, on account of their war with Hyder Ali, peace was their chief object. It was concluded in 1782. They restored all the conquered countries except Salsette and the neighbouring islands. Maderow, the son of Narain Row, who had been assassinated, was born in 1774, and, in 1783, declared *peishwah*, and was, for a time, under the guardianship of one of the other Mahratta princes. Bajeerow, the *peishwah*, was established by a British force, under the command of marquis Wellesley, now duke of Wellington, and subdued several of the Mahratta bes, with the assistance of the British armies; but, in 1817, he commenced hostilities against the British. He was, however, so severely handled (November) by general Smith, that he abandoned his residence at Poonah, and fled to a mountain fortress. In 1818, he submitted to the British authority, and lived as a private individual, with a yearly pension, under the British inspection.

The state of the Berar Mahrattas was not so much involved in foreign wars, but suffered more from domestic disturbances. Berar, the chief province, is 200 miles long, and 170 broad. Rajoojee, 10 years after his expeditions with the *peishwah* against Bengal, wrested the best part of Orissa from the usurper of Bengal. A shallow stream separated the Berar Mahrattas from Bengal, and often made incursions into the frontier provinces that beautiful region. These devastations were not checked until after Chossim Ali, nabob of Bengal, had died (1761) Burdwan and Midnapour to the British. Rajoojee, the first Berar rajah, after a long reign, left no sons. The eldest succeeded his father, but died out children. The two next, Sebagee and Modagee, engaged in a war for the succession, in which the former fell, and the latter became rajah. He also led the Poonah Mahrattas in the war against the shah (in 1817), at first privately, but afterwards openly, and was obliged to submit, and to cede to the shah his fortresses. Of the remaining Mahratta states, the most important were Sindia and Holkar. The former was rajah of Oojein, and had become very powerful. To limit his growing power war was declared against him by the British, in 1802, and he was defeated by the duke of Wellington (then marquis Wellesley), September 23, 1803. He was obliged to consent to a disadvantageous peace, which was afterwards often violated. He died in 1827. Holkar, rajah of Indore, whose revenue was estimated at 100,000 sterling, was alternately the friend and

enemy of the British. In the war of 1805, he was compelled to submit to disadvantageous terms. In 1817, he again took arms, but was defeated and obliged to submit, and deprived of two-thirds of his territories. He died in 1825.

The Mahrattas profess the religion of Brama; they are strong and firmly built, and vary in their complexion from black to a light brown; their manner of living is simple; they have few wants; they are educated for war; in battle, they intoxicate themselves with a sort of opium or wild hemp, which they smoke, like tobacco. In the last war, their artillery exhibited as much skill as courage. The subjugation of the Mahratta states was facilitated by the circumstance that the military caste of the rajahs was universally hated, because they treated the other castes as slaves. The property and rights of the latter found protection only under the British dominion. The caste of warriors left the British provinces in consequence, formed banditti (*bindarees*) on the Nerbudda, and sought protection from the small Mahratta princes, who were jealous of the British. Thus arose the last general contest of the Europeans with the ancient and proud caste of warriors, which ended with the total dissolution of their order, and the overthrow of the independence of their princely families, in 1818.—See Duff's *History of the Mahrattas* (3 vols., 1826.)

MAIA; the eldest daughter of Atlas and Pleione, the mother of Mercury by an amour with Jupiter, in a grotto of the mountain Cyllene, in Arcadia. She was placed, with her six sisters, among the stars, where they have the common name of *Pleiades*. The Romans also worshipped a *Maia*, who, however, was the mother Earth (Cybele). The Tuscans called their principal deity *Majus*, so that here the two highest deities or principles of nature appear in a male and female form. The month of May is said to have received its name from them. See *Magic*.

MAID OF ORLEANS. See *Jeanne d'Arc*.

MAIDEN is the name of an instrument of capital punishment, formerly used at Halifax, in Yorkshire, and in Scotland, which is the prototype of the French guillotine. The maiden is a broad piece of iron, a foot square, sharp on the lower part, and loaded above with lead. At the time of execution, it was pulled up to the top of a frame ten feet high, with a groove on each side, for the maiden to slide in. The prisoner's neck being fastened to a bar underneath, on a sign given the maiden was let loose, and the head instantly severed from the body.

MAIL, COAT OF; also called *habergeon*. There are two sorts—*chain* and *plate mail*.—*Chain mail* is formed by a number of iron rings, each ring having four others inserted into it, the whole exhibiting a kind of net-work, with circular meshes, every ring separately riveted. This kind of mail answers to that worn on the ancient breastplates, whence they were denominated *lorica hammate*, from the rings being hooked together. The habergeon, or hauberk, resembled a shirt in make, and was thrown over the upper part of the body above the clothing; a collar was applied round the neck; and there was a hood, or net helmet, to cover the head. Sometimes the crown consisted of plates of iron, instead of rings; and iron plates, in like manner, were sometimes clasped around the breast and back. In addition to these parts, there were trowsers of similar construction, and it is probable, that the feet were defended by a guard of the same description.

*Plate mail* consisted of small laminae or plates, usually of tempered iron, laid over each other like the scales of a fish, and sewed to a strong linen or leather jacket. The plates were in general very numerous, small, and united so as to move freely

without impeding the motion of the wearer. The plate mail was much more cumbersome than the chain mail, a complete suit of ring mail, still in existence, weighing thirty-nine pounds, while one of plate weighs between seventy and eighty, and, in many cases much more. (For a more particular account of the body armour, see *Cuirass*.) The hands were defended by gauntlets, sometimes of chain mail, but more frequently of small plates of iron riveted together, so as to yield to every motion of the hand. Some gauntlets enclosed the whole hand as in a box or case: others were divided into fingers, each finger consisting of eight or ten separate pieces, the inside being gloved with buff-leather; some of these reached no higher than the wrist, others to the elbow. The thighs of the cavalry were defended by small strips of iron plate laid horizontally over each other, and riveted together, forming what were called *cuissearts*, or thigh-pieces. Of these, some entirely enclosed the thighs; others only covered the front of them, the inside, next the horse, being unarmed. They were made flexible at the knees by joints, like those in the tail of a lobster. Tassets or shirts, hooked on to the front of the cuirass, were used by the infantry. For the defence of the legs, there were a sort of iron boots, called *greaves*. Plates of iron, covering the front of the leg, were also frequently worn over the stockings of mail. The greaves commonly covered the leg all round; with these they had broad-toed iron shoes, with joints at the ankle. Boots of jack-leather, called *curbilly* (*cuir bouilli*), were also worn by horsemen. The different pieces of armour covering the body were called, collectively, a *coat of mail*. Complete coats of mail continued to be used through the seventeenth, and even in the beginning of the eighteenth century. Armour gradually continued decreasing, both from innovations and from its utility being diminished, and, in 1690, most of the defensive armour throughout Great Britain was returned to the Tower, whence it had been issued.

The subjoined cut represents a Roman coat of mail, or lorica. It was generally made of leather, covered with plates of iron in the form of scales, or iron rings twisted within one another with chains (*Hamis concerta*).

Instead of the coat of mail, however, the most of the ancient military used only a plate of brass which covered the breast, the *thorax* or *pectore*.



The *kuaz* of the Greeks is represented below.



MAIL, and MAIL COACHES. See *Posts*.

MAIMBOURG, Louis; a celebrated French ecclesiastical historian, was born at Nancy in 1620, entered into the society of Jesuits at sixteen years of age, and when he had finished the usual course of study,

became classical teacher for six years. Being written a treatise in defence of the rights of the Gallican church against the pretensions of the papacy at Rome, he was expelled from the society of Jesus (1682), by order of pope Innocent XI., for which disgrace he was compensated by a pension from Louis XIV. He died in 1686. As an historian he is partial and inexact. His complete *Antiquities*, works (26 vols. 12mo, 1686), contain history of the Crusades; of the League; of the Decline of the Empire after Charlemagne; of the Progresses of Gregory and St Leo; of the Schism of the Council of the Grand Schism in the East; of heresies, of the Iconoclasts; of Lutheranism, and of Germany.

MAIMON, Moses BEN, or MAIMONIDES, one of the most distinguished Jewish scholars, was born at Cordova, in Spain, in 1130. While the name of the Arabian Thophaï and Averroës in metaphysics, philosophy, he united the study of the sciences, sophers, particularly of Aristotle, and thus won himself an object of suspicion to his Jewish brethren. To escape their persecutions, he went to Fez, and became physician to the sultan Saladin, under whose protection he established a celebrated university at Alexandria. The intrigues of his enemies obliged him to leave that city, and the remainder of his life, which he closed in Cairo or in Fawara, 1205, was passed in continual wandering. Among his writings, the most celebrated is his *Moreh nechman* (the Teacher of the Perplexed), an attempt to reconcile the doctrines of the Oral Tradition with reason, or a sort of religious philosophy, which bears strong testimony to his acuteness and clear understanding. It was written originally in Arabic, translated by some Jews into Hebrew, and by R. S. into Latin (1629). Among his other works: *Commentary on the Mishna*, in Hebrew and Latin (Amsterdam, 6 vols fol.); his *Jad Chochma* (Jew's Hand), an abridgment of the Talmud (Frank, 4 vols fol.); his *Sepher Hamisvot*, or book of precepts, Hebrew and Latin (Amsterdam, 1656), an exposition of 613 affirmative and negative precepts of the law,—deserve mention. He was the author of a book on Idolatry, translated by Vossius, and of Christ, translated by Gesebrand; several letters and other works, letters and essays. The Jews call him the *doctor*, the *great eagle*, the *glory of the light of the East*, and consider him as equal to Moses. They often designate him according to their usual custom, by the four letters *M. M. M. M.* (Rabbi Moses Ben Maimon), whence the name *Rambam*.

MAIMON, Solomon, a distinguished Jewish philosopher, born in Lithuania, 1753, was the son of a poor rabbi, who directed his studies to the law. After having lived in extreme poverty, he acquired knowledge carried him to Germany, where he was known to Mendelssohn, in Berlin, and obtained assistance from him. He pursued his studies, particularly in philosophy, with great avidity, and devoted attention for some time to pharmacy, in Hamburg, Amsterdam, Breslau, returned to Berlin, and died in Silesia, in 1800. He was the author of *Essays on the Transcendental Philosophy* (Berlin, 1790); *Essay toward a new logic*, in letters to *Ænesidemus* (Berlin 1794), a work attempts to correct and define more accurately the transcendental logic; a work *On the Language of Aristotle* (1794); and *Critical Inquiry into the Human Mind* (Leipzig, 1797). In these writings he develops the doctrines of the critical philosophy with great ingenuity.

**MAINA**; a small village of the Morea, which gives its name to a district situated in a bay of the Mediterranean; lon.  $22^{\circ} 22' E.$ ; lat.  $36^{\circ} 42' N.$  The district is mountainous, the least fertile part of the peninsula comprising the south-east part of ancient Laconia, and at present is included in the provinces of Laconia and Lower Messenia. See *Mainots*.

**MAIN DE JUSTICE** (French, *hand of justice*) is a staff, at the upper end of which a raised hand is fastened. It is one of the French insignia of royalty. Napoleon had it among the imperial insignia.

**MAIN-MAST**: the chief or middle mast of a ship. It is divided into four unequal sections, viz. the *main-mast*, properly so called, which first rises from the deck; the *main top mast*, immediately rising from the main-mast; the *main-top gallant-mast*, just above the main-top-mast; and the *main-royal-mast*, which crowns the whole. The form of the main-mast, like that of other masts, is taper. Each division of the mast has its particular sail, to which it gives name, as the *main-sail*, *main-top sail*, &c.; and its particular yard, as the *main-yard*, *main-top sail-yard*, *main-top gallant sail yard*, &c.; besides its separate head or top, as the *main top*, *main top-mast head*, &c. The ropes, tacking, &c., of each section are named in a similar manner.

**MAINE, MAYNE, or MAIN** (anciently *Mannus*); a river of Germany, which rises on the confines of Bohemia. It is formed of two streams, the one end called the *Weisser*, or White, the other, *Rather*, or Red; both these join near Cumbach. It receives the *Regnitz*, the Franconian Saal, the Tauber, the *Kinzig*, and the *Nidda*, and flows through Bavaria, Baden, Hesse-Cassel, Hesse-Darmstadt, the territory of Frankfurt, and the duchy of Nassau, and joins the Rhine near Mentz. It affords a navigation as far as Bamberg. Length, about 300 miles.

**MAINE**; formerly a province of the western part of France, bounded by Normandy on the north, the Orléannais on the east, Anjou and Touraine on the south, and Brittany on the west. It now constitutes the departments of the Sarthe and the Mayenne. It derives its name from the *Cenomani*, an ancient Gallic people. It was part of the French dominions of Henry II. of England, and was conquered by Philip Augustus.

**MAINE ET LOIRE**, a department of France. See *Department*.

**MAINE**; one of the United States of America, bounded N. W. and N. by Lower Canada, E. by New Brunswick, S. E. and S. by the Atlantic, and W. by New Hampshire; lon.  $66^{\circ} 49'$  to  $70^{\circ} 55' W.$ ; lat.  $43^{\circ} 5'$  to  $48^{\circ} 12' N.$  Its length, on the northern frontier, is 280 miles, on the eastern, 210; greatest length from north to south, 225, and greatest breadth from east to west, 195; square miles, 32,628; population in 1790, 96,540; in 1800, 151,719; in 1810, 228,705; in 1820, 298,335; in 1830, 399,462. The principal rivers are the Penobscot, Kennebec, Androscoggin, Saco, St Croix, and St John's. The principal bays are Casco, Penobscot, Frenchman's, Englishman's, Machias, and Passamaquoddy. The chief lakes are Moosehead, Umbagog, Sebago, Schoodic, and several others farther in the interior. Maine is rather an elevated country, having generally a diversified surface. A tract commencing on the west side of the district, east of the White mountains in New Hampshire, and holding a north-east direction as far as the heads of the Aroostic, about 60 miles in length, and sixty in its greatest breadth, is mountainous. Katahdin mountain is the most elevated summit in this range. There is also a small mountainous tract in the northern extremity. The

remainder of the state may be considered, generally, as a moderately hilly country. The tract of country along the sea-coast from ten to twenty miles wide, embraces all the varieties of sandy, gravelly, clayey, and loamy soils, frequently interspersed at short distances; seldom very rich; in many places tolerably fertile, but generally poor. Of this section, Indian corn, rye, barley, grass, &c., are the principal productions. In the tract lying north of this, and extending fifty miles from the sea in the western, eighty in the central, and ninety in the eastern part, the same kinds of soil are found, but they are less frequently diversified, and generally more fertile. The surface rises into large swells of generally good soil, between which, on the margin of the streams, are frequently rich intervals, and in other places sandy or gravelly pine plains, or spruce and cedar swamps. Of this section, the principal productions are grass, Indian corn, wheat, barley, rye, flax, &c. The country beyond the limits above specified, is but little settled. It exhibits great diversities in the appearance of its soil, growth of timber, and also in climate. The land on the Kennebec, and between this river and the Penobscot, is accounted the best in the state. It is well adapted to the various purposes of agriculture, and, as a grazing country, is one of the finest in New England. Though the climate of Maine is subject to great extremes of heat and cold, yet the air, in all parts of the country, is pure and salubrious. The summers, in most parts, are favourable to the growth of all the vegetable productions of the Northern States. In some parts, however, Indian corn, and some other plants of a more tender kind, are frequently injured, and sometimes destroyed, by frosts late in the spring and early in the autumn. The cold of winter is severe, yet the serenity of the sky, and the invigorating influence of the atmosphere, during the same season, make amends, in some degree, for the severity of the weather. Maine enjoys great facilities for commerce. The coast is indented with bays, abounding in excellent harbours. All the settled parts of the country lie near a market, and the produce of the farmer is readily exchanged for money, at a good price. The principal article of export is timber. Vast quantities of boards, shingles, clapboards, masts, spars, &c. are transported to the neighbouring states, to the West Indies, and to Europe. Much of the fire-wood consumed in Boston, Salem, &c. is brought from Maine. Dried fish and pickled salmon are considerable articles of export. Beef, pork, butter, pot and pearl ashes, and some grain, are also among the exports. Great quantities of lime are annually exported from Thomastown. The value of the imports for 1829, was 742,781 dollars, or about £160,000; of the exports, 737,832 dollars, of which 729,106 was of domestic produce. The tonnage in the beginning of that year was 232,939. Cumberland and Oxford canal extends from Portland to Sebago pond. (See *Canals*.) The principal literary institutions are Bowdoin college at Brunswick (students in 1830, 112); Waterville college at Waterville; the Bangor theological seminary; the Gardiner lyceum at Gardiner, founded in 1821, for the purpose of affording a useful education to the operative and productive classes; the Wesleyan seminary at Readfield; and twenty-nine academies, with funds of the value of 170,000 dollars, or about £76,000. Each town is required by law to raise a sum equal to forty cents for each inhabitant, for the support of free schools. In 1826, there were in the state 2499 school districts, and 137,930 scholars. Some voyages of discovery were made by the British to that portion of the country since called *Maine*, as early as 1602 and 1603, and it is described under the name of *Maroo-*

*sheen*. It was visited by French navigators, as De Monts and Champlain, a few years later, but the first permanent settlements were made in 1630. The government was at first proprietary, but in 1652, the province of Massachusetts bay claimed this territory as included within the limits of their charter. In 1820, it was separated from that state, and received into the Union as an independent state. See *Massachusetts*.

MAINLAND OF SHETLAND. See *Shetland Isles*.

MAINOTS; the inhabitants of the mountainous district of the Morea, called *Maina*, is the ancient Laconia. According to Leake, *Maina* is the Italian corruption for the Greek name *Mani*, and the proper name of the people is *Maniati*. They have been supposed to be the descendants of the ancient Spartans, but probably are composed of fugitives from all parts of Greece, who found safety in this remote corner, protected by the rocks and the sea. Their number is about 60,000, of whom 15,000 are capable of bearing arms. They are Christians of the Greek church, and never submitted to the Turkish yoke. They are hardy, brave, and skilful in the use of arms, and, with the barbarous practice of robbery, unite the virtue of hospitality. Their hatred against the Turks is implacable, and they were among the first to distinguish themselves in the Greek revolution. Previous to that period, Maina was divided into a number of districts, each under a *capitano*, over whom was a *beg*, or head chief, residing at Kitriai. Public affairs were discussed in assemblies called *synods*, in which every Mainot had a voice. See *Greece* and *Maina*.

MAINTENANCE; an unlawful intermeddling in a suit, by assisting either party with money, or otherwise, to prosecute or defend it. This was prohibited by the Roman as well as by the English law. A man may, however, maintain the suit of his near kinsman, servant, or poor neighbour with impunity. See *Barratry*, *Common*.

MAINTENON, FRANÇOISE D'AUBIGNÉ, marchioness of, descended of a noble Protestant family, was born in 1635, in the prison of Niort, where her father was confined. In 1639, M. d'Aubigné, having been released, set sail for Martinique with his daughter. After his death, in 1645, his widow returned to France, totally destitute, and the young Frances was taken into the house of her aunt, a Calvinist, whose creed she soon after adopted. Every means was used by her mother to reclaim her, and she finally yielded to harsh treatment, and, after a long resistance, abjured that creed. The death of her mother left her solitary and dependent, and, although she was received into the house of madame de Neuillant, her god-mother, she was subjected to all kinds of humiliations, and considered herself happy in becoming the wife of the deformed, infirm, and impotent Scarron, who, touched with her situation, offered to pay the sum necessary to enable her to enter a convent, or to marry her. Scarron was not rich, but his family was respectable, and his house was frequented by the most distinguished society of the court and the city. His wife conciliated general respect and esteem and affection by her social qualities, her talents, and her modesty. On his death, in 1660, his widow, who was again left destitute, was on the point of embarking for Portugal as a governess, when madame de Montespan, the mistress of Louis XIV., procured her a pension, and afterwards had her appointed governess to the duke of Maine and the count of Toulouse, her sons by Louis. In this post, she became better known to the king, who was, at first, prejudiced against her, but who learned to esteem her for her good sense, and the care which she bestowed on the

education of the duke of Maine. He made her a present of 100,000 livres, with which, in 1670, she purchased the estate of Maintenon, and, becoming fond of her society, gradually passed his intimacy to love. Madame de Montespan had contributed much to the elevation of De Maintenon by her capricious and arrogant temper, and, while she had drew the king from his connexion with her lover, she supplanted her in his affection. Louis XIV. was then at an age when men wish to live in whom they may confide their joys and sorrows, and he longed to alleviate the weight of government by the innocent pleasures of domestic life. The ruling temper of madame de Maintenon, who, from youth up, had learned to accommodate herself to the wishes of others, promised him an agreeable companion and a trusty friend. Besides this, she had a leaning towards devotion, and the king himself manifested a similar inclination. The case came on. Père Lachaise, his father confessor, advised him to sanction his wishes by a secret or formal marriage, which was solemnized in 1683. The archbishop of Paris, Harlay, married them in the presence of the confessor and two witnesses. Louis was then forty-eight, madame de Maintenon 47 years of age. At court, the marriage always appeared doubtful, although a thousand indications became it. Yet the happiness of De Maintenon was lasting: she herself says, "I was born unhappy; resisted this inclination. When the work, which no longer indulged, was fulfilled, I thought me happy; but this intoxication lasted only three years. After her elevation, she lived in a sort of retirement from the world. Louis XIV. visited her several times a day, and transacted business with her ministers in her apartments, while she read or otherwise employed herself. Although, in appearance, she neither knew nor wished to know any thing of the affairs, yet she often had a decisive influence on them. Chamillart was made minister, and Marsin commander of the army in Germany (1703), and Louvois and Catinat were dismissed, by her advice. The nation accused her of errors, and the crimes of great intentions could not always excuse her. In other respects entirely submissive to the will of the king, she was wholly occupied with the aim of rendering herself agreeable to him, and the reverse of her age made her more unhappy than the power of her youth. "What a martyrdom," said the lady Bolingbroke, her niece, "to be obliged to marry a man who is incapable of being amused." The king, who sometimes teased her with his abjectness, endeavoured to atone for this by proofs of esteem, such as he had never shown to any other woman. But these external forms could not remove her chagrin. She did nothing for her family, because she feared to attract the notice of the court, and would receive nothing herself but the name of Maintenon, and a pension of 48,000 livres. Among her benevolent plans, was the foundation of a school at St Cyr, for the education of poor girls of good family. Thither she retired, after the death of the king, in 1715, taking part in the amusements of the pupils, till her own death, in 1719. La Beaumelle published the *Lettres de Madame de Maintenon* (Amsterdam, 1734, 9 vols., 12mo), but with many arbitrary changes. Edition of 1812 (6 vols., 12mo) is more complete. La Beaumelle's *Mémoires sur Madame de Maintenon et le Siècle passé* contains many errors and much of the *Vie de Madame de Maintenon*, by Carandol, contains a full account of the institution at St Cyr. The *Entretiens de Louis XIV. et de Madame de Maintenon sur leur Mariage* (Marseille, 1704) is a good book. In 1826, the *Lettres inédites de Madame de*

*Maintenon et Madame la Princesse des Ursins* (four vols.), were published at Paris.

MAIOLIKA. See *Faience*.

MAIRE, LE, STRAITS OF; a narrow channel or passage from the Atlantic to the Pacific ocean, between Terra del Fuego and Staten Land. The strait, which is bounded west by Terra del Fuego, and east by the west end of Staten Land, is about fifteen miles long and as many broad. It derives its name from Le Maire, a Dutch pilot, who discovered it in 1616.

MAISTRE, JOSEPH, count de, Sardinian minister, and member of the royal academy of sciences at Turin, born at Chamberri, 1753, of a French family, was a senator of Piedmont at the time of the French invasion (1792). He left his country in consequence of that event, and afterwards followed his king to Sardinia. In 1804, he was sent ambassador to St Petersburg, returned to Turin in 1817, and died there in 1821. De Maistre was familiar with the Greek and Latin literature. He was an enemy of liberal principles in religion, politics, and philosophy. As a diplomatist, he exerted himself to effect the restoration of all his former possessions to his master, and to obtain the transfer of Genoa. Among his political writings are his *Eloge de Victor Amadée III*; *Considérations sur la France* (1796, 3d edit., 1814, and also three editions at Paris); *Essai sur le Principe Générateur des Constitutions politiques*, in which he maintains the divine origin of sovereignty; *Soirées de St Petersburg*; *Du Pape*; and *Du Congrès de Rastadt*, the last in conjunction with the abbé de Pradt.—His brother Xavier, born at Chamberri, 1764, major-general in the Russian service, member of the Turin academy of sciences, is favourably known as a writer. The Transactions of the Turin Academy contain several chemical communications from him. He is an excellent landscape painter, and a witty poet. His *Voyage autour de ma Chambre*, distinguished for its gaiety and philosophy, has been translated into several languages. *Le Lépreux de la Cité d'Aosta* (translated into English, Philadelphia, 1825) delineates with much talent and feeling, but in sombre and mystic colours, the suffering of a man cut off from all human society. His *Œuvres*, 2d edit., Paris, 1825, 3 vols., contain also the *Expédition nocturne autour de ma Chambre*; *Les Prisonniers du Caucase*; and *La jeune Sibérienne* (a translation of the two last is called Russian Tales, Philadelphia, 1826).

MAITRE; the French for *master*; a word used in many connexions.

*Maitre d'armes* is a degree bestowed in France by the societies of teachers of fencing, on such persons as are deemed capable of instructing in this art.

*Maitre de requêtes* were officers of the parliament of Paris, before the revolution, who reported on petitions, &c. (*requêtes*). Napoleon re-established the title, and gave it to certain officers belonging to the council of state.

MAITTAIRE, MICHAEL; a learned critic and bibliographer, born in France, in 1688. His parents having fled to England, to avoid the persecutions in France, he was educated at Westminster school and Christ-church college, Oxford, where he took the degree of M.A., in 1696. The preceding year, he had been made second master of Westminster school, which office he relinquished in 1699, and, from that period, devoted his time to private tuition and the study of literature. His editions of various Greek and Latin authors are esteemed for their accuracy. His most important literary production is his *Annales typographici ab Artis Inventionem* (1719—1741, five vols., 4to, augmented by Denis and Panzer). He also wrote a *Historia Stephanorum Gr. Lingue valedicti*, and edited the *Marmora Oxoniensia*.

MAIZE, or INDIAN CORN (*zea mays*). The native country of this valuable grain remains still undetermined. It is usually attributed to America, where it was cultivated by the aborigines at the time of the discovery; but no botanist has hitherto found it growing wild in any part of the new continent; and most certainly it does not so exist in any portion of the territory of the United States. It is also certain that its culture did not attract notice in Europe, Asia, or the north of Africa, till after the voyage of Columbus. It was unknown to the ancient Greek and Roman writers, and is not mentioned by the earlier travellers who visited China, India, and other parts of Asia and Africa, and who were very minute in describing the productions of the countries which they visited. Notwithstanding these considerations, some authors have endeavoured to prove that it was originally from India, and thence introduced through Persia to Africa. Others, again, have attributed its origin to the western coast of Africa.

Like the other *cerealia*, it belongs to the natural family *gramineæ*, being neither more nor less than a gigantic grass. It is annual and herbaceous. The root is fibrous; the stems rise to the height of from four to ten feet, and, like other grasses, are furnished with knots at intervals. The leaves are alternate, sessile, sheathing at the base, and are slightly pubescent on their superior surfaces, and ciliate on the margin; they vary in length from one to three feet, by three or four inches in breadth. The male flowers are disposed on several spikes, which, together, form a large panicle at the summit of the stem. The female flowers are very numerous, sessile, and disposed in the axillæ of the superior leaves, upon a common axis, which is surrounded with foliaceous sheaths or husks; the styles are very numerous, six to eight inches long, and hang down like a silken tassel from the extremity of the foliaceous envelope; the seeds or grains are rounded externally, angular and compressed at the sides, and tapering towards the base, and are disposed in several longitudinal series. A great number of varieties are cultivated, differing in the size, hardness, number and colour of the grains, the form of the spikes or ears, and, what is a very important circumstance to the human family, in the time required to bring them to maturity. The grains in some varieties are violet or black; in others purple, white, or variegated; and sometimes grains of different colours are found on the same spike; but the usual colour is golden yellow. Some varieties require five months from the time of sprouting for the perfect maturity of the grains, while the period of six weeks is sufficient for others. Owing to this circumstance, this plant can be cultivated in a far wider range of climate than any other species of grain, not only throughout the tropical regions of the globe, but in the most northern parts of the United States; in fine, wherever the heat of summer is intense, though it may be of short duration. It is usually ranked the third grain, in point of utility, next after rice and wheat; but the former of these can only be cultivated in the warmer, and the latter only in the temperate parts of the earth.

Maize is now very extensively cultivated, not only in America, but throughout a great part of Asia and Africa, and also in several countries of the south of Europe, as in Spain and Italy. In many of the provinces of France, it forms almost exclusively the sustenance of the inhabitants. In some parts of America, two crops are obtained in a season, but, as it is found to exhaust the soil very soon, it is usually planted upon the same piece of ground only after an interval of five or six years. It succeeds best in a light and slightly humid soil. The usual, though not the best



was one of the principal causes of the thirty years' war, and of the intellectual debasement of that fair country. The Bohemians were converted by the sabre to the Catholic faith, and the spirit and intellect of the nation crushed, so that few beings are lower on the scale of cultivation than a Bohemian peasant.

MAJOR, in military language; the lowest of the staff-officers; a degree higher than captain. There appear to have been officers called *majors* as early as 1560, in the German and Spanish troops; they were then the assistants of the colonels. At present they are generally the commanders of battalions. The French, however, abolished this degree during the revolution; they have *chefs de bataillon*. Their *gros major* is a half-invalid officer, who commands the depot of the regiment.

MAJOR; in music, an epithet applied to that of the two modern modes in which the third is four semitones above the tonic or key-note. Those intervals which contain the greatest number of semitones under the same denomination are also called *major*; as a third, consisting of four semitones, instead of three only, is termed a *major-third*; a sixth, containing nine semitones, instead of eight, is called a *major-sixth*.

MAJOR, in logic; the first proposition of a regular syllogism containing the general premise; as, "All vicious acts are pernicious" (the *major*); "this act is vicious" (the *minor*); "therefore this act is pernicious" (conclusion).

MAJORANO GAETANO, known under the name of *Caffarelli*, a celebrated soprano, was born in the Neapolitan territory, 1703. A musician, who had remarked the excellent voice of the boy, advised his father, a peasant, to send him to school at Norcia, afterwards took him into his own house, instructed him, and presented him to Porpora at Naples, who taught him for six years. At the end of that time, Porpora told him that he could teach him nothing more, and that he was now the first singer in Italy, and in the world. In 1738, he went to England, just after Farinelli's (q. v.) departure, but was not a high favour there. After his return to Italy, he sang in several theatres with extraordinary applause, and contributed to extend the florid style of singing. In 1740, he is said to have received 700 sequins for single night at Venice. He accumulated a large fortune, and purchased the estate of Santo-Dorato, on which he took the title of *duke*. He still, however, continued to sing in the monasteries and churches, at a great price; he also visited Paris. In a sumptuous house, which he had built, was the inscription, *Amphion Thebas, Ego Domum*. At his death (1783), he left his nephew a fortune of 12,000 acats a year, and his duchy.

MAJORAT; a term used on the European continent to denote, in its widest sense, the order of succession which is regulated by age, and the right of preference which hence belongs to the oldest. It is divided into three kinds:—1. *Primogeniture*, or the right of the first-born, by virtue of which the eldest of the eldest line always succeeds to an inheritance. His law regulates the succession to the throne in most all the European kingdoms of the present day.—2. The *majorat*, in the narrower sense of the word, gives the inheritance to the eldest of the relatives of the same rank.—3. *Seniority* always secures to the eldest in the family, without regard to the proximity of relationship.—The majorats cannot lawfully be alienated or mortgaged. The increase of majorats in a state has hitherto been regarded as a species of injustice. The more the wealth of the country is concentrated in a few hands, the more liable the bulk of the population to be reduced to poverty, and to experience the consequent evils of want,

ignorance and crime. The example of Britain may well deter other nations from that defective system of laws, of which the natural consequence is, that more than 150,000 Britons live on the continent, not to grow wealthy, but to consume their wealth. See the article *Entailments*.

MAJORCA; the largest of the Balearic islands, lying between 39° 16' and 39° 57' N. lat., and 2° 24' and 3° 31' E. lon., being about forty leagues from the Spanish, and fifty from the African coast; 1410 square miles, with a population of 181,805 inhabitants. The climate is temperate, the heat being moderated by sea-breezes. The island yields excellent grain, flax, figs, olives, grapes, almonds, oranges, melons, &c. The principal articles of manufacture are tapestry, blankets, and sashes, linen, sail-cloth, &c. The coral fishery, the making of wine and brandy, also employ the inhabitants. The administration is composed of a captain-general and a royal audience, under whom is the government of the Balears. The capital is Palma, with 34,000 inhabitants. Alcudia, on the north-eastern coast, is the only other city.

MAJOR DOMUS (*maire du palais*); the title of the highest officer of court and state in the monarchy of the French, who was overseer of the household. The dignity of first duke (i. e. commander of the army) was soon connected with this office. The dignity became hereditary, and at length Pepin, who held this office, made himself emperor. See *Pepin*, and *France*; see also *Geschichte der Merovingischen Hausmeier* von G. H. Pertz (Hanover, 1819.)

MALABAR (from the Hindoo *Malayavar*, signifying the mountain, enclosed region) is the appropriate name of the narrow strip of land which lies between the western Ghauts and the sea, on the western coast of the peninsula of the Deccan. The whole western coast, from cape Comorin to 15° N. lat., is sometimes called the *Malabar coast*, in distinction from the Coromandel coast, on the eastern side of the peninsula. The province of Malabar is a small part of this region, containing about 7249 square miles, with a population of 907,575 persons. It was annexed to the presidency of Madras in 1808. In 1817, the revenue amounted to £225,682. The foreign trade is almost exclusively confined to Bombay, Guzerat, and the gulf of Persia. Calicut, Mahe (belonging to the French), Tellicherry are the principal cities; except on the coast, there are no towns nor villages, each land-holder living separately on his own estate. Rice, cocoa-nuts, and pepper are the principal productions. The majority of the inhabitants are Hindoos, and, on account of the remote and sheltered situation, they have preserved their manners and customs with greater purity than has been done elsewhere, the Mohammedans never having entered their territory as enemies till the irruption of Hyder Ali in 1766. There are also about 10,000 Nestorian Christians and 150,000 Roman Catholics.

MALACCA, or MALAYA; a country of India beyond the Ganges, consisting of a large peninsula, connected with Siam by the isthmus of Kraw, which is about seventy-five miles broad. In all other places, it is surrounded by the sea. It is about 775 miles long, and 120, on an average, broad. It is traversed throughout by a chain of lofty mountains, and is covered with extensive forests and marshes, so that it is difficult to penetrate into the interior. The fruits are excellent and plentiful, but grain is not produced in sufficient quantity to supply the inhabitants. Its political condition alternates between a dependence upon Siam and a division into a number of petty independent states. See *Malays*.

MALACCA; a seaport of the above country, on the western coast, and on the straits of Malacca; lon.

102° 12' E.; lat. 2° 14' N. Many of the houses are well built of stone, and there are several spacious and handsome streets. The surrounding country is fertile and pleasant. There is a good roadstead about one and a half miles distant from the town, but the entrance of the river by boats is difficult. The exports are tin, sago, pepper, canes, elephants' teeth, and gold dust. This place was once possessed by the Portuguese, afterwards by the Dutch, till 1795, when it was subjected by a British force, but restored in 1801, recaptured in 1807, and again restored in 1815. But it was finally received in exchange for the British settlements in Sumatra, and occupied by the British authorities in 1825. Population in 1823, 33,806.

**MALACCA PASSAGE**; channel of the East Indian sea, between Polo Way and the coast of Sumatra, about thirteen miles long.

**MALACCA, STRAITS OF**; a narrow sea between the island of Sumatra and the country of Malacca, extending from the equinoctial line to lat. 5° N.

**MALACHI**, the twelfth and last of the minor prophets, was the contemporary of Nehemiah, and prophesied, according to Jahn, from 412 to 408 B. C. The name signifies *angel*, or *messenger of the Lord*. Our entire ignorance of his history has given rise to numerous conjectures concerning him. His prophecy is short, his style prosaic and rough, and he denounces with vehemence the corruptions and backslidings of his countrymen. He declares that the Messiah will save the Gentiles, and announces the coming of one who shall precede and prepare the way for the Saviour. Among the principal commentators are Jerome, Pucoccke, Calmet, Rosenmüller, &c.

**MALACOLOGY** (from *malakos*, Greek for the *mollusca*); a term now used, particularly by the French, for that part of science which treats of the mollusca.

**MALAGA**; a maritime town of Spain, on the coast of the Mediterranean; lat. 36° 43' N.; lon. 4° 25' W.; population, 51,900. It has an excellent harbour, and is situated in the midst of a fertile country, producing great quantities of figs, almonds, oranges, lemons, olives, sumach, juniper-berries, wax, and honey, which, with dried raisins and wines from the mountains, and cork from the hills, form the foundation of the commerce of Malaga. Besides these articles, it exports a great variety of manufactured goods made here and in the neighbourhood. The port is enclosed on three sides, and is capable of accommodating 400 merchantmen and nineteen ships of war. The city presents a Moorish appearance, with high houses, and narrow, crooked, badly-paved streets. There is, however, a splendid public walk, and a rich, but unfinished cathedral. The vineyards on the neighbouring hills produce, annually, from 2000 to 3000 pipes of wine. The first vintage, in June, furnishes the Malaga raisins. The second, in September, furnishes a kind of wine resembling Sherry, but inferior to it. In October and November, the sweet Malaga wine is made.

**MALAGRIDA, GABRIEL**; an Italian ecclesiastic, notorious for his intrigues and fanaticism, was born in 1686, and, having become a member of the Jesuits' college, was despatched by that fraternity as their missionary to Lisbon. Here he acquired considerable popularity by his eloquence, and his pretensions to extraordinary sanctity. Being accused of participation in the pretended conspiracy of the duke D'Aveiro against the crown of Portugal, he was thrown into prison by the government. But, instead of being tried by the judicial tribunals, he was delivered over to the inquisition, and condemned as guilty, not of treason, but of heresy, uttering false prophecies, and seeing visions, and was sentenced to the stake, and executed September 21, 1761. See *Pombal*.

**MAL' ARIA** (Italian, *bad air*); a state of the atmosphere or soil, or both, which, in certain regions in the warm season, produces a fever more or less violent according to the nature of the exposure. The country of the *mal' aria*, in Italy, is the *Maremma*, which extends from Leghorn to Terracina, about 970 miles, and from the sea to the Appennines, twenty-five to thirty miles. The centre of the malarious district is Rome. (See *Campagna di Roma*.) We are still ignorant of the causes of this miasmata. It exists in the rice grounds of Lombardy, in the highlands near Padua, on the summits of the Apennines, and round the gulf of Salerno. The sky is devoted spots continues pure, the air calm, the verdure fresh; but all this serenity and beauty of nature only forms a shocking contrast with the death-like desolation around, or with the sickly appearance of the few peasants who venture to wander in the unhealthy district. Bigelow (*Travels in Malta and Sicily*) gives a similar account of the effects in Sicily. It is found in all parts of the island, infesting not only the valleys, but the elevated situations. The city of Rome, as is well known, has been gradually invaded by it, and a large part of the city has been successively deserted by its inhabitants. In 1406, the Lateran was condemned since 1623, the Vatican has become unhealthy, and in 1710, the Palatine, the circus Maximus, the forum, and, indeed, the whole of ancient Rome, has been deserted; even the finest parts of the modern city have become unsafe. See *Rome*.

**MALAYS**; according to Sir Thomas Stamford Raffles (*Asiatic Researches*, xii. London, 1818) a people of Asia, who have adopted the religion and language of the Arabians, and intermarried with them, so that they have become separated from their original stock, and form a distinct nation. In the thirteenth century, we find the Malays on the peninsula of Malacca, where they built a city of the same name, and founded an empire. Their settlement on Sumatra, where the nation seems to have been previously to their settling in Malacca. They afterwards possessed themselves of the rest of the Malay isles, of the Philippines, the Moluccas, and some of the Australian groups, where Malay tribes are found, resembling, in their features, religion, and government, the Malays of Malacca. At that time they acted a splendid part in Asia; they carried on commerce, in part, with their own ships, and planted colonies. Great numbers of ships from China, India, China, Hindostan, and Siam filled the harbours of Malacca. They are now divided into distinct tribes, without any general head. This is partly owing to the superiority which the Europeans, particularly the Dutch, have obtained in the Indian seas, and partly to the feudal system of the Malays, by which the national power has been divided, and a common spirit prevented by the increasing power of the vassals. The superior vassals obey the will of the supreme commander only when they please, and the vassals under them have similar liberty. The great body of the nation consists of slaves; these are the *orengs*, or nobility, who are independent, and sell their services to him who pays them best. The Malays are different from the Hindoos, Burmese, and Siamese. They are strong, nervous, and of a dark brown colour; their hair is long, black, and shining; the nose large and flat; their eyes brilliant and full of fire. Impetuosity, bordering on treachery, impatience of constraint, love of plunder and blood, characterize the Malays of Asia. They in the islands of Australia are in general more gentle, kind, affable, open, and honest, and are distinguished by the finest and most symmetrical persons. The Malays of Asia, including the *Ellahans* and *Dagob*

kese, in Borneo; the Biajoes (one of the wildest tribes), and the Macassars, in Celebes; the Harafors, on the Moluccas; the Sabanos, in Magindanao; the Tagats and Pampangoes, in the Manillas; the Bisayans, in the lesser Philippines, have a remarkable resemblance in their features, in their form of government (a sort of feudal system), and in violence and cruelty. In general they profess the Mohammedan religion, are fond of navigation, war, plunder, change of place, and of all daring enterprises. Besides the Koran, the Malays have various local laws; each tribe has its own, relating chiefly to commerce. The maritime code of Malacca was collected as early as 276, and confirmed by Mohammed Shah, sultan of the country. They pay more respect to their absurd laws of honour than to justice or humanity, and we find force continually triumphing, among them, over weakness. Their treaties and their promises of friendship continue only as long as the interests which prompted them seem to demand. They are always armed, and are perpetually at war among themselves, engaged in plundering their neighbours. When they find opportunity, they will attack European and American vessels by surprise, and kill the crews, if they succeed in capturing them. No free Malay is seen without a dagger. The people, in general, are very skilful in preparing weapons, particularly daggers. Their constant use of opium contributes to infuriate them, and, when maddened by its effects, they rush out with their daggers in their hands, yelling, *Amok, amok*, (i. e. kill, kill); whence the expression, *to run a muck*. The Malays are active only in war, where they are excited by the thirst of robbery and blood. At home, they are indolent, leaving all the labour to their slaves, and despising agriculture. The Malay language is the language of commerce on all the shores of eastern India, and is very extensively used as that of literature and of correspondence. See Marsden's *History of Sumatra*, and his *Dictionary and Grammar of the Malayan Language*, (1812, 4to); Crawford's *Indian Archipelago*, &c.

MALCOLM, SIR JOHN, a distinguished soldier and diplomatist, was born near Langholm, in Dumfriesshire, on the 2d of May, 1769, and entered in 1782, as cadet, the service of the East India Company. Having distinguished himself at the siege of Seringapatam in 1792, he was appointed by lord Cornwallis to the situation of Persian interpreter to a British force serving with a native prince. In 1795, on his return on a short visit to his native country, on account of his health, he performed some useful services in general Clarke's expedition at the Cape of Good Hope, for which he received the thanks of the Madras government, and was appointed secretary to the commander-in-chief. In 1797, he was made captain; and from that time to 1799, he was engaged in a variety of important services, terminating at the fall of Seringapatam, where he highly distinguished himself. He was then appointed joint secretary with captain (afterwards Sir Thomas) Munro, to the commissioners for settling the new government of Mysore. In the same year, he was selected by Lord Wellesley to proceed on a diplomatic mission to Persia, where he concluded two treaties of great importance, one political and the other commercial; returning to Bombay in May, 1801. His services were acknowledged by his being appointed private secretary to the governor-general. In January, 1802, he was raised to the rank of major; and on the occasion of the Persian ambassador being accidentally shot at Bombay, he was again entrusted with a mission to that empire, in order to make the requisite arrangements for the renewal of the embassy, which was accomplished in a manner that afforded the highest

satisfaction to the Company. In January, 1803, he was nominated to the presidency of Mysore, and to act without special instructions; and in December, 1804, he was promoted to the rank of lieutenant-colonel. In the June of the following year, he was appointed chief agent of the governor-general, and he continued to serve in that capacity until March, 1806, having successfully concluded several very important treaties during that period.

Upon the arrival in India, in April, 1808, of the new governor-general, lord Minto, colonel Malcolm was sent by his lordship to the court of Persia on a mission. He returned to Calcutta in the following August, and soon afterwards proceeded to his residence at Mysore. Early in the year 1810, he was again selected to proceed in a diplomatic capacity to the court of Persia, whence he returned upon the appointment of Sir Gore Ouseley, as ambassador.

In 1812, colonel Malcolm again visited his native shores; shortly after which he received the honour of knighthood. He returned to India in 1816, and soon became engaged in extensive political and military duties. After the termination of the war with the Mahrattas and Pindarees, to which his services had eminently contributed, he was employed by lord Hastings in visiting and settling the distracted territories of Mulhar Rao, which, and other services, he accomplished in a most satisfactory manner, gaining to British India a large accession of territory and treasure.

Sir John returned to Britain in April, 1822, with the rank of major-general, and soon after he was presented by those who had acted under him in the war of 1818 and 1819, with a superb vase of the value of £1500. During this visit to Britain, he received a proud testimony of the favour of the East India Company, and acknowledgment of the utility of his public career, in a grant, passed unanimously by a general court of proprietors, of a thousand pounds per annum, in consideration of his distinguished merits and services.

Sir John had quitted India with the determination to spend the evening of his life in his native country; but the solicitations of the court of directors, and of his majesty's ministers for Indian affairs, induced him again to embark in the service of his country, where experience had so fully qualified him to act with advantage. In July, 1827, he was appointed to the high and responsible situation of governor of Bombay, which post he continued to fill until 1831, when he finally returned to Britain, having effected, during the few years of his governorship, incalculable benefits both for this country, our Indian territories, and every class of the inhabitants there. Shortly after his arrival in England in 1831, he was returned to parliament for the burgh of Launceston. He frequently addressed the house at length; and his speeches were characterized by an intimate knowledge of the history and constitution of his country, by a happy arrangement, and much elegance of expression. His last public address was at a meeting in the Thatched House Tavern, for the purpose of forming a subscription to buy up the mansion of Sir Walter Scott for his family; and on that occasion, his concluding sentiment was "that when he was gone, his son might be proud to say, that his father had been among the contributors to that shrine of genius." On the day following he was struck with paralysis, the disorder which had just carried off the illustrious person on whose account this address had been made. His death took place in Prince's Street, Hanover Square, London, on the 31st of May, 1833. As an author, his principal works are—A Sketch of the Sikhs, a singular nation in the province of the Penjamb, in India; The History of Persia, from the

earliest period to the present time; Sketches of Persia; A Memoir of Central India; and his treatise on the Administration of British India, which was published only a few weeks before his death. Sir John had also been engaged for some time before his death in writing a life of Lord Clive, which has since appeared.

**MAL DE NAPLES**; an early name for syphilis, because the disease was spread among the besiegers of Naples, and from them rapidly communicated to others.

**MALDIVE ISLANDS**; a cluster of islands in the Indian sea, situated about 270 miles south-west of Cape Comorin. The number is said to amount to 1000 or more, but they are for the most part small, and uninhabited. The greatest breadth of the chain is from twenty to twenty-four leagues. The inhabitants appear to be a mixture of Arabs and Indians of Malabar. They supply vessels with sails and cordage, cocoa nuts, oil and honey, dry fish, tortoise-shell, and, especially, cowries. They are divided into seventeen *attollons*, or provinces, and are governed by one king; but each *attollon* has its particular governor, who rules with great oppression. The subjects are miserably poor; and none dare wear any clothing above the waist, except a turban, without a particular license. They have only four ports, in which their few articles of commerce are collected. The Maldivian islands lie in lon. 73° 30' to 75° 45' E.; and lat. 3° 30' to 7° 5' N. No European settlements have been made in them.

**MALEA, CAPE.** See *Malapan*.

**MALEBRANCHE, NICHOLAS**, a French priest of the congregation of the oratory, and a celebrated philosopher, was born at Paris, in 1638. His health being delicate, he was classically instructed by a domestic tutor, but afterwards went through courses of philosophy and divinity at the colleges of La Marche and of the Sorbonne. At the age of twenty-two, he determined to embrace the monastic life, and was admitted into the congregation of the oratory. He applied himself first to ecclesiastical history, and afterwards to Oriental learning and biblical criticism; but, having accidentally met with Descartes's treatise *On Man*, he determined to make himself master of that author's system of philosophy. The result of this study was his famous treatise *On the Search after Truth*, first printed in 1673, but of which the best edition is that published by himself in 1712, in 2 vols. 4to., and 4 vols., 12mo. The doctrines of this celebrated work, which contains fine thoughts and uncommon reflections, rendered still more striking by his elegant manner of conveying them, are founded upon Cartesian principles, and are, in some particulars, Platonic. It is principally distinguished by the maintenance of a mysterious union between God and the soul of man, and the doctrine that the human mind immediately perceives God, "and sees all things in him." His next publication was *Christian Conversations* (1676). This was followed (in 1680) by a *Treatise on Nature and Grace*, which led to several controversial pieces between him and Arnauld. Father Malebranche also wrote several works on physical subjects, and several papers for the academy of sciences, of which he was admitted an honorary member in 1699. Malebranche was highly venerated for his elevated genius, and nothing could be more amiable and simple than his conversation and manners. As a philosopher, although he agreed with those who preceded him, in conceiving ideas to be the immediate objects of perception, he distinguished, more than any previous metaphysician, the object from the sensation which it creates, and thereby led the way to a

right understanding, both of our external senses and mental powers.

**MALESHERBES, CHRISTIAN WILLIAM DE LA MOIGNON DE**, an eminent French statesman, descended from a family of distinguished worth and talents. He was the son of William de La Moignon, chancellor of France, and was born at Paris in 1711. After studying at the Jesuits' college, he qualified himself for the legal profession, and became a member of the parliament of Paris. In 1750, he succeeded to his father as president of the court of aids, and was made superintendent of the press, in both which offices he displayed a liberal and enlightened policy, highly honourable to his talents and character. In the banishment of the parliaments, and the suppression of the court of aids in 1771, Malesherbes was exiled to his country seat, where he devoted his leisure to the study of statistics and agriculture, and the improvement of his estate and of the country around it. After the accession of Louis XVI. he resumed his presidency over the revived court, and, in 1775, was appointed minister of justice. Finding his plans for the benefit of the nation counteracted by the influence of others, he resigned his post in May, 1776, and went to reside in his own land. He was recalled to the king's council in 1786, when he drew up two memoirs, *On the Liberties of France*, and the *Means of repairing them*; but his advice was rejected, and he thereupon took his final leave of the court. Returning to the country, he continued his patriotic labours, and in 1789 published an *Essay on the Means of accelerating the Progress of Rural Economy in France*. He took a part in the proceedings which led to the overthrow of the monarchical government; but on the opening of the national convention for the trial of the king, he emerged from his retreat to become the warm advocate of his unfortunate sovereign. His warm attachment to his fallen master excited the jealousy of the French rulers, and caused his denunciation. Shortly after his return home, his daughter, Madame De Rosambo, and her husband, were arrested and conducted to Paris; and his own arrest, and that of his grandchildren, soon followed. Almost to their family were exterminated by the merciless passions of his persecutors. Malesherbes was beheaded Jan. 22, 1794, and he bore his sufferings with a cool worthy of his life. Louis XVIII. ordered a monument to be erected to him in the great hall of the Palais de Justice. It was completed in 1825, and the inscription by the king—*Strenuus, sanctus, regi suo, in solis veritatem, procerum in amore attulit*.

**MALET, CHARLES FRANCIS**, a French legionary general, was born at Dole, in 1754. Having entered the military service, he embraced the cause of the revolution with ardour, and rose rapidly to the wars of the republic. At the time of Napoleon's assumption of the imperial dignity, he openly avowed his republican opinions, and was, in consequence, left without employment. His connections with individuals known to be hostile to the imperial government, rendered him an object of suspicion, and a proof of his guilt could be obtained, he was confined in prison for several years. During his confinement, he became acquainted with Laboure, formerly attached to Moreau's staff, and General Gudin, who had both been in prison several years. In October, 1812, Malet formed the daring plan of overthrowing a prince then at the summit of his power as first consul. For this purpose, he engaged the co-operation of his fellow prisoners, and, having obtained permission to be carried to an hospital, he escaped during the night of October 23, and, presenting himself to the colonel of a regiment of the Paris garrison, in per-

sanded him that the emperor was dead, and that an opportunity was now offered to restore the republic. He also showed him a decree of the conservative senate, abolishing the imperial government, and constituting general Malet commander of Paris. He next hastened to the barracks of the tenth cohort, under the command of Soullier, who had either been previously gained, or was easily made to believe what he desired—the emperor's death and a change of government. Soullier took possession of the Hotel de-ville at eight o'clock in the morning, and Prochot, the prefect of Paris, who arrived soon after, was also brought to believe that the emperor had been killed. Measures were taken for establishing a provisional government, and a detachment under general Guidal hastened to the Hotel of the Police, seized general Savary, the minister, conducted him to the prison La Force, and installed Lahorie in his place. Malet next proceeded with some soldiers to the quarters of general Hullin, but could not convince him that the story of the emperor's death was true, nor that the pretended decree was genuine. After some altercation, Malet discharged a pistol at him, and wounded him in the jaw, but was immediately seized from behind, and thrown to the ground, by general Aborde, adjutant of the post, who, on hearing of the military movements, had hastened to general Hullin's quarters, and had been admitted without opposition by Malet's soldiers. The latter, who appeared to have been ignorant of Malet's designs, consented to conduct him to prison. His accomplices were soon after arrested, and were examined, with him, before a court-martial, the next day. The examination continued two days and three nights. During the whole time Malet displayed the most unperturbable coolness, avowed his designs, and declared himself ready to die. He was shot, with the other conspirators, October 27, in the plain of Renelle.

MALHERBE, FRANCIS DE, a celebrated French poet, was born in 1555, at Caen, of an ancient but decayed family. His father was a Calvinist, but, being adopted as a principle, that a gentleman could be of the religion of his prince, he himself adhered to the church of Rome. He entered into a service of Henry d'Angoulême, natural son of Henry II., and married the widow of a counsellor, whom he had several children. He did not visit Paris until his fiftieth year, when Henry IV. received him into his service, and gave him a liberal pension, chiefly in consequence of the recommendation of Alnial du Perron, who mentioned him as one who surpassed all the French poets who had preceded him. He died at Paris, in 1627. Although the recorded incidents of his life be few, numerous testimonies abound of his caustic wit, greediness of presents, and morose temper; he being generally at war with his wife or another of his relations. He was also lax and entious in respect both to morals and religion. Such was his zeal for the purity of the French language, that, when near expiring, he reproved his nurse for using a word not duly authorized. He may be termed the father of cultivated French poetry, being not only an excellent versifier, but possessed of many of the qualities of a poet; not indeed of the highest class, but he was ingenious, harmonious, elegant, and sometimes even elevated. His poetry consists of odes, stanzas, sonnets, epigrams, and other short pieces, with a few of a devotional cast. He also published translations of Seneca *De Beneficiis*, and of Ovid of *Livy*, with some letters. The best editions of his works are those of Paris, 1722, 3 vols., 8vo., and 1757, 8vo.

MALL, or PALL-MALL, was a game formerly much played in England, in which a box ball was

struck through a ring. The *mall* (French *mail*) was properly the stick (*mallet*) used for striking; but the French *mail* also signified the game itself, more commonly called, by the English, *pall mall* or *pall-mail*, and the ground or alley on which it was played, which was often planted with trees. The site of the street now called *Pall-Mall* (pronounced *pell-mell*) was originally appropriated to playing this game, and derives its name from that circumstance. The walk called the *mall*, in St James's park, also received its name from having been the royal play-ground in the time of Charles II., when mall was a fashionable amusement.

MALLEABILITY; a property of metals, whereby they are capable of being extended under the hammer. (See *Ductility*, and *Metal*.) This word has of late been used by some philologists, to indicate the power of certain languages to form words from given roots by adding prefixes and affixes, and thus to express many different shades of the original idea.

MALLET, DAVID, a miscellaneous writer, was born at Crief, in the county of Perth, about 1700, and, in 1720, was a tutor in the family of Mr Home of Edinburgh. In 1723, he accompanied the two younger sons of the duke of Montrose to Winchester school, and, in the same year, published his admired ballad of William and Margaret. He subsequently made the tour of Europe with his pupils, on his return settled in London, and dropped the name of *Malloch* for *Mallet*. In 1728, he published a poem, entitled the *Excursion*, and, in 1731, a tragedy, called *Eurydice*, which met with temporary success. A poem on Verbal Criticism followed in 1733, and he was soon after made under-secretary to Frederic, prince of Wales. His tragedy of *Mustapha* was produced with success in 1739, and, the following year, his life of lord Bacon appeared, prefixed to a new edition of the works of that great man. In 1747, he published his largest poem, entitled *Amyntor and Theodora*. On the death of Pope, Mallet lent himself to the resentment of lord Bolingbroke against the deceased poet, for having clandestinely printed his *Idea of a Patriot King*. For this service, he was rewarded by Bolingbroke with a bequest of his works, the publication of which produced a prosecution. The duchess of Marlborough having left £1000 between him and Glover, to write the life of her husband, the latter declined the task, and it was undertaken by Mallet alone, who received more or less of the recompense, without leaving on his death, a line towards the work. On the prosecution of admiral Byng, he was employed, by the ministry, to assist in making that unfortunate officer their scapegoat, and was rewarded by a considerable pension. On the accession of lord Bute to the premiership, he wrote his *Truth in Rhyme*, and tragedy of *Elvira*, to which a political tendency was given, to serve the politics of that nobleman, and he obtained a place in the customs for his recompense. He died in 1765. The religious scepticism which he avowed, may have assisted to darken the portraits usually given of Mallet; but it is obvious that no partiality could have rendered it amiable.

MALLET; a weapon. See *Mace*.

MALLEUS, in anatomy; a bone of the ear, so called from its resemblance to a mallet, and in which is observed the head, the neck, and handle, which joins the membrane of the tympanum. See *Ear*.

MALLICOLO, or MANICOLO; an island in the South Pacific ocean, which, according to captain Dillon, should be considered as forming one of the group called Queen Charlotte's islands; lat. 11° 41' S.; lon. 167° 5' E. It has acquired an interest from having been the place where Laperouse was cast away, as appears from the results of the expedi-

tion of captain Dillon, who went on a voyage of investigation, in 1827 (Narrative, &c., 2 vols., 8vo, London, 1829). The relics which he obtained from the island, were identified by Lesseps, who had left Lapérouse in Kamtschatka, and by Betham, as having the armorial bearings of Colignon, botanist on board the frigate. According to the information obtained by captain Dillon, two ships had been thrown ashore; the crew of one perished; the people of the other built a small vessel, and went to sea; what became of them is not known; of two Frenchmen who had remained on the island, one died about three years before the arrival of captain Dillon; the other had followed the fortunes of a defeated chief to some other island. Lesseps has published (Paris, 1831) the *Voyage de Lapérouse*, with all the documents and results of the researches since made to discover his fate. This island must not be confounded with Malicolo, one of the New Hebrides, in lat. 16° 30' S., lon. 167° 50' E.

**MALLOUINES**, or **MALOUINES**. See *Falkland Islands*.

**MALMAISON**; a chateau, two and a half leagues from Paris, and one and a half from Versailles, in one of the most charming situations in the vicinity of the great metropolis. It was the residence of Joséphine, who died there in 1814, and whose grave is indicated by a simple monument. In its beautiful walks, Napoleon loved to find recreation from the cares of state. It received its name (*malus domus*) from its having been erected on the spot where the Normans landed on one of their incursions in the ninth century.

**MALMESBURY**, **WILLIAM OF**, an ancient English historian of the twelfth century, was born in Somersetshire, on which account he was sometimes called *Somersetanus*. He relates that, when he was a child, he had a great inclination for learning, which was encouraged by his parents, and it is supposed that he was educated at Oxford. He became a monk of Malmesbury, and was elected librarian of the monastery. He studied all the sciences of his time, but attached himself particularly to history, and finding that a satisfactory account of his own country was wanting, he determined to write one, "not," as he himself says, "to display his learning, which is no great matter, but to bring to light things that are covered with the rubbish of antiquity." His *De Regibus Anglorum* is a general history of England, in five books, from the arrival of the Saxons, in 449, to the twenty-sixth Henry I., in 1126; a modern history, in two books, from that year to the escape of the empress Maud from Oxford, in 1143; with a church history of England, in four books, published in Sir H. Savile's collection (1596). He discovers great diligence, good sense, and modesty. His *Antiquities of Glastonbury* was printed by Gale, and his *Life of St Aldhelm*, by Wharton. He died in 1148.

**MALMSEY WINE** is a sweet wine, made from a grape originally brought from Monembasia, a small town on the south-east coast of the Morea. The English call the place by its Italian name, *Malvasia*, and the French, *Malvoisie*; hence the name of the wine, *Malmsey* (*vin de Malvoisie*). Much of the Malmsey now used is made from a grape grown on rocky ground, in Madeira, exposed to the full influence of the sun. It is left to hang about a month later than the grapes used for the dry wines, and is not gathered until partially withered. See *Henderson, Hist. of Wines*, 250.

**MALÔES**, **St** (properly, *St Malo*); a seaport on the western coast of France; lat. 48° 39' N.; lon. 2° 1' W.; population, 9860. It is situated on a peninsula, which is connected with the main land by a

narrow causey (the *Sillon*). The harbor is deep and commodious, but difficult of access. The fisheries are extensive and strong. The aboriginals are active, hardy, intelligent seamen, and are occupied in the cod and whale fisheries, as the East India and colonial trade. Wine, brandy, wheat, wheat provisions, hemp and tar, are the principal articles of trade. In 1622, this place fitted out twenty-two privateers; in 1711, it gave 30,000,000 rials to Louis XIV. It is the native city of Mauguet, Deputy-Trouin, and Cartier, the discoverer of Canada.

**MALONE**, **EDMUND**, a commentator on the works of Shakspeare, was born at Dublin, in 1731, after completing his studies at Trinity college. He resided at the Inner Temple, London, and was called to the bar in 1767. Possessing a competent fortune he gave up his profession, and employed himself in literary pursuits. After having been the editor of Steevens, in his edition of Shakspeare's poems, Malone quarrelled with that gentleman, and published an edition of his own, in 11 vols., 8vo, &c. He also published an Inquiry into certain facts attributed to Shakspeare (see *Ireland*); biographical memoirs of Sir Joshua Reynolds, Dryden, &c. Hamilton, &c. He died May 25, 1812.

**MALPIGHI**, **MARCELLO**; an eminent Italian physician and anatomist of the seventeenth century, was born in 1628, near Bologna, and studied at the university of that city. He was admitted M.D. in 1653, and, three years after, was appointed to a medical chair. The grand duke of Tuscany called him to become professor of medicine at Pisa, where he staid three years, and, in 1660, returned to occupy his former office at Bologna. He was tempted by a high stipend to accept the professorship of anatomy at Messina, in Sicily; but the jealousy of his colleagues rendered him uneasy, and he again returned to Bologna, in 1666. He was elected a member of the royal society of London in 1669, and communicated to that association various anatomical discoveries relative to the minute structure of animal bodies, the results of microscopical observations. Pope Innocent XII., in 1691, called him to Rome, and appointed him his physician, chamberlain, and domestic prelate, which posts he held till he died in 1694. His works, relating to anatomy, physiology, and vegetable anatomy, comprise much new and important information on the brain, the nerves, the spleen, the uterus, &c.; also on the formation of the fetus in the egg, on plants, &c. His anatomy of vegetables, &c. His complete works have been often published (London, 1807, &c.). His posthumous works were published at London (1673 folio), and republished at Venice and Leyden. Garparini published his *Consult. Med. Crurae et Plantae* (1713). Although Malpighi is not free from error, yet he contributed much to the progress of anatomy, and deserves a distinguished place among discoverers.

**MALPLAQUET**, **BATTLE OF** (Sept. 11, 1793) the bloodiest in the war of the Spanish succession, gained by Marlborough and Eugene, the commanders of the allies, against the French under Tilly. After the capture of Tournay, the allies went to invest Mons, the capital of Hainaut. To prevent this, Villars marched against them: an elderly, noble and valiant Boudiers, served under him as a volunteer. The French army was 70,000 strong, with eighty pieces of cannon. The allies, who numbered about 80,000 men, with 140 pieces of cannon, commenced the attack, near the wood in the neighbourhood of the villages of Blangies and Malplaquet. Marlborough commanded the British troops, and the German troops in the British pay, on the right wing. Eugene led the centre; Tilly and a com-

Nassau, the left wing, where the Dutch were stationed. Villars commanded the right wing of the French forces; Bouffers, the left. The left wing of the allies was put to flight, and Marlborough had to struggle against the most furious attacks upon the right. The Pretender, son of James II., chevalier St George, charged twelve times, at the head of the French cavalry. Villars then weakened his centre, by despatching reinforcements for the left wing. At his crisis, Eugene advanced, stormed the intrenchments which covered the enemy's centre, and drove back the guards. The marshal hastened thither on the left wing, but too late; he was wounded himself; his centre was broken through, and the wings separated. The battle was lost. The field was covered with about 30,000 dead and dying. The French lost hardly 10,000; the allies, more than 30,000. The conquerors took no prisoners nor cannon. Bouffers conducted the retreat in good order, between Le Quesnoy and Valenciennes. The allies immediately laid siege to Mons, which fell into their hands.

MALT is the preparation of barley, from which ale, beer, and porter are brewed, all which are generally denominated *malt liquors*. For this purpose, the barley is steeped in water for three or four days. It is then taken out and suffered to lie until it begins to sprout or germinate. As soon as this process has advanced sufficiently, its further progress is prevented by drying it in a kiln, heated by coal or coke, for which purpose the anthracite coal is found to answer admirably well. The grain is now become mellow and sweet, and after having been crushed in a kind of mill, contrived for the purpose, its saccharine and uclaginous portions are extracted by boiling water. The liquor thus produced has the name of *wort*, which, having undergone the process of fermentation, and having been flavoured by the addition of hops, &c., constitutes ale or beer. What remains of the malt after brewing, is called the *grains*, which are used for feeding horses and cows. Besides the use of barley for malt, it is also extensively used for soup, broth, bread, &c., in all the countries of Europe. See *Fermentation and Brewing*.

MALTA (anciently, *Melita*); an island in the Mediterranean, possessed, through several centuries, a degree of celebrity and power greater than has ever been attached to any other territory of so little extent; lat. 35° 53' N.; lon. 14° 30' E. (of the servatory of the grand master); sixty miles from Sicily; 200 from Calipia, the nearest point of Africa; separated from the small island of Gozo by a strait five miles wide, comprising, with Gozo and the rock of Minio, which lies between, about 170 square miles. The population of the group was, at one time, 4,000; at present, 94,000; of which 14,000 belong to Gozo. Besides the natives, there are British, about 700, besides the military), Jews, Greeks, Turks, Egyptians, Italians, French, and Dutch. The Maltese, English, and Italian are the predominant languages. The soil consists of a thin covering of earth, on a soft, calcareous rock, and is increased by taking up the surface of the stone into a sort of gravel, and mixing it through the earth. To the north-west, the land rises precipitously more than 30 feet; to the north-east, it is low. There is but one small stream in the island, which is conducted, by an aqueduct of several thousand arches, and eight miles long, to Valetta; a supply of water is obtained from cisterns, in which the rain water is collected. The southern shore is rocky, and without any harbour; that of Marsa, on the east, forming the port of Valetta, is one of the best in the Mediterranean, being completely land-locked, and capable of containing 500 vessels. The climate is hot, but the

heat is mitigated by a sea breeze, which always sets in at night. The principal production is cotton. Melons and oranges, of an excellent quality, are abundant. Corn is raised in small quantities. Figs are cultivated with great care, the process of caprifiration (see *Figs*) being practised. The Maltese are of African origin; with a swarthy skin, hair inclined to frizzle, and nose somewhat flattened. They are industrious, frugal, and excellent seamen; but poor, ignorant, superstitious, vindictive, and dishonest. The upper class speak Italian, but the language of the common people is a *patois*, compounded of Arabic (which is the fundamental and principal part), German, Greek, Italian, and other languages. The Arabic so far predominates, that the peasants of Malta and Barbary can understand each other. They have no alphabet, and, according to the fancy of individuals, adopt those of other tongues. The capital is Valetta, founded in 1566, by Lavelette (q. v.), grand master of the knights of Malta, with a population of 40,000. It is remarkable for the magnificence of its buildings, and the position and strength of its fortifications. The church of St John, the patron of the order, is a noble building, 240 feet long and sixty wide, which contained great riches, until they were seized by the French. The hotels of the knights, corresponding to the eight languages into which the order was divided (see *John, St, Knights of*) are now occupied by the British officers. The palace of the grand master is an extensive pile, and contains a magnificent armoury of ancient and modern weapons. The great hospital afforded accommodations for 2000 patients, who were attended by the knights. The vessels used in the hospital service were of solid silver. Immense granaries, cut out of the rock, were stored with corn, sufficient to maintain the garrison twenty years. They were hermetically closed, and the grain has been preserved in them, so as to be fit for use after a hundred years. The fortifications are the strongest in the world. Besides five forts, commanding the most important points, there are lines of vast strength, enclosing the various quarters, and forming works of such extent as to require 25,000 men to man them, and 100,000 to invest the place completely. Valetta is protected on three sides by the water, and on the fourth, by five lines of fortifications. The ditches are, in some places, ninety feet deep, hewn out of the rock, and the ramparts are mostly formed in the same manner. 1000 pieces of cannon are mounted on the works.

Malta was early in the hands of the Carthaginians, who were dispossessed by the Romans. (On the antiquities, inscriptions, vases, coins, &c., consult the *Malta antica illustrata*, by Bress, Rome, 1816, 4to.) It was occupied, in the middle ages, by the Saracens and Normans, and, in 1530, was conferred, by Charles V., on the knights of St John, who had been expelled from Rhodes by the Turks. It was soon fortified by the knights, and underwent several memorable sieges. In 1798, general Bonaparte took possession of it, on his expedition to Egypt; and, in 1800, the French garrison was obliged, by famine, to capitulate to a British force. In 1814, the possession of it was confirmed to Great Britain, by the treaty of Paris.—See Boisgelin, *Ancient and Modern Malta* (London, 1805, 2 vols., 4to); Brydson's *Tour through Sicily and Malta*; and Bigelow's interesting *Travels in Malta and Sicily* (Boston, 1831); Vassalli's *Grammatica della Lingua Maltese* (Malta, 2d ed., 1827.)

MALVASIA; a district in the Morea. The chief place, called *Malvasia di Romania*, is situated on an island, and connected with the continent by a bridge. It is a fortress; has a bishop, and 2000

inhabitants. Since the late division of Greece, Malvasia forms a province of the department Laconia. The well-known cape Malea belongs to Malvasia. The famous Malmsey wine is made here (also on some other Greek islands). A similar kind of wine is also made in Sicily, Sardinia, in Provence, and Spain. Among the Sardinian wines of this sort, the *Malvasia di Sorso* is particularly distinguished. The Spanish sort comes mostly from Catalonia and Teneriffe. There are both red and white kinds. See *Malmsey Wine*.

MAMELUKES, MAMLOUKS, or MAMALUKES (from the Arabic *memalik*, a slave); slaves from the Caucasian countries, who, from menial offices, were advanced to dignities of state. They did not, however, form a separate body, but when Gengis-Khan made himself master of the greatest part of Asia, in the thirteenth century, and carried vast numbers of the inhabitants into slavery, Nedjmeddin (Malek Salah), sultan of Egypt, bought 12,000 of them, including natives of Mingrelia and Circassia, but chiefly Turks from Capchak (Kiptak), had them instructed in the military exercises, and formed



a regular corps of them. They soon exhibited a spirit of insubordination and rebellion. Under his successor, they interfered in the government, assassinated the sultan, Turan Shah, and, in 1254, appointed Ibegh, one of their own number, sultan of Egypt. The dominion of the Mamelukes in Egypt continued 263 years. The command was usually held by the bravest of their number. During this period, they made some important conquests, and, in 1291, they drove the Franks entirely out of the East. Selim I. put an end to this kingdom, after having taken Cairo the capital, by storm, in 1517. He placed a Turkish pacha as governor over Egypt, but appears to have been compelled, by circumstances, to leave the twenty-four beys, who governed the different provinces, in possession of their power. This state of things continued more than 200 years. But, from the middle of the last century, the number and wealth of the Mamelukes gave them such a superiority over the Turks in Egypt, that the pacha appointed by the Porte was obliged to conform entirely to their wishes. This superiority was owing principally to Ali Bey, who ruled with unlimited power, from 1766 to 1773, when he was assassinated. The Mameluke beys, especially Murad Bey, played an important part at the time of the French invasion. The Mamelukes, who were scattered throughout Egypt, and estimated at 10 or 12,000 men, maintained their numbers, principally by slaves brought to Cairo from the regions lying between the Black and Caspian seas. These were compelled to embrace the Mohammedan faith, and were all educated as soldiers. After a time they obtained a share in the

government, and some of them even became bey for none but Mamelukes were capable of holding an office. They formed a fine body of men, and attacked the French, when they invaded Egypt, with the greatest fury; but they were soon vanquished by the European artillery, and many of them were killed by the French. The present pacha of Egypt, Mohammed Ali, destroyed the beys, in 1811, by massacre.

MAMMALIA. This class consists of animals which are provided with mammae, by means of which they suckle their young. The term is derived from *mammae*, breasts.

The first writers on this branch of natural history were Aristotle and Pliny, and some time afterwards they were followed by Elian, who wrote not only of the nature of animals, and Oppian, in a poem on hunting, describes, at some length, the various animals which were known at his time. In the writings of Hippocrates, Cato, Columella, and Varro, we find occasional observations on the uses of various animals, and, also, on their ferocity, many of which are now considerably mixed up with fable.

In 1551, after the revival of letters in Europe, Gesner published a history of quadrupeds, which was placed in alphabetical order; but some of the most striking genera, such as horses, deer, apes, and men, were arranged in groups. But it was John Ray, a native of Britain, who formed the first correct arrangement of quadrupeds, which was published in the year 1683, under the title of *Synopses Methodica Animalium Quadrupedum*. There he divided them into two classes; first those with hoofs, and second those provided with nails.

Successing writers continued to improve upon the superstructure of Ray; but it was reserved for the great Linnaeus to lay the first foundation of a more extensive and distinct classification. To us, also, we are indebted for a more perfect method of definition. He attempted what never had been done before, in his *Systema Naturae*, which appeared in 1735, by bringing under review the whole animal, vegetable, and mineral kingdoms, which he described and named every natural object which had been discovered up to his time, and arranged them in his writings in a language fitted to supply all the wants of the age. This celebrated work was ever sought after, and, in a short time, passed through twelve editions; and not long after his death, was edited a new edition of the *Systema Naturae*, with additions, up to the date of its publication in 1760. After his time many distinguished men attempted to improve the arrangement of Linnaeus, the most successful of which was Blumenbach.

A new era commenced in the study of natural history in France. Cuvier, Lamarck, and Latreille laid the foundation of a school which classified animals from their organization. Their great mistake so far adopted the Linnaean method, but their investigations being more precise, and the arrangement of objects being almost daily augmented, they found it necessary to institute many new genera, in our department of zoology. They were found that the study of internal comparative anatomy was indispensably necessary to a true knowledge of animals, and by their vigorous and patient investigations, they showed the world that this was the only certain method of ascertaining the distinctions between nearly allied groups and species. Thus, with the aid of external characters, has brought the comparative anatomy to its present advanced condition.

Cuvier has shown that there are - *unmistakable* - prescribed to living beings," which he has defined. "Every organized being forms a whole and entire system, of which all the parts mutually co-operate and co-operate to produce the same definite ends."

by a reciprocal re-action; none of these parts can change, without a change of the others also. Thus, if the intestines of an animal are organized in a manner only to digest fresh flesh, it is necessary that his jaws should be constructed to devour the prey, his claws to seize and tear it, his teeth to divide the flesh, and the whole system of his organs of motion to follow and overtake it, and of his organs of sense to perceive it at a distance. It is necessary, also, that he should have seated in his brain the instinct to hide himself and spread snares for his victim; such are the general conditions of a carnivorous regimen; they must infallibly be united in every carnivorous animal—without them the species could not subsist. But under these general conditions, there are particular ones with respect to the size of the species, and the abode of the prey for which each animal is disposed."

Of all the departments of zoology, the Mammalia of Cuvier is his most perfect work, and we have, in great measure, followed him in the following article, to which we have added a few new genera, established by other naturalists, and we have otherwise slightly altered the arrangement, to bring it nearer to the present state of zoological knowledge.

Cuvier places the class mammalia at the head of organized beings, because the animals which it embraces are the most perfect in their structure, and hence their most varied powers of motion, sensation, and intelligence.

Most mammiferous animals are formed for walking; a few, however, can sustain themselves in the air; while a limited number are destined to live in the water. Bats suckle their young, and are otherwise constructed like quadrupeds; and whales and other cetaceous animals, although inhabitants of the waters, are strictly mammiferous animals, and also suckle their young.

From man, who, from his most perfect organization, stands at the head of the system, to whales and their congeners, which are classed at the end of the mammalia, the skeleton is formed upon the same general principles, and its parts are only altered and modified to suit the station which the animal is destined to fill.

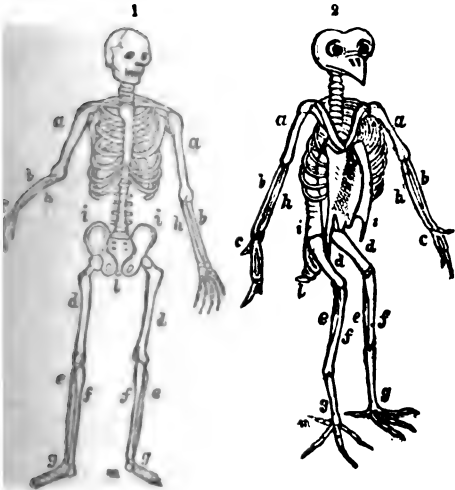
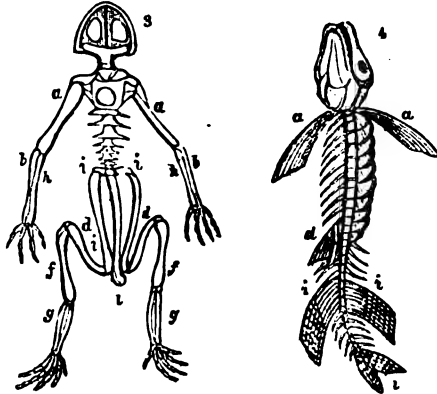


Fig. 1. Is the human skeleton: *a a* the os humeri, *b* the radius, *A A* the ulna, *c* the bones of the carpus, *i* the pelvis, *d d* the os femoris, *e e* the fibula, *ff* the tibia, *g g* the bones of the tarsus, *m* the projection of the os calcis.

Fig. 2. Is the skeleton of a bird: all the bones which correspond with those of the human skeleton, are marked by similar letters. The same apply to the following skeletons. Fig. 3 is that of a frog, and fig. 4 that of a fish.



By those unacquainted with comparative anatomy it will be imagined, on contrasting the skeleton of the human subject with those of the bird and the frog, that these two have more bones in the leg than man, which is not the case, as the bones marked *g* in the latter skeletons are merely one of the tarsal bones more developed than in man, and that bone, reaching from the toes to the first joint in birds, is called the tarsus. We have illustrated the bones by skeletons of the monkey and horse, which will convey a pretty correct idea of those throughout mammiferous animals.

#### SKELETON OF A MONKEY. Plate 52, fig. 13.

##### Bones of the Trunk.

- a*. The Sternum, or breast bone.
- BBB. The seventh or last true rib.
- c*. The cartilage of the ribs.
- d*. The twelfth, or false rib.
- uuE. The lumbar vertebrae, with their intervertebral cartilages and transverse processes.
- f*. The os sacrum.
- G. The os innominatum, composed of the os ilium, os pubis X, and the os ischium *a*.

##### Bones of the Superior Extremity.

- H. The clavicle fixed before to the first piece of the sternum, and outwards to the acromion of the scapula I.
- C. The scapula: above it is the cervix of the scapula, and below the outward extremity of the clavicle, the superior costa, and coracoid process are seen.
- k. The os humeri.
- G. The head, or ball of the os humeri: on each side are seen the internal and external tubercles of the os humeri, and farther out, the groove for lodging the tendon of the long head of the biceps muscle.
- 8. The inner condyle of the os humeri.
- 9. The outer do.
- LL. The radius, at the end of which is its head.
- MM. The ulna, at the upper end of which is the coronoid process.
- QQQ. Bones of the carpus, eight in number.
- NN. The metacarpal bone of the thumbs.
- PPP. The metacarpal bones of the fingers.
- qaa. The two bones of the thumb.
- RRR. The three phalanges of the fingers.

##### Bones of the Inferior Extremity.

- S. The os femoris, the ball or head of the bone is lodged in the acetabulum.
- 13. The cervix of the bone.
- 14. The large trochanter.
- 15. The small trochanter.
- 16. The inner condyle.
- T. The patella, placed upon the trochlea of the os femoris.
- U. The tibia.
- 17. The head of the tibia.
- 18. The tubercle of the tibia.
- 19. The malleolus internus.
- V. The fibula, the upper end of which is connected with the tibia.
- 20. The malleolus externus.
- WW. The bones of the tarsus.

21. The projection of the os calcis.  
 XX. The metatarsal bones of the four toes.  
 YYYYY. The phalanges of the toes, or of the lower hands in monkeys and other quadrumanous animals.  
 22. 22. The pelvis.  
 23. The vertebrae of the tail, or caudal vertebrae. This organ in man consists but of a single bone rising out of the lower part of the pelvis, and is termed the os coccygis.

*Bones of the Head and Neck.*

23. The os frontis joined to its fellow by the sagittal suture.  
 24. The parietal bone.  
 25. The temporal process of the sphenoid bone.  
 26. The lower jaw.  
 O. The malar, or cheek bone.  
 The superior maxillary bone, fig. 1. a.  
 The nasal bone, do. b.

*SKELETON OF A HORSE. p. 52. f. 23.*

- a. The posterior maxillary, or jawbone.  
 b. The superior maxillary, or upper jaw.  
 c. The orbit or cavity in which the eye is contained.  
 d. The nasal bones, or bones of the nose.  
 e. The suture, dividing the parietal bones below, from the occipital bones above.  
 f. The inferior maxillary bone, containing the upper incisors or cutting teeth.  
 B. The seven cervical vertebrae, or bones of the neck.  
 C. The eighteen dorsal vertebrae, or bones of the back.  
 D. The six lumbar vertebrae, or bones of the loins.  
 E. The five sacral vertebrae, or bones of the paunch.  
 F. The caudal vertebrae, or bones of the tail.  
 G. The scapula, or shoulder blade.  
 H. The sternum, fore-part of the chest or breast bone.  
 I. The costae, or ribs, seven or eight of which, articulating with the sternum, are called the *true ribs*, and the remaining ten or eleven, which are united by a cartilage, are called the *false ribs*.  
 K. The radius, or bone of the fore-arm.  
 L. The ulna, or elbow, with its process, the olecranon.  
 MM. The carpus, or knee, consisting of seven bones.  
 NN. The metacarpal, or shank bones; the large metacarpal, or cannon, or shank in front, and the smaller metacarpal, or splint bone behind. g. The fore-pastern and foot, consisting of the os sufraginis, or upper and longer pastern bone, with the sesamoid bones behind, articulating with the common and greater pastern; the os coroum, or lesser pastern, or os pedis, or coffin bone, and the os navicular, or shuttle bone, not seen, and articulating with the smaller pastern and coffin bones; A. the corresponding bones of the hind feet.  
 OO. The small metacarpal, or splint bones.  
 P. The pelvis, or haunch, consisting of three portions; the ilium, the ischium, and the pubis.  
 QQ. The femur, or thigh bones.  
 RR. The patella, placed on the stifle joint.  
 SS. The tibia, and fibula (the latter is a small bone behind) are also called the ham bones.  
 TT. The bones of the tarsus, or hock, six in number.  
 UU. The metatarsals of the hind leg, called shank or common bones.  
 WW. The os calcis, or point of the hock.  
 XX. The sesamoid, or fetlock bones.

The upper jaw of the whole mammalia is fixed immovably to the cranium; the lower jaw consists of two pieces, uniting in the centre of the chin, and articulated by a projecting condyle to a fixed temporal bone. The neck is composed of seven vertebrae, and in one species it consists of nine. The anterior ribs are attached to a sternum, formed of several vertical pieces. The anterior extremities or arms commence at the scapula, or shoulder-blade. This bone is not articulated to any other, but simply suspended in the muscles, by thin attachments, and frequently resting on the sternum by the clavicle or collar bone, which holds an intermediate situation; this is prolonged into an arm, fore-arm, and terminated by a hand, consisting of two rows of small bones, denominated the carpus, another row called the metacarpus, and finally the fingers, each composed of two or three bones, called phalanges.

The whole class, with the exception of the Cetacea, have the posterior extremity fixed to the spine, where it spreads out into a pelvis. In young animals, this part is divided into three pairs of bones; the *ilium*, or that part attached to the spine; the *pubis*, which forms the anterior portion of the pelvis, and the *ischium*, which forms the posterior part. At the place where these bones unite, there is a cavity into which the thigh bone is articulated,

to which is attached the leg, composed of two bones the *tibia* and *fibula*. The leg is terminated by a foot, composed of parts analogous to those of the hand, and are termed the *tarsus*, *metatarsus*, and *toes*. The termination of the lower extremities of the animals, comprising the order *quadrumanus*, cannot be termed a foot, as it is in every respect analogous to the hands of the upper extremities, as hence the name of the order, *four-handed*. It is readily seen, by comparing the hands of the upper and lower extremities of the *Chimpanzee* (*Hydrodytes niger*) plate 52, figures 23 and 24, as they are both formed for grasping. Fig. 23 is the end of the upper extremity or arm, and fig. 24 is the end of the lower extremity or leg; a hand bone is presented at fig. 45.

The CRANIUM in the mammalia is always constituted by two condyles upon the atlas bone, or vertebra of the neck. The cranium is divided into three compartments; the fore part is formed by two frontal bones and the ethmoid; the intermediate, by the parietal bones and the sphenoid; the posterior by the occipital. Between the occipital bones and the sphenoid, are inserted the temporal bones, a part of which properly belongs to the base.

In the foetus the occipital bone is divided into two parts; the body of the sphenoid into two, and those of its pairs of alae are separate. The temporal bone consists of three divisions, one of which serves to complete the cranium, another to close the internal of the ear, and the third to form the sides of the skull. These parts of the bones of the cranium unite more or less quickly, and are perfectly united in the adult.

The face is formed by two maxillary bones, between which the nasal canal passes; they form the two intermaxillary bones in front, and the palatine behind; between these descends the maxilla of the ethmoid bone, called the *Vomer*. At the entrance of the nasal canal, are the bones proper to the nose. The jugal, or cheek bone of each side, unites the maxillary bone to the temporal, and also to the frontal bones; and finally, the zygomatic occupies the internal angle of the orbit, and sometimes a part of the cheek.

The BRAIN is composed of two hemispheres, united by a medullary lamina, called the *corpus callosum*, and contains two ventricles, enclosing two pairs of tubercles, which are termed *corpora callosa*, the *thalami optici*, *nates* and *testes*. Between the *thalami optici* is a third ventricle, which communicates with a fourth, situated under the cerebellum. The *crura* of the cerebellum form always under the *medulla oblongata* a transverse process, called *pons Varioli*.

The EYE is always situated in the orbit, and protected by two eyelids, and the rudiments of a lid. The crystalline lens is fixed by the ciliary process and its cellular sclerotic coat.

The EAR has universally a cavity called the *tympanum* or drum, which is closed from without by the *membrana tympani*; it has also four bones, called the *incus*, *malleus*, *stapes*, and *os orbicularis* at the entrance of which is placed the *stapes*, which communicates with these circular canals; finally, a canal called the *cochlea*, which terminates by one of its canals in the tympanal cavity, and by the other in the vestibule.

The TONGUE is always fleshy, and attached to the hyoid bone, suspended by ligaments on the mouth.

The organ of VOICE is always placed at the superior extremity of the *trachea*; and a fleshy communication, denominated the *Falx palati*, or soft palate, establishes a distinct communication between the larynx and back part of the nostrils.

Touch is always more perfect in animals whose fingers are more numerously developed, and which are least covered at their tips; such as those possessing only a single nail protecting their upper extremities, as in man, apes, and lemurs; sensation in the toes of such as are covered with hoofs, on the contrary, is extremely blunted.

**CLOTHING.** Animals are provided by nature with a covering adapted to the situation in which they are placed. Living for the most part on the earth's surface, the mammalia are exposed to the transitions of heat and cold; the bodies of most of them are covered with a coating of hair, varying in thickness. As their habitation approaches the northern regions, it is more dense, and thinner towards the equator. The cetaceous animals which inhabit the sea, are totally divested of hair.

The essential characters of the mammalia are taken from the number and structure of their teeth, and the construction of their hands and feet. On the perfection of the organs of touch, the expertness of the animal depends; and from their dentary formula may, in a great measure, be deduced the nature of their food and digestive functions.

Animals which feed on flesh have three kinds of teeth; incisors, or cutting teeth, pl. 52, f. 48, *a*; canine, or tearing teeth, *b*; and molars, or grinding teeth, *c*. Those which subsist entirely on animal food, have all their teeth more acute than those which live partly on other substances. Man is an omnivorous animal, and with the structure of his teeth we shall contrast those of the lion. Plate 52, fig. 7, represents an incisory tooth of man; fig. 10, the incisor of a lion; fig. 8, canine of man; 11, that of a lion; fig. 9, the molar of man, and 12, that of a lion. Fig. 16, represents the molar of the Mastodon of America. Fig. 15, are the molars of the lower jaw of the Neotoma Floridana, an animal which exists exclusively on grain and other vegetable substances; which is indicated from the construction of these. If these are contrasted with those of a highly carnivorous quadruped, the *Viverra gracilis*, a striking difference will be observed, for, in place of the flattened surface of those of the Neotoma, the latter exhibit a sharp and irregular surface: fig. 25, represents the second molar of the upper jaw of *Viverra gracilis*; 26, second molar of the under jaw, and 27, the molars of the under jaw. The front view of the teeth of the *Viverra* or *Musanga* are given at 28, which show the strongly developed canines.

Animals of the Rodent order, have but two kinds of teeth, and they live chiefly on grain, nuts, and the bark of trees. Their cutting teeth or incisors, are formed very differently from those of most other animals. Plate 52, fig. 18, is an incisory tooth of the upper jaw of the *Isodon pilorides*, viewed exteriorly; fig. 20, an interior view of the same, and 21 an anterior view. The entire construction of the jaws of these are very different from those which live upon flesh, and other food, as will be seen by comparing the jaws, figs. 14 and 17, with fig. 21, which is the jaw of the *Mangusta Javanica*, an animal which is highly carnivorous, and represented at plate 52, fig. 21.

The method of Cuvier is adhered to, in the generic characters which we have given in the following classification of the mammalia, wherein the dental formula, and construction of the extremities form the principal generic distinction. The arrangement of the figures is intended to represent the upper and under jaw. For instance, in man, the incisory or cutting teeth, are placed in the centre of each jaw, or above and four below, and are marked *i*; the canines, or sharp-pointed teeth, are next to these, placed further back, that is, one on each side of the

incisory teeth above and below, and are marked *c*; beyond these, and further in the mouth, are the molars or grinding teeth, five on each side or the canines above and below, marked *m*; making a total of thirty-two teeth. The Chimpanzee, an animal which stands next to man in point of organization, has a similar arrangement in the number and kinds of teeth.

Cuvier divides his class Mammalia into the following orders:—

I. BIMANA; with two hands, of which Man is the only species. He has three kinds of teeth.

II. QUADRU MANA; animals with four hands, and having three kinds of teeth. Monkeys, &c.

III. CARNASSIERS. These have three kinds of teeth, which are more or less of a carnivorous character. Thumb of the anterior extremities never opposable to the other fingers or toes. It is divided into four families—*Cheiroptera*, or bats; *Insectivora*, or such animals as feed much on insects, as the Hedgehog, &c.; *Carnivora*, animals which subsist on flesh; Cats, &c.; *Marsupialia*, animals provided with a pouch for the protection of their young after birth, as the Kangaroo, &c.

IV. RODENTIA, or Gnawers; animals with two large incisors in each jaw, separated from the molars by a void space. The molars in most genera with flat or rigged crowns, and in others blunt tubercles; Hares, Squirrels, &c.

V. EDENTATA; generally destitute of teeth; some genera with molars only; their toes varying in number, and provided with large hoof-like nails. Ant-eaters, &c.

VI. PACHYDERMATA, or thick-skinned animals; it includes all the hoofed quadrupeds, except the ruminants. Horses, &c.

VII. RUMINANTIA; animals which ruminate or chew the cud, with cloven feet, and provided with four stomachs. Deer, &c.

VIII. CETACEA; whales.

Latreille and other naturalists have separated the *Cheiroptera* from the order Carnassiers; and even Cuvier himself proposed that the Marsupial animals should be formed into a distinct order.

The following arrangement has been adopted by us:—Order I. Bimana, II. Quadrumana, III. *Cheiroptera*, IV. *Feræ*, V. *Marsupialia*, VI. *Glires*, VII. *Edentata*, VIII. *Pachydermata*, IX. *Ruminantia*, X. *Cetacea*.

Cuvier and Latreille have placed the genus *Ornithorynchus* in the order *Edentata*, but this animal possesses characters which will not apply to any of the Cuvierian orders, and would properly make an order of itself, consisting of one genus.

The mouth of the *Ornithorynchus* is formed like the bill of a duck, resembling that of a shoveler or other broad-billed species; pl. 52, fig. 49. The internal edges of the under mandible, (which is narrower than the upper), are serrated or channelled with numerous striae, as in a duck's bill. The nostrils are small and round, and are situated about a quarter of an inch from the tip of the bill, and are about an eighth of an inch distant from each other. The fore feet, fig. 47, have five straight, strong, and sharp-pointed toes, the two exterior ones somewhat shorter than the middle three, a broad, fan-shaped web extends considerably beyond the claws. The hind feet, fig. 31, are provided with five other claws longer and more curved than those of the fore feet; the exterior toe and claw are considerably shorter than the other four. The males have a long sharp spur, situated considerably above the toes, through a small perforation of which they eject a poisonous liquor. See *Ornithorynchus*.

## ORDER I. BIMANA.

THIS order consists but of one species, MAN, who is placed at the head of the animal kingdom. He has three kinds of teeth; hands on the anterior extremities and feet on the posterior extremities, fitted for progressive motion in an upright posture; hands and feet, furnished with five fingers and five toes, on each of which are flat nails; two mammae or breasts.

*Homo Sapiens*. Man, "knowing himself." Incisive teeth 2; canines 1; molars 1; total 32. Facial angle differing in different nations. Cuvier considers that there are but three distinct varieties of the human race, viz. the Caucasian, Mongolian and Negro; while Blumenbach, divides them into five, the Caucasian, Mongolian, Ethiopian, American, and Malayan; the chief difference of each variety depending on the development of the skull, and on the facial angle, and general shape. See Article MAN.

*Variety I. The Caucasian*, pl. 52. f. 1., f. 2. coronal surface of the skull. Face oval; facial angle 85 degrees; forehead high, expanded; space between the eyes wide, cheeks coloured with red, hair long, usually of a brown colour. This form predominates in Europe. To which also belong the ancient Greeks; as exhibited in the skull pl. 52. f. 6, where the forehead rises to a great height.

*Variety II. The Mongolian*, pl. 52. f. 3. Face flat, broad, copper coloured, with lateral projections of the cheek bones; facial angle 75 degrees; space between the eyes narrow, eyes placed somewhat obliquely; hair straight, hard; lips thick; nose somewhat depressed; beard thin. This race is spread over Asia, Finland, European Lapland, and includes the Esquimaux hordes.

*Variety III. The Ethiopian*, pl. 52. f. 4. Face round, the upper and lower jaw projecting forward considerably; nose flat, broad; lips very thick; facial angle 70 degrees, skin brownish-black, of different degrees of intensity; hair woolly, frizzled and black. This race inhabits the middle parts of Africa. Fig. 5 represents the coronal surface of the skull.

*Variety IV. The American*, pl. 52. f. 32. Forehead short; cheek bones prominent; nose flattish; facial angle 73 degrees; skin mostly tan, varying to reddish copper-colour; hair straight and coarse, beard thin. This variety comprises the whole aborigines of America, with the exception of the Esquimaux. This skull is that of a North American Indian. Fig. 46 is the skull of a Charib, it represents the most preponderating of the lower lateral and posterior portions of the brain, of any variety of skull known to exist.

*Variety V. The Malayan*, pl. 52. f. 33. Face of an obtuse oval; nose broad; mouth wide; facial angle 73 degrees; skin varying in colour from mahogany to chestnut and clove brown. This race inhabits India, near the Ganges, with the Islands of the Indian ocean and Polynesia. The skull is that of a Siamese.

## ORDER II. QUADRUNANA.

QUADRUNANOUS animals have three kinds of teeth; incisors, canines, and molars; all the four extremities are provided with hands, which fit them in an especial manner for climbing trees. The thumb, however, differs from that of man, being not opposable; pectoral mammae two or four. Their food consists of fruits, roots and insects.

## FAMILY I. SIMIÆ.

Form approaching that of man; 2 pectoral mammae,

*Troglodytes niger*. Chimpanzee, pl. 53. f. 1. Facial angle 50°; destitute of cheek pouches, and tail at the base of the spine; arms moderately short; head round, muzzle projecting a little; canines project slightly, destitute of callosities on the hinder parts.

*Pithecius satyrus*. Orang-outang, pl. 53. f. 2. Facial angle 65° without cheek pouches, tail, or callosity at the termination of the spine; arms long.

*Hylobates syndactylus*. Siamang, pl. 53. f. 9. Facial angle 60°; arms very long, reaching nearly to the ground, destitute of cheek pouches and tail; some species without callosities.

*Presbytis mitrula*. Capped Monkey. Facial angle 60°;

destitute of cheek pouches; distinct callosities; arms reaching to the knees; tail long.

*Colobus polycomus*. Full bottomed Monkey, pl. 52. f. 8. Muzzle short, facial angle from 40 to 45°; arms moderate, provided with cheek pouches; nostrils approximated, tail longer than the body; body and arms slender, as thumbs on the fore-arms: having callosities.

*Nasalis larvatus*. Proboscis Monkey, pl. 52. f. 64. Facial angle 50°; muzzle short; having two patches: nose greatly produced; body robust; thumbs of the arms slender; tail longer than body; having mammae.

*Lasiopyga nemra*. Douc, pl. 52. f. 34. Face angle varying from 50 to 60°; muzzle but slightly elongated, face naked; hands longer than the fore-arms, moderate and slender; cheek pouches, but no callosities, as in *Colobus*.

*Semnopithecus entellus*. Entellus Monkey, pl. 52. f. 1. Facial angle 45°; head round; nose depressed; cheek pouches; thumbs very short, remote from fingers, as callosities.

*Cercopithecus mona*. Varied Monkey, pl. 52. f. 11. Facial angle varying from 45 to 50°; head round, nose distinct, approximating the fingers; cheek pouches a length of body at least; callosities, except in the upper part of the body.

*Cercocebus fuliginosus*. White-eyed Monkey, pl. 52. f. 6. Facial angle 45°; cheek pouches and thumbs rather large; fingers long and slender, tail short, tapering and longer than the body.

*Macacus niger*. Black Ape, pl. 53. f. 7. Facial angle from 40 to 45°; muzzle elongated; canine teeth long and long; tail not quite a third the length of the body, as robust.

*Cynocephalus niger*. Black Baboon, pl. 52. f. 14. Facial angle from 30 to 35°; head and muzzle greatly elongated; nostrils placed on the extremity of the superciliary and occipital ridges much developed, as wrinkled with obliquely longitudinal ridges or are, as cheek pouches; limbs of nearly equal length, strong; claws large.

*Papio mormon*. Rib-nose Baboon, pl. 52. f. 15. Facial angle from 30 to 35°; muzzle long, truncated, as strong; cheek pouches; callosities; tail short.

## AMERICAN MONKEYS.

*Ateles paniscus*. The Coati, pl. 54. f. 38. Facial angle 60°; head round, limbs slender; anterior limbs short; thumbs; tail very long, powerfully prehensile, as naked.

*Lagothrix Humboldtii*. Capybara, pl. 54. f. 17. Facial angle 60°; muzzle projecting; tail long, strong; prehensile, callosities beneath near its point.

*Myecetes urinus*. Araguato, pl. 54. f. 35. Facial angle 30°; strong canine teeth; tail long, prehensile, as the under side at the extremity, as *Myecetes*.

*Cebus fatuellus*. Horned Sapajou, pl. 52. f. 14. Facial angle 60°; head round, muzzle short; as thumbs moderate long and well formed; tail long, prehensile.

*Callithrix sciureus*. Siamang, pl. 54. f. 30. Facial angle 60°; head round, muzzle short; tail long, body, as prehensile; nails straight.

*Aotus trichogatus*. Howler, pl. 52. f. 11. Facial angle 60°; head round and large; muzzle short, as longer than the body, not prehensile; nails flat.

*Pithecia melanocephala*. Cacajao, pl. 52. f. 12. Facial angle 60°; head round; muzzle short; as canine teeth very strong; tail shorter than body, hairy, as claw-like and bent.

## FAMILY—OCEINIÆ.

*Jacchus vulgaris*. Striated monkey, pl. 52. f. 5. Head round, muzzle short; occiput prominent, as longer than the body, quite covered with hair; ears moderate, arched and pointed.

*Midas rosalia*. Silky Tamarina, pl. 52. f. 6. Facial angle 50°; head round; muzzle short; as thumbs moderate large; tail much lengthened, hairy.

## FAMILY II. LEMNÆ.

Form approaching quadrupeds; incisors both upper in form and number; nostrils placed at the extremity of the muzzle; first finger of the lower extremities set to thumb, with a sharp turned up nail.

*Lichonotus nigerr.* Short-tailed Indris, pl. 54. f. 42. Incisors 1; canines 1; molars 1; 1. Tail very short, at base.

*Orobates Senegalensis*, pl. 52. f. 23. Incisors 1; 1 lower horizontal; canines 1; molars 1; ears very large; tail very long.

*Indris laniger.* Fleecy Indris, pl. 52. f. 40. Incisors 1; molars 1; 1; tail very long.

*Prosimus macaco.* Ruffed Lemur, pl. 53. f. 13. Incisors 1; lower ones horizontal; molars 1; 1; tail very long.

*Simons gracilis.* Slender Lorin, pl. 53. f. 14. Incisors 1; lower ones horizontal; canines 1; molars 1; limbs slender; tailless.

*Nycticebus Bengaleus.* Slow Lemur, pl. 54. f. 43. Incisors 1; canines 1; molars 1; 1; tail variable in length.

*Galago Senegalensis.* Senegal Galago, pl. 53. f. 15. Incisors 1; 1 lower ones horizontal; canines 1; molars 1; ears very large; hind legs and tail very long.

*Chiroglossus.* Dentary formula, unknown; ears short and oval; whiskers very long; tail long and tufted, cylindrical, re-curve.

*Tarsius Bancanus.* Banca Tarsius, pl. 54. f. 45. Incisors 1; unequal; canines 1; small; molars 1; ears large and naked; hind legs, tail and long.

*Chiroglossus Malaccensis.* Aya-Aya, pl. 54. f. 41. Incisors 1; strong; no canines, but a blank space for them; molars 1; fore legs short, middle finger long and slender; hind legs and tail long, tufted.

### ORDER III. CARNASSIERS.

Three kinds of teeth, the molars formed for cutting; jaw capable of a vertical motion only; thumb of the anterior feet, never opposable to the fingers.

#### FAMILY I. CHEIROPTERA.

Fingers connected by a membrane, extending from the anterior to the posterior hands, answering the purpose of wings. Incisors varying in number; canines rather strong; molars with acute crowns.

#### TRIBE I. GALBOPITHECI.

Nails of fingers long and greatly hooked; skin of the membranes hairy on both sides.

*Galbopithecus rufus.* Otolgo, pl. 53. f. 16. Incisors 1; canines 1; molars 1; ears small and rounded; tail variable in length; membrane enveloping the neck, and hind extremities; fingers of anterior extremities short, nails bent, slender.

The following arrangement of the Bats is proposed by Mr J. E. Gray.

#### TRIBE II. VESPERTILIONA.

##### Sub-Family. Rhinophana.

Nasal appendages membranous, complicated; index finger consisting of one joint.

*Nyctophilus.* Incisors 1; canines 1; molars 1; upper canines short and conical, the under equal; first molar in upper jaw acute, with one tubercle; second and third with four tubercles; and the fourth with three.

*Myotis spuma.* Incisors 1; canines 1; molars 1; ears extended and united at their base; three nasal appendages; no tail; third finger of hand without the last phalanx.

*Rhinophana Larvata*, pl. 54. f. 47. Incisors 1; canines 1; molars 1; ears long and distinct; tail long, free.

*Nycterus.* Incisors 1; canines 1; molars 1; forehead with a deep groove; mouth provided with a pouch on each side.

##### Sub-Family. Phyllostomina.

Nasal appendage simple, fleshy, entire or double; index finger formed of two phalanges.

*Phyllostoma hastatum.* Javilla Bat. Incisors 1; canines 1; molars 1; nasal appendage double, one piece heart-shaped, the other lyre-shaped; ears large, naked and separated; tongue briefly.

*Aboromys.* Incisors 1; canines 1; molars 1; ears

large, furnished with auricles; nasal appendage single; index finger two-jointed; extremity of tail naked.

*Vampyrus.* Incisors 1; canines 1; molars 1; tail short, involved in the membrane.

*Glossophaga.* Incisors 1; canines 1; molars 1; tongue long, extensible and suctorial; interfemoral membrane, usually obsolete.

*Myotis.* Incisors 1; canines 1; molars 1; two nasal appendages; no tail.

*Rhinopoma.* Incisors 1; canines 1; molars 1; nose elongated, ears large, united, one nasal appendage; tail long.

*Artibeus.* Incisors 1; no canines; molars 1; two nasal appendages.

*Diphylla.* Incisors 1; canines 1; molars 1; 1; or 1; 1; Two short nasal appendages.

*Neophyllus.* Incisors 1; canines 1; molars 1; 1.

##### Sub-Family. Pteropina.

Molars obtusely tuberculated; wings conical; interfemoral membrane and tail usually wanting; index finger with three joints; head elongated, hairy.

*Pteropus Javanicus*, pl. 54. f. 46. Incisors 1; canines 1; molars 1; nose simple, tail short, or none; index finger with a third phalanx and a nail; tongue papillary.

*Cephalotus.* Incisors 1; canines 1; molars 1; according to Geoffroy; but according to F. Cuvier 1; 1; tail very short.

*Cynopterus.* Incisors 1; canines 1; molars 1; two of which are false in each jaw; tail very short.

##### Sub-Family. Noctilionina.

Molars acutely tuberculated; wings long, narrow; index finger two-jointed; head short, obtuse; lips very large; tail incurved.

*Molossus amplexicaudatus.* Incisors 1; upper ones cleft; canines 1; molars 1; large, with numerous points; nose simple; tail long.

*Sturnoderma.* Incisors 1; according to Geoffroy, but F. Cuvier says they are 1; molars 1; nose simple; tail none.

*Celano.* Incisors 1, the upper sharp and simple, lower formed, as it were, of four columns; no canines; molars 1.

*Afilla.* Incisors 1; no canines; molars 1.

*Acrotophis.* Incisors 1; no canines; molars 1, provided with acuminate processes.

*Proboocidea.* Incisors 1; canines 1; molars 1; the front one small, the rest tuberculated.

*Chiromela.* Incisors 1; canines 1; molars 1.

*Noctilio Brasilensis*, pl. 53. f. 17. Incisors 1; canines 1, very strong; molars 1; ears small lateral, remota.

##### Sub-Family. Vespertilionina.

Molar teeth acutely tubular; wings large, broad; index finger of only one joint; head long, hairy; lips simple; tongue short; tail long.

*Vespertilio murinus.* Common bat, pl. 53. f. 18. Incisors 1; upper set in pairs, lower close; canines 1; 1, 1; or 1; anterior molars simple conic.

*Plecotus.* Incisors 1; canines 1; molars 1; ears larger than the head, united at their base.

*Thyroptera.* Dentary formula unknown; body slender; nose small and wings narrow; tail long, exerted; extremities formed for walking; three kinds of teeth; mammae abdominal.

### ORDER IV.

#### FAMILY I. INSECTIVORA.

Molars having various sharp points; in some species the canines are very long, and in others short; tails ventral, sometimes both ventral and pectoral; legs short, always formed for plantigrade loco-motion.

*Kriacus Europæus.* Common hedge-hog, pl. 53. f. 19. Incisors 1; canines 1, shorter than the grinders; grinders 1, upper parts protected by prickles, under parts by coarse hair; tail short or none; six pectoral and four ventral teeth.



supple circular in some, in others vertically oval; fore feet with five toes, hind feet with four; nails retractile.

### FAMILY III. AMPHIBIA.

Feet enveloped in the skin, short, fine shaped, and adapted for swimming, hind feet placed horizontally; incisors generally : : :.

*Phoca Paganiensis*. Common Seal, pl. 54. f. 63. Teeth variable. Incisors 1; or 1; or 1; canines 1; molars 1; or 1; or 1; nostrils susceptible of being closed; ears small; eyes large; no ears, or only rudimentary; five-toed; the anterior extremities with hands, and the posterior with feet; fingers enveloped in the skin; tail short, with 4; four abdominal teats.

*Monodon monoceros*. Proboscis Seal. Incisors 1; or 1; canines 1; molars short, broad and flat; no external ears, none elongated.

*Otaria Lemna*. Sea Bear, pl. 54. f. 65. Incisors 1; canines 1; large; molars 1; with distinct external ears.

*Luskus roboratus*. Walrus, pl. 54. f. 64. Incisors 1; canines 1; much elongated, longer than the head; molars 1; body elongated, conical; head round, muzzle large; no external ears; tail short; fore feet shaped like soldiers, with five short claws; hind feet with five toes united in the skin, and placed horizontally.

### ORDER V. MARSUPIALIA.

Teeth of the various sub-divisions differing considerably; young produced in an imperfect state, and are nursed in an external pouch, which is supported by two marsupial bones; thumbs of hind extremities, mostly distinct and opposable to the fingers, in most species.

1st Sub-division. — With canines and insectivorous cheek teeth.

*Didelphis Virginiana*. Virginian Opossum, pl. 53. f. 30. Incisors 1; canines 1; strong, compressed, and projecting slightly; molars 1; or 1; head long, conical, with a pointed muzzle; ears large and round, nearly destitute of hair; tongue articulated; five toes, nails long and bent; hind feet with long thumbs, opposable to the fingers; tail long, half covered with hair.

*Acruvaca pusilla*. Yapock, pl. 54. f. 55. Incisors 1; canines 1; grinders pointed and cutting; feet palmated; no thumb; nails; tail long, naked and prehensile.

*Dasyurus macrurus*. Spotted Dasyurus, pl. 54. f. 56. Incisors 1; canines 1; grinders 1; head conical; fore feet, five-toed, nails crooked; thumbs of hind feet destitute of nails; tail long, hairy.

*Lynxus Rafflesii*. Raffles' Gymnura, pl. 54. f. 50. Incisors 1; canines 1; molars 1; head elongated, laterally compressed; upper jaw considerably longer than the under one; ears round, naked; tail long, naked and only; feet pentadactyle, nails long, hooked and retractile; hind legs very long.

*Peromyscus nasuta*. Long Nosed Peromyscus, pl. 54. f. 54. Incisors 1; or 1; canines 1; or 1; head much elongated; fore feet with five toes; hind feet four-toed, the two internal enveloped in the skin, showing the claws only; tail long, acute.

2nd Sub-division. — Incisors 1, lower ones very long; canines in lower jaw, very small or none.

*Phalangeria Cookii*. Cook's Phalanger, pl. 54. f. 21. Incisors 1; canines 1; or none; false molars 1; or 1; true molars 1; or 1; head elongated; feet with five toes; tail destitute of hair in some species.

*Petaurista lagopus*. Flying Petaurista, pl. 55. f. 25. Incisors 1; canines 1; or 1; molars 1; or 1; head elongated; eyes small; feet short, five-toed; united by a common skin; claws arched and compressed; skin of claws extended, and uniting the limbs, so as to form a parachute; tail long.

3rd Sub-division. — Incisors 1; the lower ones very long and shearing; canines 1.

*Potorus morinus*. Kangaroo Rat, pl. 54. f. 23. In-

cisors 1; canines 1; molars 1; head long, acute; ears large; upper lip slit; fore legs short.

*Macgurus Labialis*. Large Kangaroo, pl. 53. f. 40. Incisors 1; no canines; molars 1; head lengthened; ears and eyes large; fore legs very short, five toes, with strong nails; hind legs very strong, four-toed; tail long, very strong, assists the animal in leaping.

*Phascogalea fuscus*. Koala, pl. 53. f. 41. Incisors 1; false molars 1; true molars 1; ears large; toes parted into two groups, the thumbs and index finger being on one side, the three others on the opposite; hind feet with a clawless thumb.

4th Sub-division. — Incisors 1; no canines.

*Phascogalea Wombat*. Wombat, pl. 53. f. 42. Incisors 1; no canines; molars 1; body thick; head large, depressed; ears short; tail very short.

5th Sub-division. — Not marsupial.

*Arctictes albafrons*. White-faced Arctictes, pl. 52. f. 31. Head short; muzzle abruptly pointed; ears small, tufted with long bristly hairs; tail long, very hairy, and prehensile.

### ORDER VI. RODENTIA.

Each jaw provided with two large incisors, separated from the molars by an open space; destitute of canine teeth; lower jaw articulated by a longitudinal condyle; orbits not separated from the temporal fossae; the Zygomatic arches small; toes varying in number.

Section I. Provided with Clavicles.

*Castor fiber*. Beaver, pl. 53. f. 43. Incisors 1; no canines; molars 1; incisor teeth strong; eyes small; ears short and rounded; feet five-toed, the posterior ones palmated; tail large, depressed, and covered with scales; males provided with a pouch which secretes an unctuous matter.

*Fiber Zibethicus*. Ondatra, pl. 54. f. 25. Incisors 1; canines 1; molars 1; fore feet with four toes; hind feet with five, which have stiff hairs on their edges, adapting them for swimming; tail long and laterally compressed; both sexes with an unguent pouch.

*Arvicola amphibius*. Water Campagnol, pl. 53. f. 49. Incisors 1; no canines; grinders 1; flat on the crowns; tail round and hairy.

*Dipodomys deserti*. Hairy Sigmodon, pl. 52. f. 17. Incisors 1; destitute of canines; grinders 1; with flat crowns divided into radicles; fore feet, with four toes, and a small tubercle instead of a thumb; hind feet also four-toed, and rest equally on the sole in walking.

*Neotoma Drummondii*. Drummond's Neotoma, pl. 54. f. 26. Incisors 1; no canines; molars 1; with five triangles, one of which is anterior, two exterior and two interior; fore feet four-toed, with a rudiment of a fifth; hind feet with five toes.

*Neotoma floridana*. Florida Neotoma, pl. 54. f. 6. Fur very fine, lead-coloured and mixed with yellow above; abdomen and throat buff.

*Sigmodon hispidus*. Prickly Sigmodon, pl. 52. f. 14. Incisors 1; no canines; molars 1; fore feet with four toes and the rudiment of a fifth provided with a nail; hind feet with five toes; tail hairy.

*Lemmus Norvegicus*. Lapland Lemming, pl. 54. f. 27. Incisors 1; destitute of canines; grinders 1; with flat crowns and angular pieces of enamel; ears very short; in some species the fore feet are five-toed, and in others four; hind feet five-toed, the nails on all of them formed for digging.

*Echymus hispidus*. Rough-haired Echymys, pl. 54. f. 12. Incisors 1; no canines; grinders 1; head long; eyes large; ears somewhat short; fore feet with four toes, and the rudiment of a fifth; hind feet with five toes; tail long, usually wavy; back covered with short spines.

*Myurus arvensis*. Common Dormouse, pl. 54. f. 13. Incisors 1; no canines; molars 1; divided by transverse bands; eyes large, prominent; ears large, round; fore feet four-toed, with a rudimental thumb; hind feet with five toes; tail long, hairy, and tufted in some species.

*Hydromys Coypus*. Coypus, pl. 54. f. 9. Incisors  $\ddagger$ ; no canines; grinders  $\ddagger$ ; flattened on the crowns, with enamelled ridges in the form of the figure 8; all the feet provided with five toes; thumb of fore feet very small; hind feet palmated; toes united by a membrane; tail cylindrical, length of the body, and acutely tapering.

1st Sub-division. *Spineless rats of the old Continent.*

*Mus Sylvaticus*. Field Mouse, pl. 54. f. 40. Incisors  $\ddagger$ ; no canines; molars  $\ddagger$ ; tubercular; ears oblong or rounded, almost destitute of hairs; fore feet four-toed, and a wart for a thumb, covered with an obtuse nail; hind feet five-toed; tail long, without hair, and somewhat scaly.

2nd Sub-division. *Destitute of spines. American Rats.*

*Mus rufus*. Red Rat. Fur yellowish red; darker on the head and back; abdomen yellowish, 6 inches long. Inhabits Paraguay.

3rd Sub-division. *Spinous Rats.*

*Mus Perchal*. Perchal Rat, pl. 54. f. 10. Fur reddish brown above, with spiny hairs intermixed; gray underneath; body 13 inches long; inhabits Pondicherry, in India.

*Cricetus vulgaris*. Common Hamster, pl. 53. f. 43. Incisors  $\ddagger$ ; no canines; molars  $\ddagger$ ; provided with cheek pouches; head thick; ears rounded and oval; fore feet with four toes, and the thumb represented by a nail; hind feet with five toes.

*Geomys Douglasii*. Douglas's Geomys, pl. 52. f. 44. Incisors  $\ddagger$ ; no canines; molars  $\ddagger$ ; head large, depressed; nose short; nostrils are small, round openings, facing downwards somewhat laterally; mouth small; with large and pendulous cheek pouches; eyes small, far apart; body cylindrical; legs short with five toes in each foot.

*Diplostoma Douglasii*. Douglas's Camas Rat, pl. 54. f. 29. Incisors  $\ddagger$ , furrowed; no canines; molars  $\ddagger$ ; cheek pouches very large, with exterior openings.

*Dipus gerboa*. Jerboa, pl. 54. f. 22. Incisors  $\ddagger$ , lower ones acute; no canines; molars  $\ddagger$ ; or  $\ddagger$ ; eyes large; ears long, pointed; fore feet four-toed, and nailed tubercles representing a thumb; hind legs five or six times the length of the fore ones, with from three to five toes.

*Gerbillus Canadensis*. Labrador Sweeping Mouse, pl. 54. f. 25. Incisors  $\ddagger$ ; no canines; molars  $\ddagger$ ; ears moderately short; fore legs short; four-toed; hind legs being long; feet with five toes, each provided with a nail; tail long, hairy.

*Spalax Typhlus*. The Spalax, pl. 54. f. 4. Incisors  $\ddagger$ ; no canines; molars  $\ddagger$ ; with tubercular crowns; eyes extremely small; no external ears; feet short; with five toes; tail naked; fur soft and short.

*Bathyergus maritimus*. Coast Bathyergus, pl. 54. f. 1. Incisors  $\ddagger$ , very large and long; no canine teeth; molars  $\ddagger$ ; or  $\ddagger$ ; body thick, cylindrical; head thick; muzzle truncated; eyes small; no external ear; feet and tail short.

*Pedetes Capensis*. Cape pedetes, pl. 54. f. 3. Incisors  $\ddagger$ ; no canines; molars  $\ddagger$ ; lower incisors cut obliquely; molars consisting of two elliptical parts; head short, large, and depressed; muzzle obtuse; ears long, narrow; eyes large; all the feet four-toed. Females provided with an abdominal pouch.

*Arctomys marmotta*. Alpine Marmot, pl. 54. f. 7. Incisors  $\ddagger$ , very strong; no canines; molars  $\ddagger$ ; upper surfaces ridged and tubercular; body thick; head and eyes large; ears short; no cheek pouches; fore feet four-toed; hind feet five-toed; tail very short. Habits social.

*Spermophilus Franklinii*. Franklin's marmot, pl. 53. f. 45. Incisors  $\ddagger$ , strong; no canines; molars  $\ddagger$ ; head somewhat large, with large cheek pouches; tail long in most of the species; habits solitary.

*Capromys Fournieri*. Fournier's Capromys, pl. 54. f. 8. Incisors  $\ddagger$ , very strong, transversely truncated; no canines; molars  $\ddagger$ ; body bulky; fore legs short, with four toes and a rudimentary thumb; hind feet with five toes; tail long, thick at the base, scaly.

*Sciurus Hudsonius*. Chickasaw squirrel, pl. 53. f. 46. Incisors  $\ddagger$ , flat in front; no canines; molars  $\ddagger$ ; tubercular; head small; eyes large; ears erect; fore feet four-

toed; hind feet five-toed; nails long and curved; tail long, with long bushy hair.

*Pteromys volucella*. Lesser American Flying Squirrel, pl. 55. f. 10. Incisors  $\ddagger$ ; no canines; molars  $\ddagger$ ; ears and ears round; eyes large; skin on the side of the head dilated, and extending from the fore to the hind legs, forming a kind of parachute; tail long and thin.

Section II. *With imperfect chawm or ear*

*Hystrix cristata*. Crested Porcupine, pl. 54. f. 12. Incisors  $\ddagger$ ; canines none; molars  $\ddagger$ ; head not too short; tongue with spiny scales; body covered with long and strong moveable spines, intermixed with or not short; fore feet with four toes; hind feet with five.

*Atherura fasciculata*. Fasciculated Porcupine, pl. 54. f. 13. Incisors  $\ddagger$ ; no canines; molars  $\ddagger$ ; head not too short; forehead depressed; ears short, rounded; fore feet with four toes, and a rudimentary thumb; hind feet with five toes; tail one-third the length of the body; provided with a tuft of bristles; body covered with spines from the head to the root of the tail.

*Chinchilla lanigera*. Chinchilla, pl. 54. f. 11. Incisors  $\ddagger$ ; no canines; molars  $\ddagger$ ; head round; ears very large; fore feet four-toed, and a rudimentary thumb; hind feet four-toed, external toe short, not so far behind; tail half the length of the body.

*Lepus cuniculus*. Rabbit, pl. 54. f. 13. Incisors  $\ddagger$ , upper in pairs; no canines; molars  $\ddagger$ ; ears not too large; anterior feet with five toes; posterior feet with four covered with hair beneath; tail short, erect.

*Lagomys alpinus*. Pika, pl. 54. f. 14. Incisors  $\ddagger$ ; no canines; molars  $\ddagger$ ; ears moderate; no tail. Habits nearly perfect; feet same as the rabbit.

*Hydrochærus capybara*. Capybara, pl. 53. f. 6. Incisors  $\ddagger$ ; no canines; molars  $\ddagger$ ; muzzle somewhat eyes large; ears moderate, and rounded; fore feet four-toed and palmated; hind feet three-toed; no tail.

*Cavia Culeya*. Guinea Pig, pl. 54. f. 15. Incisors  $\ddagger$ ; no canines; molars  $\ddagger$ ; body thick; muzzle short, depressed; eyes large; ears rounded; legs very short; fore feet four-toed; hind feet with three; no tail.

*Dasyprocta Acuti*. Agouti, pl. 54. f. 17. Incisors  $\ddagger$ ; no canines; molars  $\ddagger$ ; head elongated; slender muzzle flat; eyes large; fore feet four-toed, and so do the hind; hind feet three-toed; nails long and strong.

*Celeoglossus subeiger*. Brown Fox, pl. 54. f. 18. Incisors  $\ddagger$ ; no canines; molars  $\ddagger$ ; head short, broad, and pouches; five toes on all the feet, all the nails too small.

ORDER VII. EDENTATA

Destitute of incisors in either jaw; sometimes have molars only; some species are without teeth; the variable in number, protected by strong nails.

Tribe I. *Tardigrada.*

Face short, with canines and molars, or with the latter only; nails long, bent.

*Bradypus tridactylus*. Three-toed Sloth, pl. 54. f. 2. No incisors; canines  $\ddagger$ ; molars  $\ddagger$ ; canines larger than the grinders; head small; muzzle truncated, or longer than the hind, having three toes, armed with long nails; fur thick, harsh, and long.

*Megatherium Cuvieri*. Cuvier's Megatherium, pl. 54. f. 1. No incisors or canines; molars  $\ddagger$ ; with narrow furrows on their crowns; body twelve feet long. Found in a fossil state only, in Paraguay, South America.

Tribe II. *Edentata, or digging Edentata.*

Muzzle generally elongated; with neither teeth or sometimes none.

*Dasyprocta novaezelandiae*. Nine-Banded Armadillo, pl. 55. f. 7. No incisors, or sometimes  $\ddagger$ ; no canine teeth subject to great variety, varying in number from 24 to 68; head long, pointed; mouth small; tongue extensible; body wholly covered by scales; fore feet five-toed; hind feet with five toes; nails long, stout, and digging; tail long.

*Oryzomys capensis*. Cape Ant-Kater, pl. 54. f. 31. No incisors or canines; molars 1; separate; head elongated; fore feet four-toed; nails strong; hind feet three-toed, plantigrade; nails strong, hoof-shaped.

*Myomys phaga jolala*. Great Ant-Kater, pl. 55. f. 6. Institute of teeth; head greatly elongated, muzzle tapering to a point; tongue long, protractile; toes united to the base of the nail; fore feet four-toed, hind five-toed; some species two before and four behind; nails strong, fitted for digging; tail long, sometimes prehensile.

*Mus crassicaudata*. Indian Marmoset, pl. 54. f. 28. No teeth; muzzle acute; tongue protractile; body elongated, covered with cornuous imbricated scales; feet five-toed; nails strong, fitted for digging; tail long, covered with scales.

*Chlamyphorus truncatus*. Truncated Chlamyphorus, pl. 54. f. 2. Neither incisors nor canines; molars 1; head pointed, broad above; body covered with a coriaceous shell, composed of transverse plates; under parts with a coating of fine silky hairs; tail rigid; claws very strong.

*Phalaina hystrax*. Spiny Echidna, pl. 54. f. 60. Dentition of teeth, the palate arched; muzzle flat, narrow and small; tongue protractile; eyes small; no external ears; feet with five toes; hind legs with a pointed spur, through which an acrid secretion is ejected; tail short, not covered with stiff spines.

*Ornithorhynchus anatinus*. Duck-billed Platypus, pl. 54. f. 61. Dentition of incisors and canines; molars 1; which are fixed only in the gums; muzzle horny, elongated and depressed, resembling the bill of a duck; five toes on each foot, united by a membrane; male with a spur in the hind leg; tail flattened. The bill is represented at 52. f. 40; a fore foot, f. 47, and a hind foot, f. 31.

## ORDER VIII. PACHYDERMATA.

Thick skinned animals, with three kinds of teeth, feet provided with toes, variable in number, and terminated with strong nails or hoofs, destitute of clavicles.

### FAMILY I. PAHOECIDÆ.

Upper incisors in the form of tusks; molars compound, variable in number; five toes on all the feet; provided with proboscis.

*Elephas indicus*. Indian Elephant, pl. 55. f. 1. Incisors 1, in the form of enormous tusks; molars 1; nose elongated into a cylindrical tapering proboscis, movable in all directions, with a finger-like process at its tip, and with which it has the power of grasping; head very large, ears large, flat; neck short; tail of medium length, provided with a tuft of hair.

*Elephas africanus*. African Elephant, pl. 55. f. 2. External structure same as the above; ears very large; tail long; proboscis very thick at the base; fore feet with five toes, and four on the hind, which have but three hoofs.

*Mastodon giganteus*. Mammoth, pl. 52. f. 42. Incisors 1, no canines; molars 1; triangular without cartilaginous covering; crowns with points disposed in pairs; tusks two feet long; height of animal to the withers eleven feet. Found fossil only, in North America.

### FAMILY II. TRUE PACHYDERMATA.

Mostly with three kinds of teeth, two at least, in others not with four or two toes.

*Hippopotamus amphibius*. Hippopotamus, pl. 53. f. 4. Incisors 1; canines 1; molars 1; head thick and square; eyes and ears very small; legs short; feet with four nearly equal toes, provided with small hoofs; body large and heavy; skin destitute of hair.

*Dasypus*. Armadillo, pl. 54. f. 34. Incisors 1; canines 1; molars 1; nose elongated, cartilaginous and provided with a bone to the snout, feet four-toed, the two middle ones only touching the ground, provided with strong hoofs; body covered with bony plates.

*Chaetodon africanus*. Ethiopian Hog, pl. 54. f. 25. Incisors 1; canines 1, forming large rounded mass, directed upwards from the sides of the jaws; molars 1, composed of cylinders, united by a coriaceous

head large, cheeks with large fleshy lobes, feet cleft like the hog.

*Dicotyles subniger*. Collared Pervary, pl. 55. f. 3. Incisors 1; canines 1; grinders 1; canines not projecting beyond the mouth; four toes on the fore feet, and three on the hind; joins with a glandulous opening, secreting a frothy humour; a tubercle in place of a tail.

*Anoplotherium vulgare*. Greater Anoplotherium, pl. 52. f. 43. and skeleton, pl. 65. f. 2. Incisors 1; canines 1; molars 1, all the teeth in one line; general form supposed to be between that of the horse and rhinoceros, feet with two toes. Found in a fossil state only.

*Rhinoceros indicus*. Indian Rhinoceros, pl. 55. f. 5. Teeth varying with the species, the incisors either 1 or 1; no canines; molars 1; or 1; nose with one or two horns; feet three-toed; tail short, compressed at the tip; skin very thick, naked and rugose.

*Hyrax capensis*. Cape Hyrax, pl. 55. f. 4. Incisors 1, the upper very strong, curved inwards, and detached from the molars; molars 1; anterior feet, with three or four toes, posterior with four, the inner one provided with a crooked nail.

*Palaotherium minus*, the little Palaotherium, pl. 65. f. 4. Incisors 1; canines 1; molars 1; incisors wedge-shaped and parallel; canines conical, crossing each other; molars square, with four roots, rigid with enamel, separated from the canines by a vacant space; general form of the skull like that of the tapir.

*Tupia americana*. American Tapir, pl. 55. f. 16. Incisors 1, intermediate, shorter than the anterior; canines 1, moderate, detached; molars 1; their crowns forming two transverse ridges; fore feet four-toed; hind feet three-toed; nose capable of being elongated into a short trunk.

### FAMILY III. SOLIDUNGULA.

With three kinds of teeth; only one visible toe, and a strong hoof on each foot.

*Lepus americanus*. Am. pl. 54. f. 32. Incisors 1; the crown hollow when young; canines 1; molars 1; eyes large; ears full, pointed, and erect; upper lip capable of considerable motion; feet with a single visible toe, covered with strong hoofs; tail with long hairs, in some species with a tuft at the extremity.

## ORDER IX. RUMINANTIA.

With three kinds of teeth, but destitute of incisors in the upper jaw; without clavicles; feet with two-hoofed toes; metatarsal and metatarsal bones united; organs of digestion calculated for ruminating, and consisting of four stomachs; they feed on vegetables; and embrace a wide geographical range.

### TRIBE I. CAMELIDÆ.

Feet with horny soles; canines in both sexes; no horns.

*Camelus bactrianus*. Bactrian Camel, pl. 53. f. 62. Incisors 1; canines 1, conical, straight, and strong; false grinders 1; detached; true molars 1; head long, nostrils slit obliquely, upper lip cleft, eyes large, ears small; feet with only two free toes, ending in crooked nails, tail medium length; four ventral mammae; back with one or two protuberances.

*Lama glama*. The Lama, pl. 54. f. 51. Incisors 1; canines 1, strong, straight, and conical; false molars 1; true molars 1; ears long and pointed; tail short; two ventral mammae; no protuberance on the back.

### TRIBE II. CERVIDÆ.

Feet bisulcated; no horns; males with canines in the upper jaw.

*Moosus moschiferus*. Thibet Musk, pl. 55. f. 12. Incisors 1; canines 1; molars 1; the canines of the male are long, and project out of the mouth; hind quarters higher than the fore; feet with cleft hoofs;

tail very short; two inguinal mammae; destitute of horns.

*Cervus Wallichi*. Nepal stag, pl. 55. f. 11. Incisors : canines ; in the male, none in the female; molars : : head long, terminated by a muzzle; eyes large, pupil transversely elongated; most species with a lachrymal sinus; ears long; horns solid, deciduous, palmated, branched or simple, in the male only; mammae four, inguinal.

*Moschus*. Elk. No canines; horns united into one palm, more or less indented; no muzzle; tail very short. American Elk.

*Capreolus*. Roeback. Destitute of canine teeth and lachrymal sinuses; horns nearly allied to the elk's; a small antler to the front, high over the beam, and the superior part being turned backwards forms a fork.

*Sabula*. Brocket. Muzzle widened to a glandular termination near the nostrils; lachrymal sinus small; horns simple, without branches or processes. Pitta Brocket.

*Stylacrus*. Muntjak. Canine teeth, (mostly found in the males) long; muzzle small; suborbital sinuses deep; horns small, with one anterior process only, standing upon elevated pedicles. Philippine Muntjak.

### TRIBE III. GIRAFFIDÆ.

Frontal process prolonged in the form of horns, covered with a hairy skin in both sexes.

*Camelopardalis Girafa*. Giraffe, pl. 55. f. 9. Incisors : ; no canines; molars : : head long; upper lip entire; no lachrymal sinuses; neck extremely long, with a short thin mane; legs slender, the hindmost shortest.

### TRIBE IV. CAPRIDÆ.

Horns persistent, sheathing upon an osseous nucleus, never solid, receiving its increase by annual rings at the base.

*Antelope rupicapra*. Chamois, pl. 55. f. 15. Incisors : ; no canines; molars : : horns common to both sexes, or in the male only; variously inflected, generally annulated, or projecting in spiral ridges, bifurcated in some; with a muzzle, half muzzle, or simple nostrils; most species with a lachrymal sinus; eyes large; ears long and pointed; legs slender; teats four or two.

The following subgenera are proposed by Major Hamilton Smith.

*Dicranoceros furcifer*. Prong-horned Antelope. Horns much compressed, rough with an anterior process and the points bending backwards, placed upon the orbits and impending over the eyes; facial line convex; tail very short.

*Aigoceros leucophus*. Blue Antelope. Horns very large, pointed, simply bent back, annulated, placed above the orbits; tail as long as the thigh; mane reversed; throat and under-jaw bearded; destitute of suborbital sinuses and inguinal pores. Large.

*Orys leucoryx*. White Oryx. Horns very long and slender, acute, annulate, with a slight spiral twist; ears long; mane reversed; tail length of the thigh; tip tufted; knees smooth, large.

*Gazella Pygargus*. White-faced Gazelle. Horns incurved, or turned outwards and again inwards, constituting a lyrate form, black, annulate, and striate; lachrymal sinus small; eyes very large; knees usually tufted; tail short and tufted.

### DIVISION II.

Horns in the male only.

*Antelope cervicapra*. Common Antelope. Horns never truly lyrate, placed below the frontal crest, and sometimes more or less spiral; suborbital sinuses devel-

oped; inguinal pores distinct; a small hair upon representing the muzzle; knees frequently tufted, papulous.

*Budacus Jerdoni*. Crowned antelope. Horns situated behind the orbits, thick, smooth, the tips bending forwards, annulated below down above, short and slender; ears long; muzzle smooth; tail rather short.

*Tragulus rupestris*. Deer. Horns smooth, slightly inclined, round, and shorter than the ear, one side smooth; ears long; tail very short; hoofs oval.

*Raphiceros acuticornis*. Sharp-horned antelope. Horns without wrinkles, striated, strong at top, very sharp, and vertical; minimum of horn at the head narrow.

*Tetracerus quadricornis*. Four-horned antelope. Horns (in the male only) four; the two upper a pair erect, smooth, pointed, and rising on the frontal crest, the two lower much shorter, conical, and situated below the orbits; tail short. This genus was mentioned by J. Leach. Horns in the male only.

*Cephalophus quadricornis*. Four-tufted antelope. Horns small, straight, reclining, placed high on the frontal crest, annulated; muzzle small, black; hair of the throat long and tufted; knees smooth; tail short, erect and solitary.

*Nostragus modestus*. Sah's antelope. Horns very small, sub-annulate, black, acute; no mane; head round; nose pointed; muzzle small; tail short, size very diminutive.

*Tragelaphus scriptus*. Horned antelope. Horns annulated, somewhat spiral, ridged, placed high on the frontal crest and reclining; muzzle very small; no lachrymal sinuses; mammae four.

*Neomelotus Dufrenoyi*. Devant's antelope. Structure assuming the goat form; horns small, erect, no lack, and annulated at their base; muzzle small; a terminal bone in general provided with a process, as coarse, loose; legs strong.

*Rupicapra Macrura*. Ovine antelope. Horns in both sexes slender, vertical, and attenuated, without sinuses at their extremities, a few wrinkles at the base on the glandular apertures behind; form approaching to the limbs strong; hair long, with a small patch of hair beneath. The chaumon is of this sub-genus.

*Apleoceros longipes*. Wool-bearing antelope. Horns simple, sub-recurved, conical, with small annulations, points smooth and bent back, deciduous of sinuses and lachrymal sinuses; tail short; form approaching to that of a sheep.

*Amos depressicornis*. Amos. Horns point to the edge of the frontal crest, on the same plane with the face, very strong, slightly depressed, straight, not straight, wrinkled, and acute; facial line straight to suborbital opening.

*Capra hircus*. Domestic goat, pl. 55. f. 14. Horns : ; no canines; molars : : horns usually in both sexes either vertical or inclined, nodose, and more or less angular; chin bearded; forehead concave; tail short, naked at the base.

*Ovis arvensis*. African sheep, pl. 55. f. 15. Horns : destitute of canines; molars : : horns generally common to both sexes; large, spirally, more or less equal, forehead arched; hair of the throat, one horn at the other woolly.

*Dicotyles*. Incisors : ; no canines; molars : : horns common to both sexes, or in one sex; situated on the frontal crest, variously twisted; hair long and heavy; legs strong; neck short; generally annulated with a mane and beard; higher behind than before.

The four following are sub-genera, according to Major Hamilton Smith :—

*Acronotus bubalis*. Bubalis. Horns in both sexes with double flexures, more or less developed, approaching and annular at their base, smooth and erect with their tips; head narrow, long; lachrymal sinus small with inguinal pores; knees smooth; sinuses small, tail moderate, tufted.

*Borophagus arvensis*. Impressa. Horns in both sexes heavy, strong, placed on the summit of the chaumon, slightly straight, but twisted, and with a slight ridge, not furnished with a mane; females with an orbit of the mammae.

*Stenocranus rosadensis*. Koodon. Horns (in the male only) placed on the frontals, smooth, forming regular spiral curves; muzzle broad; mane long; chin bearded; shoulders elevated; tail covered with long hair; stature large.

*Paras rinae*. Neel Ghan. Horns (in the male only) placed on the sides of the frontal crest, short, strong, subangular, and destitute of annulations; shoulders elevated; neck with a mane; throat hairy; dewlap small.

### TRIBE V. BOVIDÆ

Horns (in both sexes) persistent, round, smooth, never straight, and invariably placed upon the sides of the frontals; muzzle broad; females with an udder; stature large; gregarious.

*Oryx capensis*. Gnu. Incisors 2; no canines; molars 1 1; horns curved backwards, base broad, approximating, tips turned down, points uncinate upwards; streaks provided with a glandular excrecence; neck and throat with a mane; tail hairy, as in the horse.

*Oryx capensis*. Much ox, pl. 54. f. 33. Horns in scimitar on the summit of the head, where they are flattened broad, beyond which they bend down against the cheeks, with their points turned up; ears short; eyes small; tail short.

*Bos americanus*. American bison, pl. 55. f. 17. Head large, skull strong; dense about the frontals, which are convex; muzzle broad, naked; eyes large; ears funnel-shaped; dewlap on the neck; tail various omphs, tufted.

Major Smith gives the following as sub-genera. *Rubus*, Cape ox; *Rhinoceros*; The bison; *Taurus* Urus; *Asus* *leptoceros*.

### ORDER X.

#### Cetacea.

Body formed like a fish, terminated by a cartilaginous ventral appendage placed horizontally; two anterior extremities forward like fins. Teeth conical, or none; skin smooth, entirely destitute of hair.

#### FAMILY I. SIRENIA.

##### Herbivorous Cetacea.

*Manatus senegalensis*. Senegal Manatee, pl. 55. f. 21. Incisors 1; no canines; molars 1 1. Incisors small, existing in the fetus only. While young they lose four years. Head not distinct from the body; mustachions formed by a bundle of stiff hairs directed downwards; ears very small; tongue oval; on the margins of the dorsal fins are small tubercles.

*Halosæ Indica*. Dugong, pl. 55. f. 19. Incisors 1 in adult; when young; no canines; molars 1 1 in the fetus only; in the young; body fish-shaped, terminated by a horizontal two-lobed fin, muzzle truncated and subacute; fins short; no distinct fingers or nails.

*Stelleria borealis*. Northern Stelleria. Destitute of canines and canines; molars consisting of a plate on each side of the jaws, not attached by roots, but by number of small vessels and nerves; no external ears; lips double; eyes covered by a cartilaginous membrane.

#### FAMILY II. CETACEA.

Teeth random, or none; nostrils assuming the form of spiracles; skin smooth, shining, and destitute of hairs on every part; mammae placed near the anal opening.

*Delphinus phocaena*. Porpoise. Pl. 55. f. 27. Teeth few, few shaped, compressed, and flattened on their outer face, varying in number from 20 to none; jaws more or less provided with a hook; aperture of spiracles small; an adipose dorsal fin with sometimes a long, and a dorsal fold of skin; tail horizontally flattened and rounded.

*Mammodon monoceros*. Narval. Pl. 55. f. 20. Incisors

1 1; destitute of canines and molars; one or two large, straight, very long and pointed tusks inserted in the upper jaw; shaped like the dolphin's; orifice of spiracle, united at the top of the head; with a longitudinal dorsal projection.

### TRIBE II. LARGE-HEADED CETACEA.

*Physeter macrocephalus*. Great-headed cachalot, pl. 53. f. 24. Under jaw elongated, with from 18 to 25 thick conical teeth on each side; upper jaw broad, elevated, with bony lamina, or with short and undeveloped teeth; orifice of spiracles united at the upper end of the snout; some species with a dorsal fin.

*Balaena mysticetus*. Common whale, pl. 55. f. 23. Destitute of teeth; upper jaw keel-shaped, furnished on each side with bony lamina or whalebone; orifices of spiracles separated, placed near the centre of the upper portion of the head; some species with a dorsal fin, and others with nodules on the back.

**MAMMEE-TREE, or WEST INDIA APRICOT** (*mammee Americana*); a large and beautiful tree, native of tropical America, and interesting from the qualities of the fruit, which is highly esteemed. This fruit is large, roundish, and contains a bright yellow, firm pulp, which is enveloped with a thick, leathery rind; within this outer rind is a second very delicate one, closely adhering to the pulp, which should be cautiously removed, otherwise it leaves a bitter taste in the mouth, not very strong at first, but gradually increasing, and continuing for two or three days. The taste is peculiar, sweet, and very agreeable, and is accompanied with an aromatic, pleasant odour. The tree belongs to the *guttiferae*, the same family with the *mangosteen*, and attains the height of sixty or seventy feet. The leaves are oval, obtuse, very entire, smooth, and six or eight inches in length. The flowers are white, an inch and a half in diameter, and diffuse a delightful perfume.

**MAMMON**; the Syrian god of riches, mentioned in the teachings of Jesus, as a personification of worldliness. Spenser has personified Mammon in his noblest manner (book ii., canto 7), where are represented the secret treasures of the "god of the world and worklings."

"An uncount, salvage, and unceasing wight,  
Of greedy hue and foul ill-favour'd sight,  
His face with smoke was tann'd, and eyes were blear'd,  
His hair and beard with soot were ill bright,  
His coal-black hands did seem to have been rear'd  
In smith's fire-spitting forge, and nails like claws appear'd.

"His iron coat all overgrown with rust,  
Was underneath enveloped with gold,  
Whose glistering gloss darken'd with filthy dust,  
Well yet appeared to have been of old,  
A work of rich entail and curious mold,  
Woven with anties and wild imagery;  
And in his lap a mass of coin he told,  
And turned upside-down, to feed his eye,  
And covetous Desire, with his huge treasury.

"And round about him lay on every side  
Great heaps of gold that never could be spent;  
Of which some were rude ore not purified,  
Of Mulibar's devouring element:  
Some others were new driven, and distant  
Into great ingots, and to wedges square;  
Some in round plates withouten monument;  
But most were stamp'd, and in their metal bore  
The antique shapes of kings and hearse strange and rare."

**MAMMOTH** (Russian *momo*); a species of extinct elephant, found in a fossil state, entirely distinct from the existing species of Asia and Africa. (See *Elephant*.) It has left proofs of its existence in Europe, in Northern Asia, and in America. A

great quantity of fossil ivory is obtained from Siberia, and it is visible, almost everywhere, on the banks of rivers, which undermine the soil. Whole carcasses, covered with flesh and skin, preserved by the eternal frost of those regions, have even been found in the northern parts of Siberia. The bones have been occasionally found in all parts of Europe, and have given rise to stories of giants. They have been found in Kentucky, South Carolina, and other parts of the United States, and Humboldt discovered them on the elevated plain of Quito. A mammoth, in complete preservation, was seen by Adams, a traveller in Siberia, who found the skeleton to be nine feet and a half high, and fourteen long, from the tip of the nose to the coccyx. The tusks were nine feet long. The scientific name of this animal is *elephas primigenius* (Blumenb.), or *éléphant fossil* (Cuv.). It is not to be confounded with the mastodon, a gigantic fossil animal of North America. See *Mastodon*, and *Organic Remains*.

**MAMMOTH CAVE**; a stupendous cave in Kentucky, near Green river, 130 miles south-south-west of Lexington. It has been penetrated nine or ten miles, and has many windings that have not been explored. The depth is sixty or seventy feet. It contains figures, some of which are of immense size and fantastic form; but is more remarkable for its extent than the variety or beauty of its productions, having none of the beautiful stalactites found in many other caves. The earth is strongly impregnated with saltpetre, and large quantities of it are manufactured.

**MAN**, in natural history, according to some naturalists, although, it must be confessed, rather from motives of pride than from anatomical considerations, forms the order *bimana*, in the class *mammalia*; according to others, and more scientifically, is included in the family *bimana*, in the order *anthropomorpha*, which contains, also, the two families of *quadrumana*, or proper monkeys, and *lemura*. The family *bimana*, according to this classification, contains three genera,—*man*, the *orang-outang*, and the *gibbon*. Linnæus, was the first who ventured to class man (*homo, homo sapiens*) in a scientific system with other animals; and he did not escape the censure of some, as degrading the dignity of the human race by such an approximation; but classification is a mere statement of a fact in anatomy, and the philosopher, who observes and interprets nature, is not surely to blame. Man, then, whether considered as the head of the animal creation, and a part of it; or as a sole genus and sole species, distinct from others, and lord of all; whether defined to be a biped without feathers, or a quadruped without hoofs, a monkey with a voice, or a monkey without a tail—if viewed solely in a physical light, and setting aside his divine reason, and his immortal nature,—is a being provided with two hands, designed for prehension, and having fingers protected by flat nails, and two feet, with single soles, destined for walking; with a single stomach, and with three kinds of teeth.—incisive, canine, and molar. His position is upright, his food both vegetable and animal, his body naked. It has been made a subject of dispute, whether there is more than one species in the human race; but it is merely a dispute of words; and if the term *species* is used in its common scientific sense, it cannot be denied that there is but one species. There are, however, certain and constant differences of stature, physiognomy, colour, nature of the hair, or form of the skull, which have given rise to subdivisions of this species. Blumenbach reduces these varieties to five:—

1. The first variety occupies the central parts of the old continent, namely, Western Asia, Eastern and

Northern Africa, Hindoostan and Japan. Its features are the colour of the skin, more or less brown; the cheeks tinged with red; the hair either brown or fair; the head and face the face oval and narrow; the features marked, the nose slightly arched; the front teeth placed perpendicular to the chin full and round. The features of such a countenance, which is the European, causes it to be generally mistaken for them at least) as the most agreeable. The Abyssinians, the Berbers, or inhabitants of Atlas, have features not essentially different from those of the Europeans, except in the skin, and which, among the Hindu mountaineers, is quite fair. Blumenbach varies the Caucasian, from its situation in the Caucasus. In plate LVII. representations of various tribes who belong to the Caucasus. Fig. 1, is a Georgian; fig. 2, an Armenian; fig. 3, a Tcherkassian; fig. 4, a Circassian; fig. 5, a hardiner; fig. 6, a Tschetchevian; fig. 7, a sack of the Don; fig. 8, a Cossack of the Don; fig. 9, an Esthonian; fig. 10, a Mator; fig. 11, a Finn; fig. 12, an Armenian; fig. 13, a Turk; fig. 14 and 15, Mamelukes; fig. 16, a Sep.

2. The second variety has been called the black variety. The colour in this race is a black, stiff, straight, and rather thin; the nose square; the face large, flat, and depressed; the features indistinctly marked; the nose and the cheeks round and prominent; the eyes small. This variety comprises all the nations to the east of the Ganges and of most of the Malay Peninsula. Representations of this variety will be found in plates LVI. and LVII. Part. fig. 17, is a Turk; fig. 18, an Egyptian; fig. 19, a Persian; fig. 20, a Hindoo. Plate LVIII. fig. 1, a Yakoute; fig. 2, an Ostiak; fig. 3, a Kamt; fig. 4, a Kirghise; fig. 5, a Kalmuck; fig. 6, a Mongol; fig. 7, a Tomsch-Tatar; fig. 8, 9, and 10, Chinese; figs. 11 and 12, Japanese; figs. 13, 14, 15, and 16, Kamtschadale; fig. 17, inhabitants of New Guinea; fig. 18, inhabitants of North America.

3. The American variety resembles the first in several points. Its principal features are the copper-colour; stiff, thin, straight hair; low forehead; eyes sunk; the nose straight projecting; cheek-bones prominent; the hair coarse. This variety comprises all the American nations, the Esquimaux. There are several branches, however, which differ considerably. The following are representations of this variety: fig. 13, part. represents Maxima, leader of one of the nations on the frontiers of Peru. Fig. 14, part. represents Tajadamega, general of the Matsigenka; plate LVIII. fig. 1 is represented a Sumatran; fig. 2, 3, 4, and 5, Brazilian Botocudos; fig. 6, a Brazilian Camakans; fig. 7, a Brazilian Peru; and fig. 8, a Brazilian Fatchos.

4. The fourth variety of Blumenbach is called the Malay, and is described as of a swarthy colour; the hair black, soft, thick, and curled; the nose a little projecting; the nose thick, waxen, and thickened; the mouth large; the upper jaw prominent. This variety comprehends the inhabitants of the Malay ocean. Representations of the Malay variety will be found in plate LIX. Part. figs. 1, 2, 3, 4, and 5, represent Papuas of New Holland; fig. 6, a Papuan from New Hebrides; fig. 7, a Papuan from the Moluccas; fig. 8, 9, New Zealanders; figs. 10 and 11, inhabitants of Ombakshika; figs. 12 and 13, inhabitants of the Sandwich islands; fig. 14, Tasmanians; part.

of the Sandwich islands; fig. 18, Naba-Seta, prince of the Timor island; fig. 16, an Otahetian.

5. The remaining variety is the Negro. Its characters are, colour black; hair black and woolly; head narrow; forehead convex and arched; cheek-bones projecting; nose large, and almost confounded with the upper jaw; the upper front teeth obliquely placed; the lips thick; the chin drawn in; the legs crooked. This race is found in Western and Southern Africa, and the great islands of the Pacific, generally in the interior. There are very great differences in the tribes included in this variety: the Negro, with the complexion of jet, and wool; the Caffre, with a copper complexion, and long hair; the suty Papous, or New Guineaman; the native of Van Diemen's Land; the Harafora, who are found in Borneo, and the Hottentots, hardly differ more in situation than in features. Representations of this variety will be found in plates LVIII. and LIX. Figs. 1, 2, 3, and 4, in plate LIX., represent the Negro Proper. Figs. 9, 10, and 11, in plate LVIII., represent Hottentots. Figs. 12, 13, 14, 15, same plate, represent Irishmen, male and female. Figs. 16, same plate, a, b, c, represent Papous of Van Diemen's Land; a, named Grou-Agura; b, Ara-Menda; and c, Parahiri. See the article *Mammalia* for a more particular description of the above varieties. Also see Blumhach, *De Ferocitate nativæ Generis Humani*.

Hury de St Vincent, in his *Essais Zoologiques sur l'Homme*, divides the human race into fifteen species, and numerous varieties.

Man, considered in his nobler character of a social, moral, religious, and political being, will be more appropriately considered under other heads. See *Language, Philology, Political Institutions, Religion*.

MAN, falls or (the *Monsieus* of Ptolemy); an land belonging to Great Britain, in the Irish sea, nearly equidistant from the coasts of England, Scotland, and Ireland; thirty miles long, and twelve, here widest, broad; seventy in circumference; four miles, 230; population, in 1831, 40,985; chief towns, Castletown (the capital), Douglas, Peel, and Ramsey; lon. 4° 30' W.; lat. 54° 15' N. The interior is mountainous. Snowfield, or Snowfield, the highest summit, is about 3000 feet above the sea. The soil, not naturally very productive, is greatly vitiated by the abundance of seaweed cast upon the shore. Agriculture, of late, has made great advances. The productions are barley, wheat, oats, turnips, potatoes, flax, cattle, sheep, poultry, &c. The island contains seventeen parishes, under the jurisdiction of a bishop, styled *bishop of Sodor and Man*, who is no bishop of the island. The Manx language, a kind of Gaelic, prevails in the interior, but English is spoken in the towns. On the south is a small sand, called the *Calf of Man*, which is separated by a narrow channel.

In 1605, the island was granted to lord Stanley, and, in 1735, became vested in the duke of Athol. In 1764, it was sold to Great Britain for £70,000, with all its rights of sovereignty.

MAN-OF-WAR; a ship of war: an armed ship.

MAN-OF-WAR BIRD. See *Albatross*.

MANAKIN (*pyra*, Lin.). This is a small genus of birds peculiar to South America, having a compound beak, thicker than broad, grooved; small and large. Their tail and feet are short. In their vocal form and proportions, they are not very unlike the tanager. They are generally small, and inhabit the depths of forests, being seldom seen in uncultivated fields. The largest of these birds, the *P. minor*, is distinguished by a beautiful crest of red feathers upon its head. Its back is of a fine blue, and the rest of the plumage of a deep black.

Closely allied to these birds is one of the most extraordinary of the feathered tribe,—the cock of the rock (*rupicola*). This bird is as large as a pigeon, is of a bright orange colour, and is furnished with a double crest of feathers on its head, placed in the form of a fan. They live on fruits, scratch the earth like the common fowl, and form their nest of dry wood, in deep holes in the rocks. The female lays two eggs.

MANASAROWARA, a lake of Thibet, among the Himalaya mountains, is one of the most venerated of all the places of pilgrimage resorted to by the Hindoos, who visit it in great numbers, in spite of all the difficulties of the journey. The Thibetians also hold it in great reverence, and come from great distances to throw into it the ashes of their friends. It is about fifteen miles long and eleven broad, and, with its borders of lofty crags, and its towering barrier of snow-capped mountains, forms a magnificent scene. Its shores are covered with monastic houses.

MANASSEH; eldest son of Joseph, born in Egypt. When brought with Ephraim to receive the blessing of his grandfather Jacob, the old man placed his right hand upon the head of the younger, and his left upon that of Manasseh, thus depriving the latter of the precedence due to his priority of birth. The descendants of Manasseh formed a tribe, which, in the promised land, was settled half beyond the Jordan, and half in the territory of Samaria, Sichen, and Bethany. See *Hebrews*.

MANCANDO (abbreviated *menc*, Italian) is used in music to denote that the time of a piece must become slower and slower, and the tone by degrees vanish.

MANCHA, LA; a province of Spain in New Castile, almost every way surrounded by mountains, forming an immense plain, intersected by ridges of low hills and rocks; not an enclosure of any kind, except mud walls, about the villages; not a tree to be seen, except a few dwarfish evergreen oaks and olive plants, scarce deserving the name. All this vast tract of open country is cultivated in corn and vines. A traveller says, "There is no labourer nor young female peasant, who is not well acquainted with Don Quixote and Sancho." This is the most cheerful country of Spain; the inhabitants are affable, and great lovers of music and dancing; population, 214,087; square miles, 8000; chief towns, Ciudad-Real and Ocaña.

MANCHE, DEPARTMENT OF LA; in the north-western part of France, on the British channel, called in French *La Manche*. See *Department*, and *Channel*.

MANCHESTER, the most important manufacturing town in England, is situated at the south-eastern extremity of the county palatine of Lancaster, 180 miles N. W. from London, thirty-six miles by the high road, thirty by the railway, E. by N. from Liverpool, and eighty-two N. from Birmingham. It stands on the eastern bank of the river Irwell, near its junction with the two tributary streams of the Irk and the Medlock. On the opposite bank has been built the town of Salford, which, though under a different jurisdiction, is yet so closely connected with Manchester as to form a part of it, and is therefore comprehended in the same statistical report. The communication is kept up by means of several bridges.

*History.* Manchester is of very high antiquity. In the time of Julius Agricola, the Roman governor of Britain, it was a Roman station, and called *Mancunium*, which, says Mr Whitaker, signifies the Place of Tents. Other antiquaries tell us that the origin of the name is to be found in Saxon etymology, it being frequently spelled *Manigester* in ancient

records. Another opinion is, that during the possession of Britain by the Romans, the military post stationed here, in order to distinguish it from the great camp at Chester, was called *Monacastra*, (afterwards corrupted to *Mancestre*.) the single camp, much on the same principle that Anglesea and Man, solitary islands, acquired the appellation of *Mona*. The town, which had gradually accumulated round the ancient fortress, was ruined during the early incursions of the Danes, and subsequently restored by Edward the Elder, about 920. On the Norman Conquest, Albert de Greiley, one of the adventurers attached to the standard of William I., obtained possession of this place, and made it his seat of residence; and his son Robert de Greiley, in 1134, after returning from an expedition into Normandy, whither he had attended his sovereign Henry I., obtained from that prince as the reward for his services a grant of a fair to be held in his lordship of Manchester, annually on St Matthew's Day, and the days before and after it; and this fair, which still subsists, under the appellation of Ackers Fair, now takes place on the first of October. Thomas de Greiley, lord of the manor in 1301, gave the burgesses of the town a charter of the customs of the manor, by which Manchester was constituted a free burgh. From the Greiley family this lordship was transferred to Robert de la Warre, whose descendant, Thomas de la Warre, in the reign of Henry V., founded that noble establishment the collegiate church. In 1579, the manorial rights and immunities were sold for £3000 to John Lacye, who, in 1596, resold them for £3,500 to Sir Nicholas Mosley, in whose family the manor, now immensely increased in value, has ever since continued. Manchester is mentioned by Camden, in the reign of Elizabeth, as a place of importance for its population, manufactures, and commerce; and during the government of Cromwell this town twice returned members to the house of commons. On the commencement of the civil war between Charles I. and the parliament, possession was taken of Manchester, in behalf of the latter, by the country militia, who being joined by the people of the town and neighbourhood, the streets were slightly barricaded; and the earl of Derby, who in September, 1642, at the head of a large body of royalist forces assaulted the town, was repulsed, and forced to retreat. The next year the town was strongly garrisoned, and remained in the hands of parliament till the war was terminated. When the insurrection against government took place in 1745, under prince Charles Edward Stuart, Manchester became for a short time the quarters of the insurgents. On the 29th of November the main body of their forces entered this town, on their march from Scotland; and the young adventurer took up his quarters at a house in Market Street Lane, called from that circumstance the Palace, and since converted into an inn, which still retains that appellation. The rebel army remained here till the 1st of December, and then proceeded southwards, but was soon after obliged to retreat. The inactivity of the local authorities at Manchester on the arrival of the Scottish troops, was construed into disaffection to the existing government, and at the assizes at Lancaster, in 1747, the constables, or presiding officers of the town, were arraigned on the charge of high treason, but the prosecution ended in a verdict of honourable acquittal. In 1768, Manchester was visited by Christiern VII., king of Denmark, who came to this part of the country to see the works for the improvement of inland navigation, then in progress, under the duke of Bridgewater. In 1817, during a period of great manufacturing depression, a number of distressed persons agreed to

assemble and march to London, in order to lay their grievances before the throne. Each individual was provided with a blanket shawl on his shoulders; hence they were called Blanketers. Many of them on their journey, but their perseverance was not way, and none proceeded further than Manchester. A more remarkable event took place at the end of 1819, when a vast concourse of people, assembled on a piece of vacant ground near St Peter's church, for the purpose of petitioning for a reform in government. This assembly was illegally dissolved by a detachment of yeomanry, under the direction of the magistrates; and the chairman of the meeting, Henry Hunt, with several of the leaders, were captured and sent to prison. The yeomanry displayed much unnecessary severity on the occasion; several lives were lost; and about 500 persons of both sexes suffered injury. This transaction, popularly called the Manchester massacre, excited a great indignation throughout the country, as being an outrage both on humanity and the common rights of the people.

*Description.* Manchester is about two miles in length, and one and a half in breadth, containing about 600 streets, which are in general well paved and lighted with gas, and the inhabitants are conveniently supplied with water. The buildings display considerable variety, but among the most modern erection there are some handsome ones. Within the last twenty years, several extensive improvements have been carried into execution in different quarters of the town. In 1802 an act of parliament was procured for making alterations in Market street and its vicinity, and for the erection of a new bridge across the Irwell, from Warrington to Salford; the narrow avenues at the bottom of King street, connecting it with Deansgate have been widened; as also have those at the bottom of Cannon street, leading to Hanging ditch. In 1803, the carriage way has been widened to the edge of the railing of the infirmary pond over its edge. Market street, formerly called *Market lane*, has been rebuilt on such a scale of magnificence as to entitle it to the appellation of the *first street* of Manchester. The carriage-way in general have been Macadamized; and the footways occasionally widened, and otherwise improved. Works, for lighting the streets of Manchester, were established in 1817, and others for lighting *lamps* in 1820; besides which, a portable gas engine has been formed, to supply gas for lighting *houses* or other buildings. The Manchester and Salford waterworks were established in 1828. Besides the bridges over the Irwell, there are six which cross the Irk, nine the Medlock, and several others over the canals. Among the public edifices appropriated for the purposes of commerce is the Manchester exchange, built by subscription and opened to the public in January, 1804. In 1804 Buildings, and Chapel Street, Salford, are the *wool* halls, or public marts, for the sale of *wool* cloth; and in Hanging Ditch is the *Corn Exchange* for the accommodation of corn-dealers and *traders*. The public markets are numerous, but not so generally distinguished for extent or convenience of arrangement. Provisions of all kinds are exposed for sale every day in the week, except Sunday, the regular market-days, however, being only four. The public places are the New Shambles, at the end of Bridge Street, for butchers' meat, with a pork market adjacent; the fruit-markets are at Long Millgate and Shude Hill; Smithfield Market, Shude Hill, for various commodities and provisions, except on Wednesdays, when the sale of cattle takes place there; the London Road are shambles, and a market for

fruit and vegetables; there is a market in Brown Street, opened in November, 1827, on the removal of the old shambles, in Market Street; the poultry and butter market takes place on Saturdays, in Smithy Door; and in Salford is a new market-house, with a stone front, and commodious arrangements for the sale of butchers' meat, fruit, and vegetables, opened in May, 1827. The municipal buildings include some handsome structures, particularly the town-hall of Manchester, in King Street, a noble edifice, recently erected, designed for the transaction of business, connected with the police of the town and the administration of justice, as well as for public meetings. The town-hall of Salford is in Chapel Street. The New Bailey Prison, or Penitentiary, in Stanley Street, Salford, completed and opened for the reception of prisoners in 1790, consists of an extensive building, in the centre of a large ree, enclosed by very high walls: it is three stories in height, and arranged in the form of a cross; and in front, over the entrance, is the court-room, where the sessions are held, and adjoining are commodious apartments for the magistrates, jurors, and others. At Hulme are cavalry barracks; and in the Regent's Road, barracks for infantry. The churches in Manchester are numerous, and many of them elegant. The oldest is the venerable collegiate church, originally founded by Thomas Lord de la Warre, in the reign of Henry V., and rebuilt in the reign of Henry II. There are about fifty places of worship for members of various religious denominations. Among the most important of the charitable foundations in Manchester is the Blue Coat School, established through the munificent bequest of Humphrey Cheetham, Esq. To the same gentleman, the town is indebted for the foundation of a valuable public library. There is a free grammar-school in Long Millgate, which was founded in 1513, by Hugh Olden, bishop of Exeter, and which is a seminary of considerable importance and great reputation. The other establishments for gratuitous education include

Collegiate Church School, Fennel Street; the Free and Dumb School, Stanley Street, Salford; St. Martin's School, Gartside Street; the Catholic Free-school, Lloyd Street; the New Jerusalem School, Pell Street, Salford; the Ladies' Jubilee School, Newbays Park; the National School, Granby Row; the National School, Bolton Street, Salford; the Lancastrian School, Marshall Street; and the Free School, Saville Street, Chorlton Row. There are also a considerable number of Sunday-schools. The establishments for ameliorating the condition of the sick poor are in extent commensurate with population and casualties incident to the working of a great manufacturing town: the Royal General Manchester Infirmary and Dispensary, the latter in consequence, was built in 1755; it is now built with stone. The Lunatic Asylum, which was established in 1765, is also cased with stone, and the fine sheet of water extending along the fore-ground of the edifices, presents an appearance of very considerable beauty. The House of Mercy, or Fever Hospital, has existed since 1796; the Lying-in Hospital was instituted in 1790; the Mechanics' Friend Society, in 1791; an Institution for the Cure of Diseases of the Eye, in 1815; the Infirmary, in 1819; and the Female Penitentiary, in 1822. The school for the Deaf and Dumb, was established in 1825. There are generally about 100 children of both sexes receiving instruction in this institution. Dispensaries for the relief of the sick, are established in the several adjacent parishes. Manchester and Salford are rich in charities: the annual income of the boroughs' charities is £2,392, 18s. 1d.; and other

charities, distributed by various trustees, amount to £1,631, 13s. 4d. One of the effects of these charities is to diminish the pressure of the poor rates upon the inhabitants. The institutions for the promotion of literature, science, and the fine arts, are the Literary and Philosophical Society of Manchester; the Society for the Promotion of Natural History, with a museum of considerable value; an Agricultural Society; the Floral and Horticultural Society; the Royal Botanical Gardens, in the Stretford road, which present attractions of the most superior order to the scientific and public generally; and the Royal Manchester Institution, a superb building, in Mosley Street. The last named was erected from a design by Mr Barry, of London, in the Grecian style of architecture. The libraries in Manchester are exceedingly well furnished with works of ancient and modern literature, periodicals, &c.: the principal of these establishments, after the College library, is the Portico, (in Mosley Street, with a news-room.)—a spacious and elegant edifice, of the Ionic order, completed in 1805. The Mechanics' Institute, in Cooper Street, is very flourishing, and, since its commencement in 1826, has been progressively increasing its members. The New Mechanics' Institute, or Hall of Science, in Pool Street, is an establishment that promises to rival its sister institution.

The principal places of public amusement consist of the Theatre, in Fountain Street, called the Theatre-Royal, erected in 1806; the Queen's Theatre, in Spring Gardens, originally built in 1753; the Assembly and Billiard Rooms, in Mosley Street, in 1792; and the New Concert Hall, in St Peter's Square. The public baths, at the Infirmary and Lying-in Hospital, at once afford relaxation, and conduce to health. The Races, which were established in 1730, and held on Kersal Moor, continue for three days, in Whitsun-week: at these periods immense numbers are collected together, and a great portion of the population of Manchester and the surrounding country may be said to be assembled at one place during this annual carnival.

*Trade and Manufactures.* About the year 1352, the manufacture of a kind of woollen cloth, made from the fleece in an unprepared state, was introduced into Manchester, and from that period till the introduction of cotton, the town distinguished itself by its woollen and linen fabrics. It was not till about 1750, that the cotton trade assumed any very high degree of importance. In 1760 manufactured goods, which had, until then, been made only for home consumption, found a market on the continents of Europe and America; and shortly after the *picking peg* was invented by Mr John Kay. In 1806 the *power-loom* (originally invented by the Rev. Mr Cartwright), first introduced into Manchester by Mr Grimshaw, was again tried with ultimate success. In 1781, two years before Arkwright's machinery for carding and spinning cotton by steam was introduced here, the quantity of cotton wool imported amounted only to 5,198,778 lbs.; but the successive inventions of Higgs, Hargrave, Arkwright, Crompton and Watt, so astonishingly facilitated the manufacture, that its extent has been increased more than thirty-fold. In 1800 the quantity of cotton wool imported into this country was 56,010,732 lbs.; in 1810 it amounted to 132,488,935 lbs.; in 1820 the weight was 144,818,100 lbs.; in 1823 it had increased to 169,773,600 lbs.: in 1824 the quantity was 136,735,566 lbs.; in 1832, 283,000,000 lbs.; and the duty in the same year £690,000. The total quantity of cotton yarn spun in England, in the year 1832, was 222,596,907 lbs. About four fifths of the whole amount of the cotton trade of the kingdom centres in Lancashire; and it is calculated that the

capital employed in that county in this trade alone, in buildings and machinery, exceeds £8,000,000. In 1825 there were, in the parish of Manchester alone, upwards of 20,000 steam-looms in motion; and the number has increased since that year. In the same year there were, in the townships of Manchester, Chorlton-on-Medlock, Ardwick, Salford, Pendleton, and Hulme, 104 spinning factories, worked by 110 steam-engines of the aggregate power of 3,598 horses; and, in addition to those engines used in spinning cotton, there were 102 others, of 1,277 horse power, applied to other purposes of trade and manufacture, within the same limits. At the present period, the number of factories has increased to above 120, the aggregate power exercised in which is nearly equal to five thousand horses; furnishing employment to between thirty and forty thousand persons. Although the spinning and manufacture of cotton, and the production of various fabrics from that article, may be considered as the principal branches of trade in this town, yet it must not be inferred that the woollen, linen, and silk trades are inconsiderable. The latter branch has, within a very few years, wonderfully increased; establishments of the first magnitude are continually springing up; and to such perfection are the textures, wrought from this beautiful material, by the genius and persevering industry of the Manchester artisan, that the looms of Spitalfields and France are rivalled by those of this town. There are also extensive bleaching grounds and works for printing and dyeing, and for every other department of the manufacture. Besides the great extent of business transacted in the articles before named, Manchester has long been conspicuous in the manufacture of hats; what are called *London hats* are chiefly made in this neighbourhood—some of the finer sorts being finished in the metropolis. The making of umbrellas, and a great variety of articles embraced under the denomination of Manchester smallwares, employ many hands, and a considerable capital. The iron foundries are of great magnitude; machine-making is executed here to an extent commensurate with the vast demand for this species of manufacture: the number of steam engines employed in these branches amount to about one hundred, of the aggregate power of nearly two thousand horses. Many chemical works are on a large scale; and in the vicinity are mills for the manufacture of paper, from the coarsest kind, for packages, to the finest quality for writing, and printing.

**Civic Government.** The government of the town is vested in a boroughreeve and two constables; the chief business of the first of these is to preside at public meetings,—the judicial functions connected with the police being executed by the constables and their deputies. The municipal government of Salford is also confided to a boroughreeve and two constables. A court leet, under the jurisdiction of the lord of the manor, assembles at Easter and Michaelmas; at the latter period the boroughreeve and other officers are appointed. A court baron is held every third Wednesday, for the recovery of debts and damages under 40s.; and a court of requests, for the parish of Manchester, every second Wednesday, for the recovery of debts under £5. In addition to these courts, there are held the court for the hundred of Salford, every third Thursday, of which the Earl of Sefton is the steward; and the King's leets and courts of record twice a year. The county court is also now held in Manchester once a month, wherein debts to the amount of £10 may be recovered. A magistrate, who is a barrister appointed by government, with a salary of £1,000 a year, sits every day (Sunday excepted) in the court-room of

the New Bailey, for the administration of justice, which he is generally assisted by one or more magistrates. The sessions are held every six weeks, before a barrister, in the commission of the peace, who is chairman, and for which he is paid by the hundred of Salford, £800 a year. The parochial concerns of this township are enormous; such ought to be expected from its great working population, resting upon the success or declination of the manufactory, which, however generally prosperous, is subject to adverse fluctuation.

**Population.** The population of Manchester and Salford, with their suburbs, and of the ecclesiastical parish of Manchester, according to the returns made by order of parliament in the years 1801, 1811, 1821, and 1831, was as follows:

Population of Manchester and Salford, with their immediate Suburbs.	1801.	1811.	1821.	1831.
Manchester .....	70,400	79,130	88,000	92,000
Salford .....	12,611	12,114	12,771	13,000
Chorlton-on-Medlock .....	673	2,281	1,300	2,000
Hulme .....	1,677	2,000	1,500	1,500
Ardwick .....	1,764	2,700	3,200	3,500
Cheetham .....	732	1,170	1,100	1,100
Broughton .....	686	680	600	600
Pendleton (in Eccles parish) .....	3,611	4,900	1,000	1,000
Total .....	93,363	112,796	118,000	122,000
Population of the other Chapelries and Townships, in the parish of Manchester, not included in the above ..	22,570	27,577	31,000	31,000
Grand total of the parish of Manchester, including Pendleton .....	115,941	140,373	149,000	153,000

**MANCHINEEL** (*Alseodaphne manchineel*). A tree, celebrated for the poisonous quality of the milky juice which abounds in every part of it. When a drop of the juice is applied to the skin, it causes the same sensation as a burning one, and quickly produces a vesicle. The Indians are employed in felling these trees, first bind a band round the trunks, in order to make the sap exude, and cover their eyes with mud, so as to prevent the sap from entering their eyes. Notwithstanding these precautions, they are often incommoded with the dust. The acorns, however, which represent it as dangerous to eat, are shaded, or to come in contact with the sap, and to fall upon this tree, are highly excreted. The inhabitants of Martinique formerly burned the forests of the manchineel, in order to free the land from its presence. This tree belongs to the natural family *euphorbiaceae*; the leaves are alternate, ovate, serrate, and shining; the fruit is globose, colour, and scent of a small apple and is as large as a chestnut. It is said that drinking copiously of sea-water is the best remedy when a portion of this fruit has been eaten. It grows in the West Indies, and other parts of tropical America, in the immediate vicinity of the ocean.

**MANCO CAPAC**, legislator and first king of the Peruvians, was the twelfth in descent from the one who reigned at the time of the Spanish invasion in 1532, an interval computed by the natives to be about 400 years. Their tradition was, that this prince, with his wife, and sister, appeared whilst on an island of the lake Titicaca, and directed themselves to be children of the sun, sent down to earth and instruct them. Manco accordingly taught them agriculture and other useful arts, whilst he instructed the women to spin and weave. He taught the Peruvians to reverence internally, as the highest

known deity, Pachakamak, i. e. the soul or support of the world; externally, however, and as an inferior and visible deity, the sun, his parent; and ordered sacrifices to be offered to the latter, as benefactor of men. Perhaps some stranger from civilized land, appeared in Peru, and employed religion, to procure an ascendancy which enabled him to form a regular government. Manco Capac, after a long and prosperous reign, and as far as tradition may be relied upon, seems justly to have been entitled to rank among the benefactors of mankind by the benevolence of his institutions. See *Roth's History of America*.

**MANDAMUS.** A writ of *mandamus* (we command) is, in general, a command issuing from some superior court, directed to some inferior court, or some person or corporation, requiring them to do a particular thing, which such superior court has previously determined it to be their duty to do, or, at least, supposes to be consonant to right and justice. Issues where a party has a right to have a thing done, and has no other remedy and in some cases where he has another, but a tedious and inadequate one.

It is either in the alternative, ordering the party, corporation, or party, to which or whom it is directed, to do the thing specified, or to appear and show cause why it should not be done; or absolute, mandating the thing specified to be done without condition or alternative. The writ is usually first issued in the alternative, directing the party commanded to appear, and show cause against its being issued absolutely, and in case of there being no cause shown, an absolute *mandamus* is issued. The writ is enumerated for the issuing of this writ, by Sir William Blackstone, are—

1. To compel the party to be restored to some office or franchise of public nature, whether temporal or spiritual; to a cademical degree; to the use of a meeting-house, &c. : it lies for the production, inspection or recovery of public books and papers; for the recovery of the *regalia* of a corporation; to oblige a corporation to affix their common seal; or to compel the holding of a court. It may be directed to an inferior court, ordering it to proceed in the hearing of a cause, or to enter up a judgment. It is sometimes directed to a corporation, directing them to remove officers. The statute of 2 Geo. II. c. 4, enables for its being issued to command an election mayor or other chief magistrate of a city, town, or parish; and so, where one is elected to any office, or clerk, or is legally elected member of any body, as one of the aldermen of a city, and is refused admission or recognition as such, this writ is issued in his behalf.

**MANDAN**; a fort and Indian village on the Mississippi, 1600 miles from the Mississippi, by the course of the river; lon. 100° 50' W.; lat. 47° 20' N. The place is remarkable for the encampment of Lewis and Clarke, during the winter of 1804, 5, on their expedition up the Missouri. They were there on the 17th December, the thermometer stood at 45° below 0. The Mandan Indians are in the majority.

**MANDANE**; the mother of Cyrus. See *Cyrus*, *mythology*.

**MANDARINS**; the official nobility in China. See *China*.

**MANDATE**; an order in Germany, used for a decision of a court of justice, by which, on the application of a party, something is ordered or prohibited to the party. The process is unconditional (*sine die*) if no legal opposition can be anticipated, or conditional (*sub conditione*) if the other party is at liberty to make remonstrances.

*Mandate* was also the name given to a certain kind of paper-money in the French revolution. After the *assignats*, which had been kept in circulation by the violence of Robespierre, had lost all credit, a new money was created—the *mandates*,—founded, like the *assignats*, on the credit derived from the confiscated property, but with the essential difference, that specific pieces of property, enumerated in a table, were pledged for the redemption of the bills, whilst the *assignats* furnished only a *general* claim. The *mandates* could be realized at any moment, as the owner was authorized to take any portion of the property enumerated on the table, as soon as he made his intention known, and paid the quarter part of its assigned value without any further formality. First 600,000,000 of *mandates* were created, but soon after (March 18, 1796), 2,400,000,000. A forced circulation was given to them, by which the government was enabled to defray the expenses of the approaching campaign. This was hardly done, when they also sank to nothing; they were, therefore, in part redeemed, while the rest disappeared of themselves. Instead of sinking under this burden, France owed her deliverance to this measure. The evil carried along with its excess its cure.

**MANDEVILLE**, SIR JOHN, a celebrated English traveller of the fourteenth century, was born at St Alban's. He was of a respectable family, and bred a physician; but a desire to visit foreign countries induced him, in 1332, to set out upon a course of travels, in which he is said to have spent thirty-four years. During this period, according to his own account, he visited the greater part of Asia, Egypt, and Libya, making himself acquainted with many languages, and collecting a great mass of information, true and false, which he committed to writing in Latin, French, and English. He died at Liege, in 1372, where a monument is erected to his memory, the inscription on which denominates him *John de Mandeville, alias De Barba, Lord of Campoli*. The only genuine edition of his travels, entitled the *Voyage and Travaile of Sir John Maundevile, Knight*, was printed from an original manuscript in the Cotton library (1727, 8vo). His extreme credulity in the collection of absurd and fabulous stories is only surpassed by his unblushing indulgence in the most extravagant fictions.

**MANDEVILLE**, BERNARD, a writer and physician of considerable temporary celebrity, was born in Holland about 1670. He was probably of English extraction, as he fixed his residence in England, and wrote his works in the English language. His most celebrated production is the *Fable of the Bees*, or *Private Vices made Public Benefits*, first printed in 1723. The reasoning in this piece is founded on the sophism, that the luxury and superfluity which mark the advanced stages of society, and the vices which they engender, are often the causes of national prosperity, and hence the necessary prevalence of vicious principles in human nature. Consistently with this doctrine, his general views of mankind are of the most disparaging tendency; and he declares against all attempts to exalt the humble classes by education. Many answers appeared, among which was one by bishop Berkeley, to whom he replied in 1723, in his Letter to Dion. His *Free Thoughts on Religion* (1720), was deemed deistical. He also wrote several other works. He died in 1733.

**MANDINGOES**; a nation of negroes found in different parts of Western Africa, in Senegambia and Guinea. They are of the Mohammedan religion, and their language is, in some measure, the commercial language of Western Africa. They are superior to most of the African tribes in civilization. The following cut represents their costume;



should not be introduced till the horse has been taught to carry his head high, and is free in his motions. A fine carriage is to be given to the horse bringing his head in such a position as to form a perpendicular line from his forehead to his nose, at which his head should be brought a little more forwards by pulling the inward rein gently and by greens, and crossing the outward rein a little over, whereby he acquires the most beautiful position, and better able to go through his exercises. The usual paces of a horse are a walk, a trot, and a lop, to which some horses, of themselves, add an amble. In a walk, a horse lifts two legs on a side, after the other, beginning with the hind leg first; in an amble, two legs on a side at the same time; in a trot, two at the same time, and keeps two on the ground crosswise. In galloping straight forward, the horse may lead with either fore leg, but unless the hind leg on the same side follows it, the legs are said to be disunited; in this pace, all four legs are off the ground at the same time. In galloping in a circle, the innermost fore leg should lead, or he is said to gallop false. The canter or hand gallop is considered as a natural pace: it is an easier gallop, in which the hand presses on the bridle, to train the speed. When the horse has learned to go forward freely, he should be exercised for some time in the manner above pointed out, first at a walk, and then at a trot. The trot is to render him supple in his shoulders, and to make him go with a free, easy, and determined action, for which no pace is well adapted. A horse light in hand should be taught the extended trot. When he goes freely, he should be brought together by degrees, until he is in his legs, and goes unitedly and equally. If he is kept together, he slackens his pace, push him apart, still keeping him gently in hand. If he is very in hand, he must be thrown back on his haunches, to shorten his steps and collect his length. He must not be suffered to sink his neck, or poke out his nose. When he has been wrought into a proper position, he should be made still more supple in the shoulders, by the lesson of the *épaule en dedans*, which is, perhaps, the most important lesson of any. For this purpose, the bend of the neck must be procured in the manner formerly described. When he has been ridden in this position till he goes with perfect steadiness and freedom, the rider should walk him forwards to the right, and afterwards, almost imperceptibly, to place him so that the hinder feet keep the straight line of a wall, the fore feet come out about a foot and a half to the right, towards the centre. This must be effected by crossing the outward rein, in the right hand, to the left, a little backwards, which compels the horse to bring the right shoulder forwards, and to the inward leg over the outward. The rider should also press his right leg to the horse's side, which brings in his shoulders. The same crossing should afterwards be effected in the hinder legs, by bringing in the fore legs, &c. In every exercise, the rider should avoid all unsettled motion, and cling with the legs. Every thing should be effected by the hands only, and the legs should be only in case of necessity. After the horse has been taught to go freely on this lesson to the right, the same may change to the left. The horse should be ridden in the same manner across the course, and should be used alternately to the right and left, until he is in his legs with perfect facility. He may now, and should, be taught to back. Whenever the rider wishes he should back a few paces, and then put the horse forwards by little at a time. In backing, if he begins to rear, push him out immediately into a full gallop. When the horse has been sufficiently practised

in the *épaule en dedans*, he should be made to traverse a passage with his head to the wall and with his croup to the wall. The motion of his legs in passing to the right, is the same with that of the *épaule en dedans* to the left, and so *vice versa*, but the head is always bent and turned differently. In the *épaule en dedans*, the horse looks the contrary way to that which he goes; in passing, he looks the same way as he is going. The directions for executing this lesson are similar to those of the *épaule en dedans*. The equilibrium of the rider's body is particularly necessary. Bits should not be used until the previous lessons have been well practised with the trench or snaffle. Horses should be taught to leap by degrees, beginning with small leaps. The rider must keep his body back, raise his hand a little, to help up the fore parts of the horse, and be very attentive to his balance, without raising himself in the saddle, or moving his arms. Horses should first leap standing, then walking, then trotting, then galloping. A low bar, covered with furze, is best to begin with, as it pricks the legs of the horse if he does not raise himself sufficiently, and prevents him from acquiring the dangerous habit of touching. In order to teach horses to stand fire, and to bear the sound of drums and other noises, they should be first accustomed to them in the stable at feeding time. All other things necessary to make a horse steady may be easily taught by good judgment, patience, and gentleness. Of all bad tempers and qualities in horses, those which are occasioned by ignorant riders and harsh treatment, are the most common and the worst. For mounting, &c. see *Horsemanship*.

MANELLI, PIETRO; a comic singer, who, about the year 1750, went at the head of a company of Italian singers to Paris, and gained the public favour by his comic talent. A warm dispute arose between the favourers of the modern Italian music and the old French style. The parties were called *buffonists* and *antibuffonists*. The chiefs of the parties were Grimm and Rousseau. The Italian music was victorious.

MANES, among the Romans; the souls of the dead. The good spirits were also called *lares*, and the evil *larvæ*. Some regarded them as the good and evil genii, which attend men through life. The manes were reckoned among the infernal gods; but a belief was prevalent, that they sometimes appeared upon the earth in the form of ghosts, particularly on the 30th of August, 4th of October, and 7th of November; whence the Romans considered these unlucky days. The superstitious notion that the spirits of the departed had an important influence on the good or bad fortune of the living, especially of those with whom they had been formerly connected, produced a general fear of them, and made people very cautious of offending them. As they were supposed to persecute those who disturbed their remains, tombs were held sacred, and victims (*inferiæ*) and libations offered to the manes. When it was not known whether a corpse had been buried or not, a cenotaph was erected, and the manes were solemnly invited to rest there, from fear that otherwise they would wander about the world, terrifying the living, and seeking the body which they had once inhabited. It was also supposed that they delighted in blood; various animals were, therefore, slain upon the funeral piles,—particularly those of which the deceased had been fond during his life,—and burned with the body.

MANES; founder of the sect of Manichæans. See *Manichees*.

MANESSE, RUDIGER VON; a native of Zurich, who, in 1336, when the aristocrats of his city, expelled by the burgomaster Bruns, threatened to return with the support of Austria, received the chief command from his fellow-citizens, was victorious, and saved the



liberty of Zurich. After the death of Bruns, he was chosen burgomaster. He was a lover of poetry, and formed a collection of 140 love-songs, called after him the *Manease collection*. It remained until the beginning of the seventeenth century in Switzerland, but was carried off, and, during the thirty years' war, found its way to Paris, where it was discovered, in 1726, by Ch. von Bartenstein. Part of the manuscript was published in 1748 (2 vols., Zurich); in 1758, and 1759, complete, by Bodmer and Breitinger. It is important in the history of German literature.

MANETHO; an ancient Egyptian historian, who was high priest of Heliopolis, in the reign of Ptolemy Philadelphus, about 304 B. C. He wrote in Greek a history of Egypt, from the earliest times to the last years of Nectanebis, and pretended that he had taken it from the sacred pillars of the first Hermes Trismegistus; the inscriptions on which, after the flood, were translated into Greek, but written in the sacred characters, and deposited in the sacred recesses of Egypt. The manifest absurdity of this pretension induces several writers to think, that some mistake or corruption has taken place in the passage of Eusebius which relates it. The work of Manetho, which is lost, consisted of three parts, the first of which contained the history of the gods or heroes, and the second and third that of twenty dynasties of kings, which, having been epitomized by Julius Africanus, are recorded by Eusebius. Several fragments of Manetho are preserved by Josephus, in his work against Apion. See *Scyffarth* and *Hieroglyphics*.

MANFREDI, EUSTACHIO; an eminent mathematician and astronomer, born in 1674, at Bologna, in Italy. He applied himself to the cultivation of mathematical science, and, in 1698, was appointed professor of mathematics in the university of Bologna. In conjunction with Victor Stancari, he commenced a series of astronomical observations, of which he afterwards published an account in his *Schedæ Mathematicæ*. In 1703 appeared his treatise on the Solar Macule; and the following year he was chosen regent of the college of Montalto, and also surveyor-general of the rivers and waters of the Bolognese territories. In 1705, he published a work on the Reformation of the Calendar; and he afterwards began the composition of his *Ephemerides Motuum celestium*, which he carried on from 1715 to 1725. On the foundation of the institute of Bologna, in 1712, Manfredi was appointed astronomer to that establishment. He was admitted an associate of the royal academy of sciences at Paris, and, in 1729, a foreign member of the royal society of London. He died in 1730. Besides the works already noticed, he was the author of other mathematical and astronomical productions; and after his death, appeared a volume of his poems.

MANGANESE, in the condition of an ore, had been used in certain arts, before its nature, as a distinct metal, was known. Scheele and Bergman, from an examination of this ore, inferred that it chiefly consisted of the oxide of a metal. To obtain the metal, the mineral is dissolved in muriatic acid, the oxide of iron in the solution precipitated by ammonia, and the solution itself evaporated to dryness; the residuum, after heating to expel the muriate of ammonia, is pure oxide of manganese, which is made into a paste, with a small quantity of oil and charcoal, and exposed, in a crucible, to the most intense heat of a powerful wind-furnace; the result of the process is the manganese in the metallic form. Hydrogen gas, passed over the heated oxide, will also reduce it. The metal is of a white colour, with a shade of gray, having a moderate lustre, which tarnishes, however, on exposure to the air. Its texture is granular; it is brittle and hard; specific gravity, 8; heated in oxygen or chlorine, it takes fire, and forms an oxide or chloride.

The oxides of manganese have constituted the dilemma of many chemists, and are hardly yet determined from controversy. Three, most probably four, well defined oxides may be obtained; and some intermediate oxides, compounded of these, exist in nature. The protoxide is best obtained by transmitting hydrogen gas over the deutoxide, peroxide, or carbonate of manganese, ignited by a spirit-lamp, or a gas tube. It is permanent in the air, but, when heated to 647 Fahr., it absorbs oxygen very rapidly, and at a red heat, it passes from its green cast almost instantaneously, into black. It contains manganese 76.82, and oxygen 23.18. It is the base of all the proper salts of manganese, which, therefore, are colourless. The deutoxide is prepared by exposing the nitrate or peroxide of manganese to considerable time, to dull ignition. It is a base, and the prismatoidal manganese ore (gray oxide of manganese), and consists of 70 metal and 30 oxygen. When heated with sulphuric acid, oxygen is extricated with effervescence, and a protoxide results. The peroxide exists native and crystalline in perfect purity. It may be artificially prepared by heating the dry proto-nitrate till a white mass has been formed, which must be pushed over, while hot with strong nitric acid, and again calcined with constant stirring. It contains not much oxygen as the protoxide. The sesquioxide is formed by exposing the nitrate, or peroxide of manganese, to a white heat, out of the influence of water vapours. It has a brownish-red colour when cold, and is nearly black while warm. It contains 66.66 parts of the protoxide, and one of the sesquioxide. It dissolves, in small quantity, in sulphuric acid, without disengagement of oxygen, forming an amethyst-red liquid. On heating in solution, or dilute sulphuric acid, or the red oxide is evolved, the colour disappears, and a persulphate remains. Strong muriatic acid dissolves the red oxide into a coloured solution, which, on the addition of chlorine, and gradually passes into a brownish-red solution. A compound, possessing very singular properties, as respects the colour to which it gives rise when in solution, and which from the circumstance, has received the fanciful name of the *chameleon*, is formed by fusing together the black oxide of manganese and potash, or to carbonate, which, on being dissolved in water, communicates to it a greenish-blue colour. The solution, standing a little time exposed to the air, or to an oxide of iron which it contains, and the colour becomes blue; and, on the addition of water, or an acid, the solution assumes a violet colour, which it soon passes to red, brown, black, and becomes colourless. When the colour of the solution is bluish-green, the manganese is believed to be united with the alkali, in the condition of manganous acid; and when it is red, the manganese is supposed to be in the state of manganese and the manganous acid is, according to this view, very easy of decomposition. When combined with potash it forms a submanganite; and whenever the potash is saturated, or its action weakened, the manganous acid is decomposed into deutoxide of manganese and manganic acid; hence the changes of the solution. According to the experiments of Berzelius, the manganic acid has a dark carmine-red colour, tastes sweetish at first, but afterwards like an astringent, and is destitute of smell. When heated with care, it volatilizes. It is decomposed by means of hydrogen gas, the hydrogrous acid, carbonated sulphur, the metals, and all organic substances. The oxides of manganese are usually prepared from the black oxide. The acids, which have a strong affinity for the protoxide, expel the excess of oxygen, equally

if their action is aided by heat; with other acids, it is necessary to add a little carbonaceous matter, as sugar, to abstract a portion of oxygen from the peroxide. The principal salt is the *sulphate of manganese*, which may be thus prepared: the acid acts very slowly on the metal itself; if diluted, however, it acts more quickly, hydrogen gas being disengaged of a fetid smell. The solution, when concentrated, is of a rose colour; when obtained neutral, it affords on evaporation, granular crystals of a reddish colour, transparent and soluble. Its taste is styptic and bitter, and it is very soluble in hot water. *Nitrate of manganese* may be formed from the carbonate. It is very soluble, and difficult to crystallize. It may also be formed by making the acid act on a mixture of peroxide of manganese and sugar or gum; the vegetable substance serving to reduce the manganese to a minimum of oxidisement, while much carbonic acid is evolved. The muriatic acid is equally incapable of combining directly with the black oxide, but according to the usual law, it de-oxidizes it: one part of the muriatic acid is decomposed; its hydrogen combines with the excess of oxygen of the black oxide, to form water; the chlorine, the other element of this portion of the acid, is evolved; and the rest of the muriatic acid unites with the protoxide of manganese, to form the *muriate*. The solution of *muriate of manganese* is of a rose colour when concentrated, and affords, by evaporation, small crystals of a pale rose colour, which are four-sided tables; they are deliquescent, very soluble in water, and, by a red-heat, are converted into a red chloride. *Carbonate and phosphate of manganese* may be formed by double decomposition, being thrown down in the state of insoluble precipitates. The salts of manganese suffer decomposition from the alkalis, which precipitate the oxide: they are not decomposed, however, by the inflammables, or the other metals, which is a proof of the affinity of manganese to oxygen. Oxide of manganese combines with those earths capable of vitrification, and with their compounds, and communicates to the glasses which they form a violet tinge; it imparts the same colour, also, to borax, and other vitrifiable salts. When heated with these fluxes, by the blow-pipe, the colour soon disappears in the interior flame, from de-oxidation, but appears again if a little nitre be added. *Sulphuret of manganese* was obtained by Berthier, by heating the sulphate in a charcoal crucible; it was of a gray colour and crystalline appearance. Manganese, from its infusibility, does not combine readily with many of the metals. It shows, however, considerable affinity to iron, occurring frequently combined with it in nature. It is contained, also, in those ores of iron which are best adapted to the fabrication of steel, and is supposed to improve the quality of steel. Gold and iron are rendered more fusible by a due addition of manganese; and the latter metal is rendered more ductile. Copper becomes less fusible, and is rendered whiter, but of a colour subject to tarnish. Manganese is applied to no use in its metallic form. The black oxide is employed by the chemist in preparing oxygen and chlorine gases. It has long been used in the art of glass-making, to counteract the green tinge communicated by the iron contained in the materials—an effect which it produces by yielding oxygen to the oxide of iron, and bringing it to a high degree of oxidation; in a larger quantity added to glass, it gives a purple colour. It is also used to give a black colour to earthenware.

**Ores of Manganese.** 1. *Gray manganese ore* is found in prismatic crystals, whose primary form may be considered as a right rhombic prism of  $100^\circ$  and  $90^\circ$ . It also cleaves parallel with both the diagonals of this prism. The crystals are usually slender and

much striated, longitudinally. Fracture uneven; lustre metallic; colour dark steel-gray to iron-black; streak brownish-black; opaque; brittle; hardness about that of limestone; specific gravity, 4.626; it also occurs in twin crystals, in reniform, botryoidal, and other imitative shapes, with a surface generally rough and drusy; composition columnar, of various sizes of individuals, often forming a second granular composition. In the massive varieties, the granular or columnar composition often becomes impalpable, in which cases the fracture is earthy. Gray manganese ore has been divided into several sub-species, chiefly in consequence of its mechanical composition. *Radiated gray manganese* ore comprises long acicular or reed-like prisms, and such massive varieties as consist of columnar particles of composition, while the *foliated* one refers to short prisms and granular compositions. *Compact gray manganese* ore contains varieties composed of impalpable granular individuals, and *earthy gray manganese* ore, such as have lost their coherence, and appear in the state of an earthy powder. The composition of some varieties belonging to this species, has been found by Klaproth to be—

Black oxide of manganese,	90.50	99.70
Oxygen,	2.25	10.25
Water,	7.00	.50

It is infusible before the blow-pipe, and colours glass of borax violet blue. It is insoluble in nitric acid. In heated sulphuric acid, it disengages oxygen; and chlorine is evolved, if it is brought into contact with muriatic acid; also, before the blow-pipe, or alone in a strong heat, it gives out oxygen. The gray manganese ore frequently accompanies the hematitic iron ores; and sometimes its earthy and compact varieties constitute beds by themselves. It also occurs in veins, particularly in porphyry, along with sulphate of barytes. Its most celebrated localities are Ilfeld in the Hartz, and Ehrenstock in Thuringia. It has numerous localities also in Saxony, Bohemia, Hungary, France, and Britain. It has been observed in many of the American states; but occurs most abundantly in Vermont, at Bennington and Monkton, accompanied with hematite and uncleavable manganese ore. The uses of this species of manganese ore, wherever it occurs in quantity, are very important for various chemical operations, and for none more so than the manufacture of chloride of lime, the ordinary bleaching powder. Its use in the manufacture of glass, is also very considerable. *Black wad* deserves to be mentioned under this species, as a very remarkable substance among those which contain manganese. It occurs in reniform, botryoidal, fruticose, and arborescent shapes, in froth-like coatings, on other minerals, or massive. Its composition is generally impalpable, and the fracture even or earthy. Colour brown, of various shades; opaque; very sectile; soils and writes; hardness below that of talc; specific gravity, 3.7; the varieties are very light, when dry; yet, as they imbibe water with violence, when immersed into it, they sink immediately. Mixed with linseed oil, it undergoes a spontaneous combustion. It consists of—

Oxide of manganese,	68
iron,	6.50
Water,	17.50
Carbon,	1.00
Baryta and silica,	9.00

It has been found in the Hartz, in Devonshire, and Cornwall, in England, also at one locality in the United States, in Connecticut. The black wad is conceived to be the colouring matter in the dendritic delineations upon steatite, limestone, and other substances.

2. *Pyramidal manganese ore* is a rare mineral,

occurring crystallised in octahedrons, with a square base, whose pyramids are inclined to each other, at an angle of  $117^{\circ} 30'$ . Fracture uneven; lustre imperfect metallic; colour brownish-black; streak dark-reddish or chestnut-brown; opaque; hardness equal to that of apatite; specific gravity, 4.72. It also occurs massive, possessed of a granular composition. It is probable that the variety from Piedmont, analysed by Berzelius, belonged to this species; if so, its composition would be, oxide of manganese, 75.80; silica, 13.17; oxide of iron, 4.14; and alumine, 2.80. In the oxidating heat of the blow-pipe, it yields a fine amethyst-coloured glass. It is soluble in heated sulphuric acid. It has been found in veins, in porphyry, along with other ores of manganese, at Oehrenstock, near Ilmenau in Thuringia, and at Ilsefeld in the Harz.

3. *Compact manganese ore, or uncleavable manganese ore*, occurs in reniform, botryoidal, and fruticose shapes, having a columnar or granular composition, sometimes impalpable. Fracture flat conchoidal, or even; lustre imperfect metallic; colour bluish-black, passing into dark steel-gray; streak brownish-black; shining; opaque; brittle; hardness nearly equal to that of feldspar; specific gravity, 4.14. It occurs sometimes accompanied by hematite, but generally along with other ores of manganese, in veins, in the older rocks. It is found at numerous places in Europe, and in the United States.

4. *Manganese blende, or sulphuret of manganese*, is one of the rarest ores of this metal, and has hitherto only been found at Nagyag in Transylvania, and in Cornwall. It is rarely crystallised, generally occurring massive, in distinct concretions. Colour iron-black; lustre imperfect metallic; streak dark green; opaque; rather sectile; hardness but little superior to that of calcareous spar; specific gravity, 4.014. It consists of protoxide of manganese, 85.00, and sulphur, 15.00. Before the blow-pipe, it is melted with difficulty. If reduced to powder, and thrown into nitric, muriatic, or dilute sulphuric acid, it emits sulphuretted hydrogen, and is dissolved.

5. *Phosphate of Manganese* occurs massive, with a cleavage in three directions, perpendicular to each other, one of which is more distinct than the rest. Fracture small conchoidal; lustre resinous; colour blackish-brown; streak yellowish or reddish-grey; opaque; brittle; hardness above that of apatite; specific gravity, 3.43. Before the blow-pipe, it melts easily into a black scoria; is readily dissolved in nitric acid, without effervescence, and consists of oxide of iron, 31.00; oxide of manganese, 42.00; and phosphoric acid, 27.00. It has hitherto been found only at Limoges in France, and at Washington in Connecticut.

6. *Carbonate of Manganese* is found crystallised in rhomboids of  $106^{\circ} 51'$ , and massive. Fracture uneven, imperfectly conchoidal; lustre vitreous, inclining to pearly; colour various shades of rose-red, partly inclining to brown; brittle; hardness but little above that of calcareous spar; specific gravity, 3.59; the massive varieties present globular and botryoidal shapes; composition granular, sometimes small, and even impalpable; it consists of oxide of manganese, 54.00; carbonic acid, 33.75; oxide of iron, 1.87; silica, 4.37; lime, 2.50. It effervesces rather briskly in nitric acid; before the blow-pipe, its colour is changed into grey, brown, and black, and it decrepitates strongly, but is infusible without addition. It is found in the Saxon mines in the neighbourhood of Freiberg; also at Nagyag in Transylvania. For an account of the red and reddish-brown silicious ores of manganese, see *Silicate of Manganese*.

MANGEL-WURZEL; a kind of beet, which does not afford fodder of as good quality, nor in such

abundance, as was supposed at the time of its introduction; but it is valuable from its use and hardy nature. The leaves may be eaten as a substitute to spinach, and continue in season long after that plant has withered. In some parts of Germany, the farmers prefer it, for their cattle, to turn-seedling and, besides, it can be obtained at the end of the season, when green fodder is much wanted.

MANGO; a celebrated fruit, now raised in most of the tropical parts of the globe. It is native of India, and was introduced into Jamaica in the year 1782. The taste is delicious, slightly acid, and yields only to the mangosteen. The tree is one of the sumach, and belongs to the natural order *Umbelliferae*. It attains the height of thirty or forty feet, has a rapid growth, and is very productive. The leaves are simple, alternate, lanceolate, smooth, and entire. The flowers are numerous, reddish, and disposed in large terminal panicles. The fruit is kidney-shaped, subject, however, to a good deal of variation in size, form, and colour, and contains a large, flattened stone. Many fine varieties of mango are cultivated, some of which are very beautiful, and diffuse a delightful perfume.

MANGOSTEEN. This far famed tree is a product of a middling-sized and branched tree, *Garcinia mangostana* of botanists, and was originally brought from the Molucca islands, but is now cultivated in many parts of the East Indies. The leaves are large, opposite, smooth, coriaceous, and evergreen; the flowers are terminal and solitary, and of a scarlet colour: the fruit is shaped like, and about as large as an orange, divided internally into seven cells, each containing a single seed. It belongs to the *Guttifera*, a natural family, which is not now beyond the tropics. It is, on all hands, admitted to be the most delicious, as well as the most valuable of all known fruits. We have not heard of its introduction into any part of western-tropical America, although great pains have been taken to transport thither so many of the productions of the East.

MANGROVE (*Rhizophora*); a genus of plants, consisting of trees or shrubs, which grow in swampy countries, along the borders of the sea, in a soil which are liable to be overflowed by the sea water even as far as low water mark. Their branches are long, hang down towards the earth, and when they have reached it, take root, and produce new roots. In this manner, immense and almost impenetrable forests are formed, which are filled with vast numbers of crabs, aquatic birds, mosquitoes, and also others, which attach themselves to the branches. The leaves are simple, opposite, and entire. The most remarkable for throwing out roots, which require among the branches of the trees, while yet adhering to the foot-stalk. The *R. mangle* is found in Florida nearly as far north as the 30th parallel of latitude. This genus, and an allied one, form a natural tree by themselves.

MANHEIM; a city of Baden, capital of the archbishopric of the Neckar, at the conflux of the Neckar into the Rhine; thirty-four miles N. of Carlsruhe; lon.  $9^{\circ} 28' E$ ; lat.  $49^{\circ} 29' N$ ; population, 21,500. It was chosen by the elector palatine for the site of a town, being, before, a petty village, with a castle. In 1719, it became the residence of the elector of the Palatinate and his court, and so continued till 1777. In 1802, it was annexed to Baden. It contains a very large palace, is the second residence of the grand duke, and the seat of the supreme court of appeal for the grand duchy. Mannheim presents a fine view from a distance. It is divided into two quarters, and is of an oval form. It is built with the greatest regularity; the streets are wide, straight, well paved, the houses uniform and elegant.

public buildings large and handsome; and it is one of the finest towns in Germany. It contains Lutheran, Reformed, and Catholic churches, a synagogue, and three hospitals. The palace contains a gallery of paintings, cabinet of antiquities, and a library of 60,000 volumes. The observatory is a noble building, with a curious tower 106 feet high. The lyceum, or gymnasium, for the education of the upper classes, is superintended by able instructors.

**MANIA**; a Roman spectre, the mother of the Manes, to whom, in the most ancient times, human sacrifices, particularly of children, were offered. This took place as late as the time of Tarquinius Superbus. In subsequent times, onions and poppy-heads were sacrificed instead of children. Little figures, stuffed with wool, were hung outside the house, to appease the Mania; also clews of yarn, equal in number to the slaves, to protect them.

**MANIA**. See *Mental Derangement*.

**MANICHEES**, or **MANICHÆANS**. Of the founder of this sect—whom the Orientals called *Mani*, the fathers of the church, *Manes*, terming likewise his adherents *Manichees*—history contains two different accounts. The older account, contained in the historians of the Christian church, seems far more credible than the Arabic version of the tenth century, which makes him an accomplished magician, a skilful painter, and a Christian priest; but says nothing particularly new respecting him. According to the first account, he became, when a boy, a slave, under the name of *Cubricus*, to a wealthy widow in Persia, at whose house he met with the four books of Cythianus, an Egyptian enthusiast, of whom nothing more is known, which had been left her by his scholar Terebinthus, or Buddas, entitled *Mysteries, Chapters, Gospel (Artzeng) and Treasury*. By the perusal of these books, he was led to his doctrine of the world and of spirits, framed from the dualistic ideas of the Chaldeans, together with the systems of the Gnostics. (See *Gnostics*.) Being left the heir of his mistress at her death, he assumed the name of *Mani*, and sought to rear, like Mohammed, on the foundation of these books, a new religious philosophy, for which he acquired disciples. The reputation of his wisdom caused him to be invited to the court of Sapor, king of Persia, where he was imprisoned, because the sick son of this king had died under his care. His scholars brought him information of the obstacles which Christianity had thrown in the way of his doctrines. The reading of the Holy Scriptures of the Christians now suggested to him the idea that he was called to the purification of Christianity from Jewish and hierarchical deformities, and to the diffusion of a mysterious doctrine, unrevealed by the apostles—nay, that he was the Comforter promised in the New Testament. Having escaped from prison, and collected new disciples at Arabion, a fortress on the frontiers of Mesopotamia, he sought, under the name of an apostle of Christ, and, according to the Arabic narrative, favoured by Sapor's successor, Hormisdas (Hormuz), A. D. 272, to convert the Christians in those regions to his doctrines. While engaged in these endeavours, he is said to have been twice overcome by Archelaus, a Christian bishop at Askar (Charræ) in Mesopotamia, in two disputations; to have incurred again the suspicion of the Persian court, and, in the year 277, to have been executed (according to the Christian account, flayed alive), at the command of king Varaces (Vaharem). Proceeding on the ground of an eternal opposition of good and evil, mingling the philosophy of Zerdusht (Zoroaster) with his arbitrary versions of biblical doctrines, his system possesses but little in common with Christianity, except the language. He assumes two principles, independent of each other; one of

good—the God, without form, in the kingdom of light; and one of evil—the hyle, or devil, of colossal stature and human shape, in the darkness of matter; the former strengthened by two emanations, created in the beginning, the Son and the Spirit, and superior to the latter, both surrounded by innumerable similar aëons, or elementary natures, proceeding from them, which dwell in the five elements, or spheres, that rise one over the other in the kingdom of good, viz. light, clear water, clear air, genial fire, and pure ether; and, in the kingdom of evil, darkness, or earth, troubled water, stormy air, consuming fire and smoke, from each of which proceed congenial creatures. During an internal war of the always discordant powers of darkness, the defeated party discovered, from the high mountains on the frontiers, the kingdom of light, hitherto unknown to the devil. In order to conquer it, the devil made peace with his species. The good God endeavoured to subdue his enemies by means of artifice and love. The prince of darkness, having eventually been defeated in the contest, produced the first parents of the human race. The beings engendered from this original stock consist of a body formed out of the corrupt matter of the kingdom of darkness, and of two souls, one of which is sensual and lustful, and owes its existence to the evil spirit; the other, rational and immortal, a particle of the divine light, which had been carried away in the contest, by the army of darkness, and immersed into the mass of malignant matter. The earth was created by God out of this corrupt mass of matter, in order to be a dwelling for the human race, that their captive souls might, by degrees, be delivered from their corporeal prisons, and their celestial elements extracted from the gross substance in which they were involved. With this view, God produced two beings from his own substance, Christ and the Holy Ghost; for the Manichæans held a consubstantial Trinity. Christ, or the glorious intelligence, called by the Persians *Mithras*, subsisting in and by himself, and residing in the sun, appeared in due time among the Jews clothed with the shadowy form of a human body, to disengage the rational soul from the corrupt body, and to conquer the violence of malignant matter, and he demonstrated his divine mission by stupendous miracles. This Saviour was not man: all that the New Testament relates respecting the humanity of Jesus was merely appearance, even his death and resurrection; but his sufferings are emblems of the purification by self-denial, death and new life, necessary for corrupted men. His crucifixion, in particular, is an allegory of the torments of the soul, which is fastened to matter as to a cross. When the purposes of Christ were accomplished, he returned to his throne in the sun, appointing apostles to propagate his religion, and leaving his followers the promise of the Paraclete, or Comforter, who is Mani the Persian. Those souls who believe Jesus Christ to be the Son of God, renounce the worship of the God of the Jews, who is the prince of darkness, and obey the laws delivered by Christ, and illustrated by Mani, the Comforter, are gradually purified from the contagion of matter; and, their purification being completed, after having passed through two states of trial, by water and fire, first in the moon and then in the sun, their bodies return to their original mass (for the Manichæans derided the doctrine of the resurrection of bodies), and their souls ascend to the regions of light. But the souls of those who have neglected the salutary work of purification, pass, after death, into the bodies of other animals, or natures, where they remain till they have accomplished their probation. Some, however, more perverse and obstinate, are consigned to a severer

course of trial, being delivered over, for a time, to the power of malignant aerial spirits, who torment them in various ways. After this, a fire shall break forth and consume the world, and the prince and powers of darkness shall return to their primitive seats of misery, in which they shall dwell for ever. Between these seats and the kingdom of light the souls of those not wholly purified keep eternal watch, that both may remain as they were from the beginning.

With this system of religion, which was contained in the books of Scythianus and Mani's own treatises, letters and apocryphal writings; but, at present, exists only in the fragments found in the ancient authors, especially in St Augustine against the Manichees, the moral system of this sect corresponds. It divides the Manichees into two classes: the *elect* are to abstain from wine, flesh, and all animal food, marriage and sexual indulgences, from music, the possession of earthly goods, and all luxury, as well as from war, labour, and doing injury to the vegetable world, and even from plucking fruits; are to kill no animals but vermin, and devote their life to pious contemplation. More was allowed the *auditors*, or more imperfect. By their labour, they had to support themselves and the elect; in marriage, must abstain from the procreation of children, and place their happiness in poverty. The head of all was Mani, with twelve disciples, among whom Thomas, Buddas, and Acuas, from whom the Manichees were also called *Acuanites*, deserve mention. The Manichean congregations were superintended by bishops, of whom Mani ordained seventy-two; by elders and deacons, all from the class of the elect, in which there were also sainted virgins. These ecclesiastics had, however, merely the authority of teachers, the church government being democratically administered by the congregations. Temples, altars, images, victims, and other sensible aids of divine worship, were not allowed: their worship consisted of singing, prayers, the reading of their sacred books, and lecturing. The supper they celebrated without wine, and, like the primitive Christians, often delayed baptism to a mature age. Of the fasts and festivals of the Christians, they observed only that which commemorated the death of Jesus, and Sunday; the latter, with strict fasting. In March they celebrated the anniversary of the death of Mani (Bema), on which day a splendid pulpit, five steps in elevation, was erected in their simple halls of assembly for Mani, present in the spirit. They claimed the title of Christians; but, notwithstanding the reputation of extraordinary purity of morals, conceded them even by their enemies, they had to suffer, after the fourth century, more cruel persecutions than other heretics. Till this time, they had spread with great rapidity from Persia, where they had their origin, through Syria and Asia Minor, to Northern Africa, and even as far as Italy. In Northern Africa, where they had many, though not numerous congregations, with separate bishops, they were exterminated, in the fifth century, by the Vandals; in the Roman empire, especially in Italy (whither numbers of them had fled from Africa), by the persecutions of Christian emperors and episcopal excommunications. Being finally suppressed in Persia also, they took refuge, after the beginning of the sixth century, partly in the heathen regions of Eastern Asia, where they seem to have had an influence on the formation of Lamaism, partly in the obscurity of secret brotherhoods, and appeared, in subsequent centuries, under different names. The Priscillianists, Paulicians, and Catharists (q. v.) had much in common with the Manichees: their name, was, however, given to heretical sects and societies in the middle ages, as to the Canonici, burnt at Orleans in 1022, frequently

without reason, and merely to excite the people's hatred.

**MANIFEST** is a regular list of a ship's cargo, containing the mark and number of each separate package, the names of the persons to whom the different parcels of goods are shipped, and also of the persons to whom they are consigned, a declaration of the quality of the goods contained in each package, as rum, sugar, tea, coffee, &c. and also an account of the freight that the captain is to receive from the consignee of such goods, as in a bill, corresponding with the bills of lading which he has already signed. The manifest is usually sent to the ship-broker, who clears the vessel at a custom-house, and by the captain, and serves as a voucher for the latter, whereby to settle his account with his owners, &c.

**MANIFESTO**; a declaration publicly made of the commencement of a war, by the executive powers, to show the causes which justify such a measure. The name is taken from the *verbo manifestum est*, &c. (it is manifest), the beginning of these declarations, as they were anciently written in Latin. Manifestoes are in the form of printed letters: they commence with a short address to the public in general, and are signed with the name of the sovereign who issues them. Manifestoes in this country, are usually written in French. They have been in use among all nations, till our own day. In France, where so many old forms have been set aside, the place of manifestoes, during the revolution, was supplied by messages from the emperor to the senate, proclamations to the army, and statements to the *Moniteur*.

**MANILIUS, MARCUS**; a Roman poet who lived, probably, in the Augustan age. The circumstances of his life are unknown. He is less remarkable as a poet than as being the Roman who, in imitation of Aratus, undertook a didactic poem on astronomy. Of this poem, we have but five books. It is called *Astronomica*. It is valuable chiefly as a work of poetry; it contains, however, a few beautiful and important passages, particularly in the introduction. The best editions are by Bentley (London, 1726, 8vo), Stober (Strasburg, 1767), and Fagius Rom. 1768, 2 vols.)

**MANILLA**; capital of Luzon, and of all the Spanish possessions in the Philippines; lat. 14° 15' N.; lon. 116° 16' E.; population, including the suburbs, about 60,000, of which 3000 are Spaniards, 7000 Metis, 4000 Chinese, and the rest natives. (See *Malaya*.) Manilla is beautifully situated at the bottom of a bay, on the west side of the island and is well fortified. The streets are wide, paved, and lighted; the houses generally consist of a basement story of stone, and an upper story of wood, ornamented with balconies, and windows of mother of pearl, or some other transparent substance. The principal buildings are the churches and monasteries. The chief manufactures are cigars, and a sort of transparent stuff, which the natives use for clothing. The commerce is very considerable since the port has been opened to foreigners. The chief articles of export are sugar, indigo, cotton, tobacco, rice, honey, pearls, &c.; wine, brandy, cotton, silk, and various manufactured articles, cutlery, &c., form the principal imports. In 1818, nine Spanish, five French, one American, four Portuguese, seventeen British ships, and thirteen Chinese junks, sailed from the port. Provisions are abundant and cheap. The climate is hot and damp. Manilla has repeatedly suffered from earthquakes. Those of 1643, 1794, and 1804, were very destructive. A hurricane, in 1804, destroyed most of the houses left standing. In 1792, it was

taken by the British, and ransomed for a million sterling. See *Philippines*.

**MANIOC, MANDIOCA, or CASSAVA** (*gatro-pala manihot*); a tortuous shrub, allied to the castor-oil plant, and interesting from the nutritious qualities of the roots. It is indigenous to tropical America, and is now cultivated from Florida to Magellan, and in several countries of Asia and Africa. The stem is smooth, branching six or seven feet high; the leaves are alternate, deeply divided into from three to seven lobes, which are lanceolate, acute, and entire; the flowers are disposed in loose compound racemes, and the calyx is reddish or pale-yellow; the fruit is almost globular, and is composed of three cells, each containing a shining seed about as large as those of the castor-oil plant. It is easily cultivated, grows rapidly, and produces abundantly. It is much less subject to the ravages of animals, or to the variations of the atmosphere, than most crops, and, besides, accommodates itself to almost every kind of soil. The roots attain the size of the thigh, and require at least a year to bring them to perfection; neither can they be kept in the ground for a longer period than two years. The cultivated varieties are very numerous. It is said that an acre of manioc will nourish more persons than six acres of wheat. Every part of the plant is filled with a milky juice, which is a very violent and dangerous poison, bringing on death in a few minutes when swallowed; and it may well excite surprise that human ingenuity should have converted the roots into an article of food. For this purpose the roots were formerly rasped with rough pieces of stone; but they are now ground in wooden mills, and the paste is put into sacks which are exposed for several hours to the action of a very heavy press. By this means it is deprived of all the poisonous juice, and the residue is called *cassava*. Cassava flour, when kept free from moisture, continues good for fifteen or twenty years. It is very nutritious, half a pound a day being sufficient for any one. The Creole women prefer the cassava to wheat bread, but, to a European, the taste is rather insipid. It is also the basis of several different beverages, some of which are acid, agreeable, and even nutritive. The substance called *tapioca*, which is frequently imported into Europe and the United States, and is used for jelly, puddings, and other culinary purposes, is separated from the fibrous parts of the roots by taking a small quantity of the pulp, after the juice is extracted, and working it by hand till a thick white cream appears on the surface. This, being scraped off and washed in water, gradually subsides to the bottom. After the water is poured off, the remaining moisture is dissipated by a slow fire, and the substance being constantly stirred, gradually forms into grains about as large as those of sago. This is the purest and most wholesome part of the manioc.

**MANIPULATION** (from the Latin); work done with the hands. The word is used in pharmacy for the preparation of drugs; in chemistry, for the preparation of substances for experiments; in animal magnetism, for the motion of the hands, by which a person is magnetised. See *Magnetism, Animal*.

**MANIPULUS**. See *Legion*.

**MANITOU**, among some tribes of the North American Indians, is the name for a magical preparation, whose virtues are somewhat like those of an amulet. A figure of an animal, a feather, a horn, a bird's beak, or some other object, is consecrated, with various charms, by the sorcerer, or doctor of the tribe or village, and worn by the individual for whom it is intended as his *manitou*, or medicine. It seems to be not unlike the *fetich* (q. v.) of most barbarous people.

**MANLIUS, MARCUS CAPITOLINUS**; a brave, ambitious, and artful patrician and consul of Rome. The Gauls, under Brennus, had captured Rome (B. C. 390), and were besieging the capitol. On a dark night, they determined to surprise the citadel. They had already reached the foot of the walls; the sentinels, thinking them secure, had fallen asleep, and the enemy had already discovered a vulnerable point, when the garrison was awakened by the cackling of some geese, which were dedicated to Juno. All rushed to their arms; Manlius was the first who reached the place of danger. Two of the Gauls had gained the summit; one of them fell under his sword; and the other he thrust over with his shield. His example animated the rest. The capitol was saved, and Manlius received the surname *Capitolinus*. Having afterwards proposed a law to free the people from taxes, the senate was excited against him, and he was arrested and imprisoned as a disturber of the peace. But the people looked up to him as their greatest benefactor, and with one voice demanded his liberation. It was granted; but his restless spirit led him to new enterprises; he even aimed at the sovereignty, and the tribunes of the people became his accusers. He was condemned to death, and thrown from the Tarpeian rock (B. C. 383).

**MANLIUS, TITUS TORQUATUS**; a Roman consul and general, son of Manlius Imperiosus. On account of a defect in his speech, his father was unwilling to carry him into the city, and kept him in the country among the slaves. This conduct appeared so unjust to the tribune Marcus Pomponius, that he summoned the father before him to answer for himself. The son, indignant that his father should be persecuted on his account, immediately hastened to the house of the tribune with a dagger in his hand, and forced him to swear that he would proceed no further. This filial piety made such an impression on the people, that they chose Manlius military tribune for the next year. He marched with the army against the Gauls; one of whom challenged the bravest Roman to single contest. Manlius accepted the challenge, conquered his adversary, and encircled his own neck with the collar (*torquis*) of the Gaul, in consequence of which he received the surname of *Torquatus*, which he transmitted to his posterity. Some years after, he was appointed dictator. He was the first Roman who ever held this office without having been consul. He was afterwards consul, and held the consulship in the Latin war (B. C. 340). Contrary to his express orders, that no Roman should engage in combat without command, out of the ranks, his son, remembering his father's victory, accepted a challenge to single contest from one of the chiefs of the enemy. He came off victorious, and laid the spoils of the enemy at his father's feet. He turned reluctantly from his son, gave him the crown of victory, and immediately ordered the lictor to execute upon him the punishment of his disobedience. This instance of severity secured to Manlius the most implicit obedience. A few days after, he defeated the enemy. In the battle, his colleague, Decius Mus, devoted his life to his country. The senate voted to him the honour of a triumph. He then retired to private life. *Manliana edicta* became a proverbial expression for commands of severe justice.

**MANNA**. This substance, which is so frequently employed in the *materia medica*, and which forms a considerable article of commerce, exudes naturally or from incisions made in the trunk and branches of a species of ash (*ornus rotundifolia*). It first appears as a whitish juice, thickens on being exposed to the air, and, when dried, forms a whitish or red-

dish granular substance, which is the manna of commerce. The tree is a native of Italy, and is cultivated extensively in Sicily. June and July are the two months in which the manna is collected. It is detached from the trees with wooden knives, and is afterwards exposed to the sun for drying. A little rain, or even a thick fog, will often occasion the loss of the collections of a whole day. The taste of manna is sweet, and slightly nauseous. It is a mild purgative, and is principally administered to children. The *frazinus virgata* also yields manna, but it cannot be obtained from any other species of *ornus*.

MANNER, in the fine arts, is used in two different meanings: First, it signifies the habitual style of an artist or a school of artists. (See *Style*.) Secondly, *manner* (also *mannerism*) is used as a term of reproach, and designates those qualities of a work of art which do not proceed naturally from the subject treated, but from the individual character of the artist, or the false taste of an age. Such are the studied yet untrue performances of certain actors, the phraseology or conceptions of certain poets, the colouring or composition of certain painters, &c. The two senses of the word are not to be confounded. A history of mannerism in the fine arts would be both interesting and instructive, a correct view of the aberrations of the human mind in any important particular furnishing a valuable warning for the future.

MANNERT, CONRAD, a distinguished German scholar, was born at Altdorf in 1752. He was first teacher at the St Sebaldus-school in Nuremberg, and, in 1788, at the Ægidian gymnasium there. In 1797, he was made *professor ordinarius* of philosophy at Altdorf; in 1808, of history at Landshut; and, in 1826, of geography and statistics at Munich. His principal works are, *Geographie der Griechen und Römer* (10 vols., Nuremberg, 1788—1825; 2d edit., from vol. i. to vol. iv., 1799—1820); *Compendium der Deutschen Reichs-Geschichte* (ib. 1803; 3d edit., 1819); *Statistik des Deutschen Reichs* (Bamberg, 1806); *Die älteste Geschichte Baierns und seiner Bewohner* (Nuremberg, 1807); *Kaiser Ludwig IV. oder der Baier, eine gekrönte Preisschrift* (Landshut, 1812); *Handbuch der alten Geschichte* (Berlin, 1818); *Die Geschichte Baierns* (2 vols., Leipsic, 1826); *Geschichte der alten Deutschen, besonders der Franken* (1829).

MANNUS; a hero of the ancient German mythology, the son of Thuisikon, revered, like Hercules, after his death. From him comes the German word *Mann*, signifying a male endowed with power and courage.

MANOEL, DON FRANCESCO, the most celebrated lyric poet of modern Portuguese literature, born at Lisbon, 1734, died at Paris, 1819. His talent was first known to foreigners, whom he attended as a *Cicerone*, after the earthquake of Lisbon in 1755. His poems are also popular among his countrymen. That on Virtue has been generally admired. His enemies, jealous of his reputation, endeavoured to render his opinions suspicious, for which they found means in his expressions concerning toleration and monks, and in his translation of the *Tartuffe* of Molière. Cited before the inquisition, he disarmed (July 4, 1778) the agent of the holy office, and fled to Paris, where he ever after continued to reside. He translated Wieland's *Oberon*. His poems, under the title of *Versos de Filinto Elisyio*, fill several volumes. His odes and his translation of Lafontaine's Fables are particularly esteemed.

MANŒUVRE, in military art; a movement given to a body of troops, according to the rules of tactics, by which it is intended to gain a decisive advantage over an enemy, or to regain advantages which the

enemy has already won. A *manœuvre* may be executed by large or small masses, according to a preconcerted plan, or upon the sudden impulse of genius seizing upon a favourable moment: in general, it may be said, that manœuvres have become more practicable in proportion as armies have grown larger and discipline stricter. In an ancient battle, the combat was well kindled, the commander, to a great degree, the direction of his troops: in modern battles, he is enabled by manœuvres to exert a more controlling influence, though there are still moments when he is obliged to let the battle go. (See *Battle*.) To execute effective manœuvres, a heat of battle, requires great coolness and insight in the commander, and thorough trust in the troops. A manœuvre generally is a mark of the excellence of the officers of all degrees.

One of the most important manœuvres is that of outflanking an enemy, in which the general moves back part of his line (*refuses*), whilst the other part strives to turn the wing of the enemy, or to march: with the assistance of a division particularly appointed to get round it, and thus to throw the enemy into confusion. The invention of this manœuvre is ascribed to Epaminondas; he owed to it his victory at Leuctra and Mantinea. Philip, Alexander, Caesar at Pharsalia, Banier at Wittstock, Torstenson at Poltawa, Frederic the Great at Hohenfriedberg, Leuthen, Napoleon, and other generals, owe their most brilliant successes to this manœuvre. In executing it, the attacking army always moves in oblique direction, and the attack is sometimes made *en échelon* (q. v.), as at Leuthen. The break through the enemy's line (see *Line*)—a chief manœuvre in naval warfare—is, in land-battles, one of the boldest and most dangerous. The retreat *en echelon* (chess-board) is one of the most advantageous, and most fitted to preserve calmness and order among troops. The change of front during the combat is very dangerous, and rarely succeeds. The main battle, where the other circumstances are nearly equal, depends upon the capacity of the troops for manœuvring; hence manœuvring in peace with large bodies is very necessary, in which the chief movements of both parties must be laid down beforehand; but details ought to be left to the moment, so that the judgment of the officers shall be exercised. In the provinces of Prussia, large bodies of troops are usually assembled for this purpose. In 1823, from September 5 to September 20, 40,000 troops were collected for this object near Berlin. Gustav Adolphus and Charles XII. exercised their troops so well that they were allowed to be the best in Europe; but Frederic the Great conceived the whole art of war from a new point of view, and from Potsdam, where he superintended the reviews and manœuvres of his guards, and the garrison of Berlin, it may be said, proceeded the new art of war. There he perfected the movements which were afterwards introduced into the army at large; and generals from all parts were sent to study his manœuvres. But, as it often happens with the creations of genius, the application of his plans by inferior men was attended with a pedantic minuteness of detail with which the sons of Europe were embarrassed when the war of the French revolution took place. The genius of the French generals now reformed the art of war, and manœuvring on a great scale was invented by them. Napoleon developed it still farther, and the rest of Europe learned it from him.

MANOMETER (Gr. *manō*, rare, and *metron*, measure); an instrument to measure or show the alterations in the rarity or density of the air.

MANOR (*manerium*, from *manere*, to remain, because the usual residence of the owner) seems to have

been a piece of territory held by a lord or great personage, who occupied a part of it, as much as was necessary for the use of his own immediate family, and granted or leased the remainder to tenants for stipulated rents or services. This was the origin of *copyhold* estates, viz. those held by copy of the roll of the court of the manor. No manors, with all their incidents and franchises, have been granted in England since the reign of Edward III. One of the most important incidents to these ancient manors, was the right to hold a court, called a *court-baron*, which was held within the manor, and had jurisdiction of misdemeanours and nuisances within the manor, and disputes about property between the tenants. (See *Courts*.) Another branch of the jurisdiction, and entirely distinct from the preceding, was, the receiving of the surrender of the estate of any tenant, and admitting his grantee or successor in his place, and transacting other matters relating to the *tenure* or *tenancies*, for which purposes the court was held by the steward of the manor. The steward was also the registrar or clerk, in the other branch of the jurisdiction, for the prosecution of suits; but the freeholders of the manor were in effect the judges in these.

MANSFELD; one of the most ancient families of German counts, taking their name from the castle of Mansfeld in the former circle of Upper Saxony.—*Peter Ernst von Mansfeld* was the natural son of Peter Ernst, count of Mansfeld, governor of Luxembourg and Brussels. The archduke Ernst of Austria, godfather to the young Peter, educated him in the Catholic religion. He was of service to the king of Spain in the Netherlands, and to the emperor in Hungary, in consequence of which the emperor Rodolphus II. legitimated him. But when he was denied the dignity and estates which his father had possessed in the Netherlands, and which had been promised to him, he, in 1610, embraced the Calvinistic doctrines, and, joining the Protestant princes, became one of the most formidable enemies of the house of Austria. In 1618, he led troops to the assistance of the revolted Bohemians, fought a long time for the elector Frederic of the Palatinate, devastated the territories of the spiritual princes, was several times beaten, but always contrived to make head anew. In 1625, he collected an army by the aid of English and French money, and intended to penetrate into the Austrian hereditary states. April 25, 1626, he was beaten by Wallenstein near Dessau, yet continued his march to Hungary, to join Bethlem Gabor, prince of Siebenbürgen (Transylvania); but, the latter having changed his views, Mansfeld disbanded his troops, intending to go to Britain by way of Venice. But not far from Zara he fell sick, and died in 1626, in his fortieth year. He was buried at Spalatro. At the approach of death, he ordered his armour to be put on, and stood up, leaning on two of his aids, to await the last enemy. Mansfeld was one of the greatest generals of his time. He rose more formidable from every defeat. With great understanding, which he showed in his diplomatic transactions, he united overpowering eloquence and inexhaustible cunning. He maintained his troops by plunder, and was compared to Attila. The Lutheran line of the house of Mansfeld became extinct in 1710; in 1780, the last male of the Catholic line died. His only daughter brought all the allodial estates of the family, by marriage, to the rich Bohemian house of Colloredo, which has ever since borne the name of *Colloredo-Mansfeld*. The former county of Mansfeld was, in 1814, added to the Prussian government of Merseburg. This county is interesting to Germans, as Eisleben and Mansfeld are situated in it. In the former Luther was born, in the latter he went to school.

MANSFIELD MOUNTAIN is the highest sum-

mit of the Green mountains, and the most elevated mountain in Vermont. The elevation of the north peak, called the *Chin*, above the state-house at Montpelier, is 4051 feet; above the ocean, 4279; elevation of the south peak, called the *Nose*, above the state-house, 3755; above the ocean, 3983. The mountain is situated in Mansfield and Sterling, about twenty-five miles from Burlington.

MANSFIELD, WILLIAM MURRAY, earl of, the fourth son of David, lord Stormont, was born at Perth, in Scotland, March 2, 1705. He received his education at Westminster school, and Christchurch, Oxford. He then made the grand tour, and, on his return, became a student at Lincoln's Inn, and, after the usual term of probation, was called to the bar. He gradually made his way to eminence in his profession, and, in 1742, was appointed solicitor-general, about which time he also obtained a seat in parliament. After distinguishing himself as an advocate at Edinburgh, in 1743, and as one of the managers of the impeachment of lord Lovat, in 1747, he succeeded Sir Dudley Ryder as attorney-general in 1754, and as chief-justice of the king's bench in 1756; soon after which he was created baron Murray, of Mansfield. For a few months, in 1757, he held the office of chancellor of the exchequer. During that interval, he effected a coalition of parties, which led to the administration of Pitt, afterwards lord Chatham. The same year, he declined the offer of the great seal, as he did twice afterwards. A change of parties in the cabinet, in 1765, which introduced into office the marquis of Rockingham and his friends, for a while threw lord Mansfield into the ranks of the opposition. The year 1770 was memorable for attacks on his character in a judicial capacity, in both houses of parliament, which, however, led to no serious result. On the trial of Woodfall, for publishing Junius's Letters, and on some other occasions, he showed himself the zealous supporter of government. In October, 1776, he was advanced to the dignity of an earl of Great Britain. During the riots in London, June, 1780, his house was attacked by the Anti-Catholic mob, and his valuable collection of books and manuscripts fell a sacrifice to the fury of the multitude, by whom the mansion was burned to the ground. He continued for some years longer to exercise his judicial functions. In 1788, he resigned his office of chief-justice; and the remainder of his life was spent in retirement, principally at his seat at Caen-wood, near Hampstead. He died March 20, 1793. As a politician, lord Mansfield was a favourer of high maxims of government in general; and in the law of libel, he supported the opinion, that the jury is the judge of the fact only, and not of the law. He was, however, an enemy to violent exertion of power, as well as a friend to religious toleration. On various occasions, he opposed vexatious prosecutions, under intolerant laws, and voted in favour of the bill for the relief of the Roman Catholics. His ideas of legislation were, on many points, liberal. As an orator, he displayed more of persuasive elegance than of boldness and force; but he might fairly have contested the palm of eloquence with any of his contemporaries, except lord Chatham. In argument he was acute. Lord Ashburton used to say, that when he was wrong, the faults of his reasoning were not easily detected; and when he was right, he was irresistible. His fame rests chiefly on his conduct as a judge. He would not accept of the legal compensation to which he was entitled for the destruction of his property in 1780. There is a life of him by Holliday (4to, 1797), and by Th. Roscoe, in Lardner's Cabinet Cyclopædia.

MANSLAUGHTER. See *Homicide*.

MANSO, JOHN CASPAR FREDERIC, born in the

duchy of Gotha, May 26, 1750, and died June 6, 1826, in Breslau, where he had been, since 1790, pro-rector, and since 1793, rector of the Mary Magdalen gymnasium. He wrote a good deal in prose and poetry, but his most important works are, History of the Prussian State since the Peace of Hubersburg (Frankfort on the Maine, 1819 et seq., 3 vols.), and a History of the Ostrogothic Empire in Italy (Breslau, 1824), both in German.

**MANTCHOOS, or MANTCHEWS.** See *Mandchures*.

**MANTEGNA, ANDREW**, one of the most celebrated of the early painters, was born at Padua, in 1431. His master, Squarcione, was induced by the talents which he displayed to adopt him as a son. The youth employed himself principally in drawing from antiques, and, at the age of sixteen, painted a picture for the grand altar in the church of St Sophia, at Padua. Mantegna soon after entered the service of Lodovico Gonzaga, at Mantua, where he opened a school. Here he painted his great picture, the Triumph of Julius Cæsar, for the exhibition of which a palace was erected in Mantua. It consists of several pictures, which have since been transferred to Hampton court. Gonzaga conferred on him the honour of knighthood in reward for his merit. Innocent VIII. invited the artist to Rome, to paint in the Belvedere, and he afterwards executed a number of capital works. One of the latest and best was the *Madonna della Vittoria*, now in the Louvre at Paris, in which Giovanni Francesco Gonzaga is seen returning thanks for the victory gained by him over the forces of Charles VIII. (1496). There are several other of his works in the Louvre, and an Annunciation in the Dresden gallery. He died at Mantua in 1506. Mantegna excelled in perspective, which was then a rare merit. His manner was stiff and dry, and his imitation of the ancient is everywhere manifest. His son, Francesco, was also a painter.

**MANTELETS**, in the art of war; a kind of movable parapets, made of planks about three inches thick, nailed one over another, to the height of almost six feet, generally cased with tin, and set upon little wheels, so that in a siege they may be driven before the pioneers, and serve as blinds to shelter them from the enemy's small shot.

**MANTINEA**; one of the most ancient, and, with Tegea, most important cities of Arcadia, on the frontier of Argolis, on the little river Ophis. The modern Tripolizza (q. v.) is built on the ruins of the ancient cities of Megalopolis, Tegea, Mantinea, and Pallantium. Mantinea was known for its wealth, and famous for the battles fought near it, one B.C. 418, in the fourteenth year of the Peloponnesian war, the result of which battle was, that Argos seceded from Athens, and joined Sparta; the other, fought B.C. 363, by Epaminondas, against the Peloponnesians. Epaminondas (q. v.) was victorious, but fell. A third battle was fought near Mantinea, B.C. 206, between Machanides, tyrant of Lacedæmon and Philipomen, general of the Achæan league. The latter was victorious, and slew the tyrant with his own hand.

**MANTIS.** Few of the insect tribe have attracted more attention than these curious productions of nature, for their singular forms, and still more singular habits. From the manner in which they stretch out their fore legs, they have acquired the reputation of diviners, and because they often rest on their hind legs, folding the anterior pair over their breast, the superstitious have supposed them in the act of prayer; hence they are called, in Languedoc, where they are common, by the name of *prie-dieu*. The genus *mantis* has been separated, by

modern entomologists, into several distinct genera, viz. *mantis*, *spectrum*, *phasma*, and *phyllo*. The first of these contains the celebrated *mantis* (*M. religiosa*), which, as has been said, is very considered as possessing miraculous power. The superstition appears to extend to almost every part of the world in which these insects are found. The Indians regard them as under the especial patronage of Allah, and the Hottentots pay divine honours to them. The dry leaf mantis (*phyllo*) resembles in its shape and colour, is remarkable, even in its manners, also, in addition to their structure, at the delusion. They often remain on trees, branches, without motion; then, suddenly springing up in the air, appear to be blown about like dry leaves. The Indians of South America, where these insects are very common, believe that they really are attached to the tree at first, and that when they have arrived at maturity, they loosen themselves, and crawl away. In some parts of the East Indies, a species of mantis is kept, like game cocks, for the purpose of fighting, which they do with great ferocity.

**MANTISSA.** See *Logarithms*.

**MANTUA**; a delegation of Austrian Italy, in the government of Milan, lying on the north of the duchies of Modena and Parma; population, 120,000 square miles, 8×6. The Po passes through it, and it is also watered by the Oglio, Mincio, Secchia, &c. The surface is very level; the soil of great fertility; the principal product grain; others rice, hemp, flax, fruit, and vines. The late duchy of Mantua, or the Mantuan, was of larger extent than the present province. It was annexed to the Cisalpine republic (q. v.) in 1797, and formed a department of the kingdom of Italy until 1814, when it was ceded to Austria, as a part of the Lombardo-Venetian kingdom. See *Lombardy*.

**MANTUA** (Italian, *Mantova*); a city of Austria, Italy, an episcopal see, and capital of a department, formerly a duchy of the same name; seventy miles S.W. of Venice, seventy S.E. of Milan; on 46° 46' E; lat. 45° 9' N.; population, 25,000, many of which are about 2000 Jews. It is situated on islands formed by the expansion of the waters of the Mincio, one about a mile square, the other a little more than half that size: on this is the most richly built part of the city. The extensive suburb of Ceresè is on the mainland. Mantua is well fortified, and is, by nature and art, one of the strongest places in Europe. Most of the streets are broad, regular, and well paved; the houses of stone, and generally well built; and the public squares spacious and elegant. It contains a magnificent cathedral, numerous churches, convents, and hospitals, a public library, an academy of arts and sciences, a gallery of antiquities, and several valuable collections of paintings. Other public objects of interest are the palace of justice, of Gonzaga, and of T, so called from its form; the church of St Andrew; the Ceresè, with its halls; the famous bust of Virgil; and the buildings of the university, which was founded here in 1488. The silk manufactures were formerly flourishing, and are still considerable; those of leather and woollen are also important. In the summer and autumn, the city is unhealthy, on account of the marshes in its neighbourhood. (See *Italy*.) It is a place of great antiquity, said to be older than Rome, and, a century ago, contained about 30,000 inhabitants. Virgil was born at Andes (now Mantua) in the vicinity.

**MANUEL, JACQUES ANTOINE**, one of the most eloquent and intrepid defenders of French liberty, was born in 1775, at Barcelonnette, in the department of the Lower Alps, and was educated at the

college of Nîmes. He entered as a volunteer in one of the battalions of the requisition in 1793, and rose to the rank of captain. After the peace of Campo Formio, he quitted the army, studied law, was admitted to the bar at Aix, and soon acquired a high reputation for talent. In 1815, he was elected to be chamber of deputies which was convoked by Napoleon, and after the abdication of that monarch, Manuel strenuously contended for the rights of the young Napoleon. He also moved a spirited motion against the force which was used by the allies to bring about the restoration of the Bourbons. This was, of course, an unpardonable crime, and an opportunity was found to display, at least, the disposition for punishing him. In 1815, he settled at Paris, and, in the following year, applied for admission to the Paris bar, that he might be entitled to lead in the courts. The council of discipline, as it is called, consulted the members of the bar at Aix as to their opinion of his character, in the hope of finding something against him; but, though their answer was favourable, the council refused to comply with his request. This refusal was repeated in 1816. In 1818, he was elected a member of the chamber of deputies by three departments, and became one of the most formidable opponents of the ministers, speaking extemporaneously with great facility—talent possessed by few of the French deputies. On the opening of the budget in 1819, he delivered a speech which produced a very lively sensation, and was printed by order of the chamber. "Our political organization," said he, "is at once deficient in its municipal system, which is its natural basis; in the national guard, which must be our protection in peace, our defence in war; in the jury, without which the liberty of the press is an empty shadow; and in the responsibility of officers, which is the safeguard of all rights." In the ensuing sessions, he continued, in a series of bold and eloquent speeches, to oppose the arbitrary measures which then characterized the policy of the French government. On the exclusion of Grégoire (q. v.), on the bills for suspending the liberty of person and of the press, on the laws of election, on the reform of the jury, the organization of the council of state, colonial legislation, public instruction, &c., he maintained the rights of the nation, and defended the charter in spite of the menaces, murmurs, interruptions, and calumnies of the royalist faction. Calm and immovable, yet fervid and ardent, his courage and eloquence were always victorious over the violence of his enemies. During the new elections, in 1823, the greatest efforts were made to prevent his being chosen, and after the election a plan was formed for excluding him, as unworthy of a seat. This being found impracticable, his enemies determined to effect his expulsion, and a pretext was found in his first speech of the session, on the question of the Spanish war. In the outset he was called to order; the president pronounced him in order; he was again interrupted by loud cries; he was accused of defending regicide; his expulsion was demanded; he was prevented from explaining or proceeding, and the president, unable to restore order, was obliged to adjourn the chamber. The next day, Labourdonnaye moved his expulsion; Manuel defended himself, in an eloquent speech, from the charge brought against him. The motion was sustained and referred to March 3; on that day, Manuel protested against the power of the chamber to expel a representative of the nation, but his expulsion was voted by a majority. On the next day, he again took his seat, and, being required by the president to withdraw, replied that he should yield only to force. The session was then suspended for an hour, the members of the left side remaining in their seats.

In this interval the *huissier* (sergeant at arms) read to him an order of the president requiring him to leave the hall; but his reply was as before, "I shall yield only to force." The *huissier* called in a detachment of the national guard, which refused to act; and a body of the *gendarmérie* was introduced. On being directed by the commanding officer to retire, he refused, and the order was issued to the *gendarmes* to arrest him. As they approached, he rose and expressed himself ready to follow them, the members present accompanying him. Manuel was again chosen to the chamber in 1824. He died in 1827, and was buried in the *Père Lachaise*, some obstacles which were interposed to the solemnisation of his obsequies being surmounted by the firmness and prudence of his friends.

**MANUMISSION**, among the Romans; the solemn ceremony by which a slave was emancipated. (See *Freedman*.) Constantine the Great, after his conversion, transferred to the Christian church all such solemn ceremonies of the heathen. Thus he allowed the Christian masters to emancipate their slaves before the altar on festival days, and especially at Easter, by placing the deed of emancipation on the head of the freedman in the presence of the congregation.

**MANURES**; vegetable, animal, and mineral matters, introduced into the soil, to accelerate vegetation and increase the production of crops. If the soil to be improved be too stiff, from excess of clay, it will require sand; if too loose, from excess of sand, it will be benefited by clay; but, when sand is mixed with argillaceous soil, the latter must be broken and pulverized, which may be effected by exposing it to the frost, and afterwards drying it. *Marl* is a natural compound earth, used with great success in the melioration of soils. It consists of a mixture of clay and lime, sometimes containing a little silica and bitumen. Those varieties of it which contain more clay than lime, are advantageous for a dry, sandy soil; while calcareous marl, or that in which the lime predominates, is suited to an argillaceous soil. The great advantage of marl is, that it dilates, cracks, and is reduced to powder, by exposure to moisture and air. Marl in masses would be totally useless on the ground; yet it is necessary to begin by laying it on the ground in heaps; for the more it is heaped, the more it dilates, splits, and crumbles to dust; in which state it is fit to spread upon the ground. Marl is sometimes formed into a compost with common manure, before it is laid on the soil; in this state, however, it should be applied sparingly at a time, and renewed frequently. It operates by subdividing the soil, and hastening decomposition; its calcareous particles disorganizing all animal or vegetable bodies, by resolving them into their simple elements, in which state they combine with oxygen, and facilitating this union. The best time for marling is the autumn. *Quick-lime*, and especially that derived from fossil, or living shells, is another excellent means of amending soils. It is particularly adapted to cold, marshy soils, abounding in organic matters, as it assists powerfully in the conversion of animal and vegetable substances into nourishment for plants. *Ashes* are very beneficial to the soil, by attracting moisture from the atmosphere, in consequence of the alkali they contain, and thus accelerating vegetation. *Gypsum* is, however, the most universal mineral manure; but chemists are not agreed as to the manner in which it acts on vegetation. It is strewed in the state of fine powder, over crops, when the leaves are in full vigour towards the latter end of April, or the beginning of May.

*Common manure* consists of the remains of organized bodies, of every description, whether animal or vegetable, in a state of decomposition (i. e. resolving

itself into those primitive elements which can re-enter into the vegetable system). The principal result of this decomposition is carbonic acid, which, becoming dissolved in water, finds its entrance into the plant by the pores in the fibres of the roots, and, being everywhere distributed through the vegetable tissue, deposits its carbon for the growth of the plant, while its oxygen escapes into the atmosphere, through the pores of the leaves. Manure which has not completely undergone the process of fermentation, so that the straw is not yet wholly decomposed, is best adapted to strong, compact soils; the tubular remnants of straw answer the purpose of so many little props to support the earth, and afford a passage for the air, thus rendering the soil lighter; besides, the completion of the fermentation taking place after the manure is buried in the soil, has the advantage of raising the temperature. Those bodies which are subject to the most rapid decomposition, are most employed for manure. Of this description are animal manures in general, which require no chemical preparation to fit them for the soil. The great object of the farmer is to blend them with the earthy constituents, in a proper state of division, and to prevent their too rapid fermentation. In maritime districts, *fish*, when sufficiently abundant, are sometimes used to manure the land. They afford a powerful manure, and cannot be ploughed in too fresh, though the quantity should be limited. Mr Young records an experiment, in which herrings, spread over a field, and ploughed in for wheat, produced so rank a crop, that it was entirely laid before harvest. During the putrefaction of *urine*, the greatest part of the soluble animal matter that it contains is destroyed; it should, consequently, be used as fresh as possible; but if not mixed with solid matter, it should be diluted with water, as, when pure, it contains too large a quantity of animal matter to form a proper fluid nourishment for absorption by the roots of plants. Amongst excrementitious solid substances, one of the most powerful is the *dung of birds* that feed on animal food, particularly the dung of sea-birds. The *guano*, which is used to a great extent in South America, and which is the manure that fertilises the sterile plains of Peru, is a production of this kind. It contains a fourth part of its weight of uric acid, partly saturated with ammonia, and partly with potash; some phosphoric acid, combined with the bases, and likewise with lime; small quantities of sulphate and muriate of potash; a little fatty matter; and some quartzose sand. *Night-soil*, it is well known, is a very powerful manure, and very liable to decompose. Its disagreeable smell may be destroyed by mixing with quick-lime, after which, if exposed to the atmosphere in thin layers, in fine weather, it speedily dries, is easily pulverized, and, in this state, may be used in the same manner as rape-cake, and delivered into the furrow with the seed. The Chinese, who have more practical knowledge of the use and application of manure than any other people existing, mix their night-soil with one third of its weight of a fat marl, make it into cakes, and dry it by exposure to the sun. In this state it is free from any disagreeable smell, and forms a common article of commerce of the empire. After night-soil, *pigeon's dung* comes next in order as to fertilising power. If the pure *dung of cattle* is to be used as manure, like the other species of dung which have been mentioned, there seems no reason why it should be made to ferment, except in the soil; or if suffered to ferment, it should be only in a very slight degree. A slight, incipient fermentation is, undoubtedly, of use in the dunghills; for, by means of it, a disposition is brought on, in the woody fibre, to decay and dissolve, when it is carried to the land, or ploughed into the soil; and

woody fibre is always in great excess on the sides of the farm. Too great a degree of fermentation is, however, very prejudicial; and it is better that there should be no fermentation at all before the manure is used, than that it should be carried too far. In cases where farm-yard dung cannot be immediately applied to crops, the destructive fermentation of it should be prevented, very carefully, by defending it against the action of it, as much as possible, from the rays of the atmosphere; a compact marl, or a common cap, offers the best protection against the air. As soon as the dung is covered over, or, as it were, even up, it should be dried as much as possible. If it is found to heat at any time, it should be turned over and cooled by exposure to air. When a thermometer plunged into it, does not rise above 100° Fahrenheit, there is little danger of much aeriform matter being evolved; if the temperature is above that point, the dung requires to be immediately spread over. As soon as a piece of paper, moistened in muriatic acid, is held over the steams arising from a dunghill, greenish white fumes, it is a certain test that the decomposition is going too far; for this indicates that volatile alkali is disengaged. The situation in which the dung is kept by farmers is often very injudicious. It is frequently being exposed to the direct influence of the sun; whereas it should always be kept under sheds, or, at least, on the north side of a wall. In perishable substances, of animal origin, are sometimes used as manure, such as *horns, hoofs, tines, and bones*; but, owing to their dry nature, they require a longer period for their decomposition. They are not calculated for annual harvest, but to fructify the soil for a produce of much longer duration, such as that of olive trees and of *carrots*. Vegetable manure does not undergo fermentation previous to being buried in the soil. Of this kind are *maize*, *green crops*, such as clover, lupines, and buckwheat, which are ploughed into the soil, as it is best, since they contain a considerable quantity of water, and, when buried, serve to lighten the soil previous to decomposition. It is especially adapted to hot climates. *Rape-cake*, which is used with great success as a manure, contains a large quantity of mucilage, some albuminous matter, and a small quantity of oil. It should be used recent, and as dry as possible, before it is applied. It forms an excellent dressing for turnip crops, and is most economically applied by being thrown into the soil at the same time with the seed. *Sea-weeds*, consisting of different species of *fuci*, *algæ*, and *confervæ*, are much used as a manure, on the sea coast. The manure is more transient in its effects, and does not last for more than a single crop, which is easily accounted for, from the large quantity of water and the elements of water, which it contains. It does not without producing heat, when exposed to the atmosphere, and seems, as it were, to melt down, and dissolve away. It should be used as fresh as it can be procured, and not suffered to lie in heaps, exposed to the air, for six months or a whole year, as it is often allowed to do. *Soot*, which is principally formed from the combustion of wood and peat, contains, likewise, substances derived from animal matters, and is a very powerful manure. It requires no preparation, but is thrown into the ground with the seed.

The foregoing species of manure have, for the sake of convenience, been described separately, though they are very rarely employed separately by the farmer; on the contrary, the most common manure consists of a mixture of animal, vegetable, and mineral substances, such as farm-yard litter, night-soil, mud from the streets, dung from the roads, or earth from the bottom of ponds

and rivers, abounding with organic remains of fish, shells, and rotten plants. Before being laid upon land, it usually requires being well turned up and exposed to the air for some time; but as soon as it is spread, it should be ploughed in, to prevent loss by evaporation. As to the depth below the surface of the ground, to which it should be deposited, it may be remarked, that this should never be below the reach of the roots of the plants it is intended to nourish; for, in proportion as it is dissolved and liquefied, it will naturally descend. And it is better to manure lands in the spring than in autumn, lest the winter rains should dissolve it too much, and endanger its sinking below the roots of the crop. With regard to the quantity of manure, it is a commodity so scarce, that it is not likely to be employed in excess. This occurs, however, sometimes in garden culture, and it produces a strong and disagreeable flavour in the vegetables. But the stock of manure is generally so limited, that it has been the study of agriculturists to discover some means of compensation for a deficiency, rather than to apprehend danger from excess. This compensation has been found in a judicious system of crops. See *Rotation of Crops*.

MANUSCRIPTS are a principal subject of diplomatics. All the existing ancient manuscripts are written on parchment or on paper. The paper is sometimes Egyptian (prepared from the real papyrus shrub), sometimes cotton or silk paper (*charta bombycina*), which was invented in the East, about the year 706, and used till the introduction of linen paper, and in common with this till the middle of the fourteenth century; sometimes linen paper, the late of the invention of which, though ascribed to the first half of the thirteenth century, on the authority of a document of the year 1243, written on such paper, is, nevertheless, exceedingly doubtful. The earliest mention of pens is found in the seventh century. The most common ink is the black, which is very old: the oldest, however, was not mixed with vitriol, like ours, but generally consisted of soot, lamp-black, burnt ivory, pulverized charcoal, &c. Red ink is also found, in ancient times, in manuscripts, of a dazzling beauty. With it were written the initial letters, the first lines, and the titles, which were thence called *rubrics*, and the writer *rubricator*. More rarely, but still quite frequently, blue ink is found in ancient manuscripts; yet more rarely green and yellow. Gold and silver were also used for writing either whole manuscripts (which, from their costliness, are great rarities), or for adorning the initial letters of books. With respect to external form, manuscripts are divided into rolls (*volumina*, the most ancient way, in which the Troubadours in France wrote their poems at a much later period), and into stitched books, or volumes (properly *codices*). Among the ancients, the writers of manuscripts were mainly freedmen or slaves (*scribæ librarii*). Subsequently, the monks, among whom the Benedictines in particular, were bound to this employment, by the rules of their order. Manuscripts were afterwards approved and embellished by correctors and rubricators. But of much greater importance, for estimating the age, value, &c., of a manuscript, than these external circumstances and marks, are the internal, particularly the character of the writing and of the letters. It is more difficult to form a correct judgment respecting the age of Greek manuscripts from the character of the writing than it is respecting that of Latin manuscripts. In general, it is to be remarked, that, in a Greek manuscript, the strokes are lighter, easier, and more flowing, the older it is; and that they become stiffer in the progress of time. The absence or presence of the Greek accents is in

no respect decisive. Moreover, few Greek manuscripts are found of an earlier date than the seventh, or, at most, the sixth century. The characters in Latin manuscripts have been classified partly according to their size (*majuscula*, *minuscula*), partly according to the various shapes and characters which they assumed among different nations, or in various periods (*scriptura Romana antiqua*, *Merovingica*, *Longobardica*, *Carolingica*, &c.; to which has been added, since the twelfth century, the *Gothic*, so called, which is an artificially pointed and angular character); and for all of those species of writing, particular rules have been established, affording the means of estimating the age of a manuscript. Before the eighth century, interjections rarely occur: even after the introduction of punctuation, manuscripts may be met with destitute of interjections, but with the words separate. Manuscripts which have no capital or other divisions, are always old. The *catch-word*, as it is termed, or the repetition of the first word of the following page at the end of the preceding, belongs to the twelfth or subsequent centuries. The fewer and easier the abbreviations of a manuscript are, the older it is. Finally, in the oldest manuscripts, the words commonly join each other without break or separation. The division of words first became general in the ninth century. The form of the Arabic ciphers, which are seldom found in manuscripts earlier than the first half of the thirteenth century, also assists in deciding the age of a manuscript. Some manuscripts have at the end a statement when, and, commonly, also, by whom, they were written (*dated codices*). But this signature often denotes merely the time when the book was composed, or refers merely to a part of the manuscript, or is entirely spurious. Since we have had the evidence of the Herculanean manuscripts, we can determine with certainty that none of our manuscripts are older than the Christian era. In 1825, a fragment of the Iliad, written on papyrus, was discovered on the Island of Elephantina, in Upper Egypt, by a French gentleman, travelling in the employment of Mr Banks. It contains from 800 to 900 verses, beginning at the 160th, and is handsomely written in capital letters, and is in a good state of preservation, unquestionably the oldest of all classical manuscripts, and probably of the times of the Ptolemies.—It was the custom, in the middle ages, wholly to obliterate and erase writings on parchment, for the purpose of writing on the materials anew. These *codices rescripti*, *rasi*, are thought great curiosities. This custom ceased in the fourteenth century, probably because paper came then more into use. See *Codex*.

MANUSCRIPTS, ILLUMINATED; those manuscripts which are adorned with paintings illustrating the text, or in which the initial letters were decorated with flourishes or gilding. This kind of bibliographical luxury was not unknown to the ancients, and the art of illumination was much practised by the monks. Their vignettes are, in some instances, of considerable historical importance. The specimens from the period between the fifth and tenth centuries are superior to those produced during the succeeding centuries. The term *illuminated* is derived from the use of *minium*, for a red colour, by the artists; hence called *miniatores*, or *illuminatores*. An example of Anglo-Saxon illumination of the eighth century is preserved in the British museum (Cottonian MSS.), which employed the skill of four distinguished theologians of the day. Eadfrid, bishop of Durham, wrote the text (the four Gospels); Ethelwold, his successor, illuminated the volume; Bilfrid, the anachoret, covered it richly with gold and silver plates, and precious stones; and Aldred added

glosses. Many MSS. are found with the initial letters omitted, the writer or copyist and illuminator being distinct persons. We still see traces of this practice in the ornamenting of initial letters in some printed books. See Mabillon, *De Re diplomatica*.

MANUTIUS, ALDUS, or ALDO MANUZIO; an Italian printer of the fifteenth and sixteenth centuries, celebrated as an artist and a man of letters. He was born at Bassano, in the Roman territory, about 1447, and was educated at Rome and at Ferrara, where he learned Greek under Baptista Guarino. He became tutor to Alberto Pio, prince of Carpi; and, in 1482, quitted Ferrara, to reside with John Pico, prince of Mirandola. In 1488, he established himself as a printer at Venice, but the first work which he finished was not published till 1494. In the course of the ensuing twenty years, he printed the works of the most ancient Latin and Greek authors extant, as well as many productions of his contemporaries, and some treatises of his own composition. Among the latter are a Latin Grammar; a Greek Grammar; a tract on the Metres of Horace, and a Greek Dictionary. He was the inventor of the italic, or cursive character, hence called *Aldine*, for the exclusive use of which, for a term of years, he obtained a patent from the pope and the senate of Venice. He established a kind of academy at his own house, and delivered lectures on classical literature, to the general study and improvement of which he greatly contributed. He died in April, 1515, leaving four children by his wife, who was the daughter of Andrea d'Asola, a Venetian, in partnership with whom he carried on his business.

*Manuzio, Paolo*, son of the foregoing, was distinguished as a classic scholar, no less than as a printer. He was born at Venice, in 1512, and was brought up under the care of his maternal grandfather. He received a learned education, and, in 1533, re-opened the printing-office, which had for some time been closed, but did not carry on the establishment entirely on his own account, till 1540. He opened an academy for the instruction of young persons in polite literature; and afterwards made a tour through the cities of Italy, for the purpose of examining the various libraries. After refusing several offers of professorships at Bologna and elsewhere, he was appointed to superintend the printing-office attached to a newly-founded academy at Venice, where he continued till 1561, when he settled at Rome, on the invitation of pope Pius IV. He was employed to conduct a press for printing the works of the fathers, and other ecclesiastical authors; and at the same time, kept up his establishment at Venice, whither he returned in 1570. Pope Gregory XIII. induced him, by means of a pension, to take up his abode again at Rome, where he died, in April, 1574. He was the author of Commentaries on the Writings of Cicero; a treatise *De Curia Romana*; Proverbs; Letters, &c.

*Manuzio, Aldo*, the younger, the son of the preceding, was also a printer. He was born in 1547, and was educated by his father, under whom he made an extraordinary progress in literature. In his eleventh year, he produced a Collection of elegant Phrases in the Tuscan and Latin Languages; and other juvenile publications attest his classical acquirements. On his father's removal to Rome, he carried on the printing establishment at Venice, where, in 1577, he was appointed professor of belles-lettres at the school of the Venetian chancery. In 1585, he succeeded Sigonius in the chair of rhetoric at Bologna; whence he removed to Pisa, to become professor of polite literature, in 1597; and, during his stay there, he received the diploma of doctor of laws,

and was admitted a member of the Florentine academy. In 1588, he went to Rome, and accepted a professorship, which had been held by Manuzio. He was much favoured by pope Sixtus V., and about 1588, bestowed on him the office of secretary of the Vatican press. He died in Rome, 1597, and with him expired the glory of the *Aldine*; the valuable library, collected by him and his predecessors, was sold to liquidate his estate. He was the author of many works, including commentaries on Cicero, and Familiar Letters. See *Aldine Editions*.

MANZONI, ALESSANDRO, an Italian name of lyric poet, of noble birth and elevated genius, was born in Milan, and distinguished, even early, by his *corai scelti* on the death of Immanuel, and a later period, created a new kind of *prosa* or *novel*. As a tragic writer, he surpassed any Italian poet. His tragedies are *Il Conte Cenci* (Milan, 1820), and *Adelchi* (1822). In both, he introduces the chorus. The subject of the first is from Italian wars of the fifteenth century; it has received great applause in Germany, France, and England, as well as in his own country. His work is his *Betrothed—I Promessi Sposi*. Since the *Stances del Secolo XIIII.* (1827)—which has introduced the historical romance into Italy. His epic comprising his poems, tragedies, commentaries, and miscellaneous prose writings, have been printed (in 6 vols., 1829).

MAP; a projection, on a plane surface, of the whole or a part of the spherical surface of the earth. The earth being a spheroid, its surface cannot be made to coincide rigorously with a plane; and therefore becomes necessary to have recourse to a projection, that is, a plan on a plane surface, that indicates the relative positions, dimensions, &c. of the different parts of a spherical surface. (See *Projection*.) The three principal modes of projection are the orthographic, the stereographic, and the conic, distinguished by the different points of view at which the observer is supposed to be placed. In the orthographic projection, the surface of the globe is represented by a plane, which cuts it through the middle, the eye being placed vertically at an infinite distance from the two hemispheres. In the stereographic projection, the spherical surface is represented on the plane of one of its great circles, the eye being supposed at the pole of that circle. The conic projection supposes the point of view at the circumference of the sphere, and the surface is thus projected on a cone tangent to it. Each of these kinds of projection is susceptible of different modifications. None of the planispheres traced by the three modes indicated gives a perfect representation of the globe; they alter the figures of countries, either in the centre or on the borders; they present equal spaces with unequal dimensions, &c. To obviate these difficulties, the conic and cylindrical projections are commonly used; the cone and cylinder being curved surfaces which are capable of being perfectly developed on a plane, and, at the same time, approximating to the nature of a spherical surface. These projections have also been subjected to a great variety of modifications, which we cannot here explain. Other famous maps, which have not the development of a sphere for their basis, have been recommended; such as the proportional projection, in which the principal condition is to represent, by equal spaces, regions of equal extent. (See *Mayer's Introduction to the Art of tracing Maps*, in German; *Poisson's Traité de la géographie*.) In the choice of details to be introduced into a map, the author must be guided by the nature of his delineations, and needs to be directed by experience, learning, and judgment. One map is designed

to show the limits of states, the positions of towns and cities, the subdivisions of the country into provinces, departments, counties, &c.; another may be devoted more particularly to delineating the natural features of the region, its mountains, rivers, &c.; and details are selected accordingly. A military map should indicate every pass, ford, obstruction, &c., which may affect a march, facilitate or obstruct a manoeuvre. A nautical map, or chart, should indicate every reef, sand-bank, or rock, delineating, as far as possible, not only the irregularities of the bottom, but the direction, &c., of the shores. To the seamen, the nature of the bottom of the sea is interesting only within soundings; but to the physical geographer, it is also important, as illustrative of the whole system of mountain and geological formations on the globe. There are also historical, botanical, mineralogical, &c., maps, designed to illustrate some particular point. Elementary maps for instruction are not intended to advance the science by the publication of new details, but should be adapted to convey the current truths of the science in a simple form; and, for this purpose, a numerous series of small maps is better than a few, constructed on a large scale, with minute exactness. In collecting and combining details, astronomical observations and geodesical measurements must be employed, when possible, at least at the prominent points, and, where the author is assisted by these, the accounts of intelligent travellers, of former geographers, &c., must supply the deficiencies. Maps are engraved on tin, copper, and other metals; also, sometimes, in wood, and, of late, are being lithographed with much success for certain purposes. Soon after the invention of the art of printing, an attempt was made to print maps like usual matter, by Sweynheim; later by Buechink, in 1476; in 1777, by Breitkopf, in Leipzig. Haas, at last, produced pretty good specimens (see his *Carte de Portugal de Pologne en 1778*, 1793, et 1795); and, quite recently, the same has been attempted in India; but the main object of cheap maps thus made, chiefly for children,—an impressive and clear story,—seems not entirely attained. If we consider a drawing of the country ordered by Joshua (*Josh. xiv. 9*) as a map, then the origin of geographical projection is very old. We find traces of maps with the Egyptians, in the times of Senosertis (q. v.), who used his hereditary dominions and his conquests to be represented on tablets for his people. Scylax, anathemones (470 B. C.) and Hipparchus (130 B. C.) preceded him. Certain traces of maps are found in the times of Aristagoras of Miletus, and Socrates, and, by way of a reproach to the pride of Alcibiades, used him to search for his own estates on a map. To Romans, at their triumphs, had pictures of the conquered countries carried before them, and had a knowledge of their territories in their archives, as *urbs capta*. Caesar himself took part in the surveying of different countries. There is a map extant, of the times of the Macedonians, certainly not later than Theodotus, a military map, for the use of the Roman army, called the *Prutinger table*, from having belonged to a learned scholar of this name. (See *Prutinger*.) Ptolemy drew maps according to the conographic projection. Agathodemon, an artist at Alexandria, drew twenty-six maps for the geography of Ptolemy, and with him the first period of the theory of maps is generally closed. They were drawn on the accounts of travellers without well settled principles. The second period, which extends to the beginning of the sixteenth century, the time of the master Hesham (q. v.), can show metal globes, plane tables and maps. Nicolaus Donsi corrected the globe of Ptolemy, had them cut in wood, and added new ones. Sebastian Munster followed in his

steps. In the third period, maps became more and more perfect. Particular credit is due to those of Abraham Ortelius, Gerhard Mercator (born 1512, died 1594), William and John Blau (who produced 616 maps), Sanson, Schenk, Vlaschen, De Witt, Hondius. After them, John Baptist Homann became famous, who consulted the most distinguished astronomers and mathematicians, and prepared 200 new maps. In regard to the character of the early maps, and early geography in general, the chapter on the progress of geographical science in Lardner's *Maritime and Inland Discovery* contains valuable information. The following facts are taken from that source. The most eminent geographers of the sixteenth and seventeenth centuries were men of learning, who, in the spirit of that age, adopted with zeal and obstinacy all the mistakes committed by the writers of antiquity, which thereby acquired an authority that was very difficult to be overthrown. The first requisite, in a correct system of geography, is to determine accurately the relative position of places; but, in this, the ancients were guilty of gross errors. The method which they employed to determine the latitude of places admitted of but little precision, and their determination of longitudes was still more erroneous. The countries with which the Greek and Roman writers were best acquainted were those on the Mediterranean, yet Constantinople is placed by Ptolemy two degrees north of its true position. The Arab writers increased this error to four degrees. The breadth of the Mediterranean was also increased far beyond the truth. Carthage is made 4° 32' south of its true place. The errors in longitudes were far greater, the length of the Mediterranean being made 68° instead of 41° 28': in other words, it was made 1400 English miles longer than the reality. This enormous error continued in the maps of Europe, with little variation, till the beginning of the last century. The difference in the estimated longitude of Rome and Nuremberg, two of the best known places in Europe, varied above 800 miles, from the fifteenth to the seventeenth century. The error is still more remarkable, as existing in the longitude of places which are nearly in the same latitude. Cadix and Ferrara, for instance, were placed nearly 600 miles too far asunder; and this error continued till the close of the seventeenth century. Errors of a wider kind, originating in credulity rather than in inaccurate observation, found a place in the maps of the middle ages, and were slowly banished at a recent date by the improvements of astronomy and navigation. In a map of the world, published at Venice, in 1546, by Giacomo, Asia and America are united in lat. 38°. Tibet is placed at the junction of the two continents. In another Venetian map, by Traversari, dated 1654, the distance from Quinal, in China, to the gulf of California, in America, is only 31°, the two continents being unduly stretched some thousand miles respectively to the east and the west. The best maps were long deficient in correct distances, particularly in longitude. South America is represented by Fischer as 62°, or above 4300 miles across, while North America, on the same map, extends from the mouth of the St Lawrence on the east, to New Albion on the west, through a space of 180°, or above 9000 miles. Hondius, in 1630, ventured, indeed, to abridge Asia of the undue dimensions given it by Ptolemy, and to reduce its extension towards the east to 166°. But his example was not followed; and many instances might be adduced, in which the authority of Ptolemy, who was but slightly acquainted with one half of the globe, was blindly submitted to in an age when Europeans wandered over its whole surface. A great step was made

towards the attainment of accuracy, in regard to longitudes, when Galileo discovered, in 1610, the eclipses of Jupiter's satellites. Until, however, Cassini published his tables, in 1668, nothing accurate was known respecting their eclipses and revolutions. Cassini laboured indefatigably to improve geography, by allying it strictly with astronomy, and loudly complained that it needed a total reform. Delisle, his friend, set seriously about the task of reconstructing the geographical edifice. In the year 1700, he published his map of the world, as well as separate maps of Europe, Asia, and Africa, boldly departing from the examples of his predecessors, and making free use of the materials which the improvements in astronomy had placed within his reach; so that he may be considered the creator of modern geography. He died in 1726. His distinguished disciple, D'Anville, appointed geographer of the king of France at the age of twenty-two was remarkable for correctness of judgment and fineness of penetration. Though he proceeded much on conjecture, he rarely erred. He completed what Delisle had begun. For further information on the subject of geography and geographical works, see *Geography*, and *Gazetteer*; see, also, *Degrees*, *Measurement of*.

The whole number of maps which have been published may amount to from 23,000 to 24,000, of which, however, hardly 4600 are original. The first maps engraved on metal were made by Bueckink and Schweenheim, in 1478; the first cut in wood, by L. Holl, in 1482. (See Hauber's *Essay towards a circumstantial History of Maps* (in German, Ulm, 1724); Hubner's (q. v.) *Museum Geographicum*.) Among the maps prepared of late years in Great Britain, those of Arrowsmith are distinguished.

**MAPLE** (*acer*); a genus of plants, peculiar to the northern and temperate parts of the globe, consisting of trees or arborescent shrubs, having opposite and more or less lobed leaves, and small flowers, which are either axillary or disposed in racemes. The fruit consists of two capsules united at base, each containing a single seed, and terminated by a wing-like membrane. In one instance, the leaves are compound and pinnated. Twenty-seven species are known, of which six are found in Europe, twelve are found in North America, six very beautiful ones in the islands of Japan, and the remainder in different parts of Asia.

The red maple (*A. rubrum*), is one of the most common and most extensively diffused of American trees. It grows in moist situations, from lat. 49° to the gulf of Mexico, both in the Atlantic and Western States. The bright red blossoms, appearing at a time when there is no vestige of a leaf in the forest, render this tree very conspicuous at the opening of spring; and again, at the close of the season, it is not less conspicuous, from the scarlet colour which the leaves assume when they have been touched by the frost. The leaves are cordate at base, unequally toothed, five-lobed, and glaucous beneath. It attains the height of seventy feet, with a diameter of three or four at the base. The wood is easily turned, and when polished acquires a silken lustre; it is hard and fine-grained, and is employed chiefly for the lower parts of Windsor chairs, sometimes for saddle trees, wooden dishes, and similar purposes.

The variety called *curled maple*, from the accidental undulation of the fibres, is one of the most ornamental woods known, and bedsteads made of it exceed in richness and lustre the finest mahogany. It is sometimes employed for inlaying, but its most constant use is for the stocks of rifles and fowling pieces. The white maple is chiefly remarkable for

the beauty of its foliage, the leaves being larger and much more deeply lobed than those of the preceding, and glaucous beneath. The flowers are more conspicuous and greenish yellow, and the tree is larger than in any other of the species. It is found as far south as the preceding, and is not abundant west of the mountains; its range extending toward the sources of the Mississippi, and west to those of the Arkansas. It attains large dimensions, being a trunk five, and sometimes eight feet in diameter. The wood is little used, but its bark is preferred by hatters in some places.

The sugar maple (*A. saccharinum*) is a small tree. Besides the sugar which is obtained from the sap, the wood affords excellent fuel; and from its ashes is procured potash. The sugar is superior in quality to the common brown sugar of the West Indies, and when refined, equals the finest sugar. The sap of all the maples contains a certain quantity of sugar, but in none, that we know of, does it contain so great a proportion as in this and the following species. A single tree of this species will yield five or six pounds of sugar. The leaves are much as five-lobed, with the lobes minutely dentate. It grows in cold and moist situations, between the forty-second and forty-eighth parallels of latitude, and on the Alleghenies to their south-western termination, extending westward beyond Lake Superior, as is abundant in the northern parts of Pennsylvania, the western portion of New York, Upper Canada, New Brunswick, Nova Scotia, and in the northern parts of New England. The potash is obtained from the two principal northern parts, New York and Boston. To the latter place the wood is brought in great quantities from Maine for fuel, and is almost hardly inferior to hickory.

A variety, with undulations, like the curled maple, and containing besides small spots, is called *half-eye maple*, and forms exceedingly beautiful seats of furniture. The charcoal has the preference in the forges of Vermont and Maine.

The black sugar maple (*A. nigra*) is a more southern tree than the preceding, and is everywhere abundant on the Ohio and the other great rivers of the West. It has not been observed north of latitude 44°, and does not extend into the more southern states. The leaves resemble in form, those of the sugar maple, but may be distinguished by the pubescence of the inferior surface. It attains very lofty dimensions. The wood is little used, but is preferred for the frames of Windsor chairs, and furnishes the best fuel, after the hickories. The sap yields abundance of sugar, which is manufactured in America to a vast amount.

The ash-leaved maple, or box elder (*A. asplenifolia*) abounds chiefly west of the Alleghenies, where it has a very wide range, extending from lat. 37° to the gulf of Mexico, and also within the chain of the Rocky Mountains. It is easily known by its large, deeply five-lobed leaves, and becomes a large tree. The wood is fine-grained, but is little used.

The striped maple, or moose-wood (*A. striatum*) is a large shrub, chiefly remarkable from the white lines on the bark, which give it an elegant appearance. It is a northern plant, and its leaves and young shoots are turned loose into the woods to furnish the young shoots at the beginning of spring. The wood has been sometimes employed for making mahogany, but it is of inferior quality.

The wood of the common European maple is much used by turners, and on account of its softness is frequently employed for musical instruments, particularly for violins.

**MAPPE-MONDES**; the French name for map of the world. See *Maps*.

**MARA**, GERTRUDE ELIZABETH, daughter of a Mr Schmähling (born, according to some, in 1750, in Cassel; others say in 1743, at Eischbach, in the territory of Eisenach; others say in 1749), was one of the greatest singers of her time. Her father, city musician in Cassel, instructed her in music. When she was seven years old, she played the violin admirably. In her tenth year, she performed before the queen, in London, whither she had accompanied her father, and where she remained two or three years. In her fourteenth year, she appeared as a singer at court. In 1766, she went with her father to Leipsic, and received an appointment there. Frederic the Great, though much prejudiced against German performers, was induced to invite her, in 1770, to Potsdam, his residence, showed great admiration of her powers, and gave her an appointment immediately, with 3000 Prussian dollars salary (about £450). In 1774, she married a violoncello player named Mara, a man of careless habits, who involved her in many difficulties, and she was dismissed by the king, in 1780. In 1782, she went to Vienna and Paris, where she received the title of a first concert singer of the queen. In 1784, she went to London, where she was received with the greatest enthusiasm. For thirteen evenings' performance at the Pantheon concert, she received 1000 guineas. In 1785 and 1786, she was engaged for the London opera, and appeared at one of the annual concerts in honour of Handel, as first singer, and, in the winter of 1785 and 1786, was established at the London opera. But her obstinacy offended as much as her powers delighted. In 1802, she went to Paris, and, in 1803, to Germany. At a later period, she went to Petersburg, and, in 1808, she was at Moscow, where she is said to have married her companion Florio, after the death of Mara, from whom she had been separated long before. By the burning of Moscow, she lost her house and fortune; she therefore went to Revel, and gave lessons in music. In 1819, she came through Berlin to Britain, and, in 1821, returned to Esthonia. The latest accounts of her were, that she celebrated her birth-day at Revel, February 23, 1831, having completed her eighty-third year, on which occasion Goethe offered her a poetical tribute. The fame of this singer was founded not only on the strength and fulness of her tone, and the extraordinary compass of her voice, which extended from *c* to the triple-marked *f* (nearly three octaves), but also on the admirable ease, quickness, and spirit, with which she sung the most difficult passages, and her simple and enchanting expression in the *adagio*. Her singing of Handel's airs—for instance, "I know that my Redeemer liveth"—in the *Messiah*, was particularly celebrated.

**MARABOOTIS**; among the Berbers (q. v.) of northern Africa, a sort of saints, or sorcerers, who are held in high estimation, and who exercise, in the villages, a despotic authority. They distribute oracles, affect to work miracles, and are thought to exercise the gift of prophecy. The rich presents which they receive from a superstitious people, enable them to live with a good deal of pomp, often keeping an armed force, and maintaining a numerous number of wives and concubines. They make, indeed, pretensions to abstinence or self-denial.

**MARACAYBO**; a town of Colombia, capital of the department of Zulía (see *Colombia*), formerly capital of the province of Maracaybo, in Venezuela; *lon.* 71° 17' W.; *lat.* 10° 13' N. It is situated on the western side of the lake Maracaybo, about twenty miles from the sea. Most of the houses are covered with reeds; but the town is fortified, and the number of the inhabitants, in 1801, amounted to 22,000; this number was afterwards increased to 24,000

by an accession of refugees from St Domingo. Here is a large parochial church, an hospital, and four convents. Large vessels cannot come up to the town, on account of the bar at the mouth of the harbour.

**MARACAYBO**, a lake, or rather gulf, of South America, about 200 miles long, and seventy broad, running from S. to N., empties itself into the North sea; the entrance is defended by strong forts. As the tide flows into this lake, its water is somewhat brackish, notwithstanding the many rivers it receives. It abounds with fish. The lake becomes narrower towards the middle, where the town is erected.

**MARANHAM**, or **MARANHAO**; a province of Brazil, between 1° 20' and 10° 50' S. latitude, and 45° 10' and 53° 20' W. longitude. It takes its name from an island situated at the mouth of three rivers, about forty-two miles in circumference, which is fertile and well inhabited. The island itself is very difficult of access, by reason of the rapidity of the three rivers which form it; so that vessels must wait for proper winds and seasons to visit it. The natives have about twenty-seven hamlets called *oc*, or *tate*, each consisting of only four large huts, forming a square in the middle; but from 300 to 500 paces in length, and about twenty or thirty feet in depth; all being built of large timber, and covered from top to bottom with leaves, so that each may contain 200 or 300 inhabitants. The air is serene, seldom incommoded with storms, excessive drought, or moisture, except in the time of the periodical rains, which last from February to June. The soil of the province is very fertile, producing maize, cotton, sugar, rice, cocoa, pimento, ginger, &c. Population, 183,000, exclusive of the savages. The number of negroes is very great. The capital is Maranhao, or St Luiz, with 12,000 inhabitants; *lat.* 2° 29' S.; *lon.* 48° 45' W.

**MARANON**. See *Amazon*.

**MARAT**, JEAN PAUL, whose name is odiously notorious in the most hateful times of the French revolution, was born at Boudry, in Neuchâtel, in 1741, and studied medicine at Paris, where he practised his profession at the beginning of the revolutionary movements. Previous to 1789, he had published several works on medical and scientific subjects, which display considerable acuteness and learning. Of a small and even diminutive stature, with the most hideous features, in which some traits of insanity were perceptible, his whole appearance was calculated to excite at once terror, pity, ridicule, and disgust. The first breath of the revolution converted the industrious and obscure doctor into an audacious demagogue, if not into a ferocious maniac. He began by haranguing the populace of one of the sections, but was treated with ridicule, and hustled by the crowd, who amused themselves with treading on his toes. Still he persisted, and finally succeeded, by his violence and energy, in commanding attention. Danton had just instituted the club of the Cordeliers, and collected around him all the fiercest spirits, and Marat among the number, who became the editor of the *Ami du Peuple*, a journal which was the organ of that society, and soon became the oracle of the mob. As early as August 1789, he declared it necessary to hang up 800 of the deputies, with Mirabeau at their head, in the garden of the Tuileries, and, though he was denounced to the constitutional assembly, and proceeded against by the municipal authority of Paris, he contrived to escape, with the assistance of Danton, Legendre, and others, and by concealing himself in the most obscure corner of the city. His journal, meanwhile, continued to appear regularly, was openly hawked about the streets, and assumed a more furious and atrocious tone, as he was inflamed

by the prosecutions of the authorities, and encouraged by the increasing strength of his party. During the existence of the legislative assembly, he continued his outrages, figured among the actors of the 10th of August (see *France*), and in the assassinations of September (1792). He was a member of the terrible committee of public safety, then formed, although without any official capacity, and signed the circular to the departments, recommending a similar massacre in each. Marat was chosen a member of the convention; and in spite of the contempt and abhorrence with which he was received in that body, particularly by the Girondists, who endeavoured, at first, to prevent his taking his seat, and, afterwards, to effect his expulsion, soon found encouragement to proceed with his sanguinary denunciations. The ministers, general Dumouriez, and the Girondists, whom he contemptuously called *hommes d'état*, were the objects of his attack. Being charged, in the convention, with demanding in his journal 270,000 heads, he openly avowed and boasted of that demand, and declared that he should call for many more if those were not yielded to him. During the long struggle of the Mountain party and the Girondists, his conduct was that of a maniac. The establishment of the revolutionary tribunal, and of the committee for arresting the suspected, was adopted on his motions. On the approach of May 31 (see *Jacobins*), as president of the Jacobin club, he signed an address instigating the people to an insurrection, and to massacre all traitors. Even the Mountain party denounced this measure, and Marat was delivered over to the revolutionary tribunal, which acquitted him; the people received him in triumph, covered him with civic wreaths, and conducted him to the hall of the convention. July 13, 1793, his bloody career was closed by assassination. (See *Corday, Charlotte*.) Proclaimed the martyr of liberty, he received the honours of an apotheosis, and his remains were placed in the Pantheon. It was not till some time after the dispersion of the Jacobins, that the busts of this monstrous divinity were broken, and his ashes removed, and then it was as a royalist that he suffered this disgrace.

**MARATHON**; a village of Greece, in Attica, about fifteen miles N. E. of Athens, celebrated by the victory gained over the Persians by Miltiades, 490 B. C. See *Miltiades*.

**MARATTAS**. See *Mahrattas*.

**MARATTI, CARLO**, painter and engraver, was born at Camerino, in the marquisate of Ancona, in 1696, and while a child, amused himself with painting all sorts of figures drawn by himself on the walls of his father's house. In his eleventh year, he went to Rome, studied the works of Raphael, of the Caracci, and of Guido Reni, in the school of Sacchi, and formed himself on their manner. His *Madonnas* were particularly admired. Louis XIV. employed him to paint his celebrated picture of *Daphne*. Clement IX., whose portrait he painted, appointed him overseer of the Vatican gallery. He died at Rome in 1713. We are much indebted to him for the preservation of the works of Raphael, in the Vatican, and of the Caracci in the Farnese palace. He also erected monuments to those masters in the church *della Rotonda*. As an artist, Maratti deserves the title given him by Richardson, of the last painter of the Roman school. His design was correct, and although he was not a creative genius, he showed himself a successful imitator of his great predecessors. His composition was good, his expression pleasing, his touch judicious, and his colouring agreeable. He was acquainted with history, architecture, and perspective, and used his knowledge skilfully in his pictures. The good taste which prevails in all his works is remarkable. His chief works are in Rome.

He also etched successfully, among other things, the life of Mary, in ten parts. *Chant. Bernini*, or *Pascoli*, were his pupils.

**MARBLE**, in common language is the name applied to all sorts of polished stone, and is the decoration of monuments and public buildings in the construction of private houses is made of the materials thus made use of. It is so very distinguished the true marbles from those which have no just title to such a designation. It has a short but universal character of marble. It is said, that it effervesces with dilute acids, and is capable of being scratched with flint, or marks gypsum. These properties, however, at once, from the granites, porphyries, and pudding-stones, with which it has been confounded on one side, and from the gypsaceous substances on the other. From the hard rocks having been included under the marbles, comes its name as marble." Marbles have been divided into various divisions, by different writers. The most frequent division has been that of two great orders—primitive marbles, which have a crystalline fracture, and secondary marbles, or those which are possessed of a dull fracture. This classification is grown out of the idea that the former are more anciently created—an opinion which is a fiction of geology, for the most part, volcanic, or firm, though occasionally we find a marble of compact and close texture, in old rocks, and on the other hand, those which are highly crystalline, very recent formations. DeCuvillier has been classification of marbles upon the colour which they present; those of a uniform colour forming one class, those with two colours, another; those with three shades, a third; and so on. The best method of these substances, however, is that of Vauquelin, which divides all marbles into seven various classes, viz. 1. marbles of a uniform colour, including solely those which are either white or red; 2. variegated marbles, or those in which the veins and veins are interlaced and disposed with regularity; occasionally, this variety contains one of organic remains; when these are disposed in like masses, they are sometimes called *marble marbles*; 3. shell marbles, or those which are in part, made up of shells; 4. *Ammonite marbles*, or those which are, apparently, wholly formed of shells; 5. *cipolin marbles*, or those which are named green talc; 6. *breccia marbles*, or those which are formed of angular fragments of different materials united by a cement of some different colour; 7. *porphyry marbles*, or those which are formed of united fragments, like the breccia marble, except the difference of having the pebbles in the place of being angular. By ancient or modern marbles, is understood those kinds made use of by the ancients, the quarries of which are now or were most part, exhausted or unknown. Of these we mention the following:—

*Parian marble*. Its colour is snow-white, and tinged to yellowish-white; it is fine, granular, and polished, has somewhat of a waxy appearance, hardens by exposure to the air, which enables it to resist decomposition for ages. *Daphnia*, *Isis*, *Malas*, and *Mitridates*, employed the marble, or were imitated by their successors. It contains, with accuracy, the most delicate features of the face and retains for ages, with all the softness of wax, a mild lustre even of the original polish. The best Grecian sculpture which has been preserved to the present time, is generally of Parian marble, as the *Medicæ Venus*, the *Diana of Versailles*, the *Minerva* (called *Patron of Victory*), *Arcadia* (or *Cleopatra*), and *June* (called *Capitoline*). It is so

Parian marble on which the celebrated tables at Oxford are inscribed.

*Pentelican marble*, from mount Pentelicus, near Athens, resembles, very closely, the preceding, but is more compact and finer granular. At a very early period, when the arts had attained their full splendour, in the age of Pericles, the preference was given, by the Greeks, not to the marble of Paros, but to that of mount Pentelicus, because it was whiter, and also, perhaps, because it was found in the vicinity of Athens. The Parthenon was constructed entirely of Pentelican marble. Among the statues of this marble in the royal museum at Paris, are the Torso, a Bacchus in repose, a Paris, the throne of Saturn, and the tripod of Apollo.

*Carrara marble* is of a beautiful white colour, but is often traversed by gray veins, so that it is difficult to procure large blocks wholly free from them. It is not subject to turn yellow, as the Parian. This marble, which is almost the only one used by modern sculptors, was also quarried and wrought by the ancients. Its quarries are said to have been opened in the time of Julius Cæsar.

*Red antique marble (rosso antico of the Italians; Ægyptium of the ancients)*. This marble, according to antiquaries, is of a deep blood-red colour, here and there traversed by veins of white, and, if closely inspected, appears to be sprinkled over with minute white dots, as if it were strewed with sand. Another variety of this marble is of a very deep red, without veins, of which a specimen may be seen in the Indian Bacchus, in the royal museum of Paris.

*Green antique marble (verde antico of the Italians)*, is an indeterminate mixture of white marble and green serpentine. It was known to the ancients under the name *marmor Spartanum*, or *Lacedæmonium*.

*African breccia marble (antique African breccia)*. It has a black ground, in which are imbedded fragments or portions of a grayish-white, of a deep red, or of a purple wine colour. This is said to be one of the most beautiful marbles hitherto found, and has a superb effect when accompanied with gilt ornaments. Its native place is not known with certainty; it is conjectured to be Africa. The pedestal of Venus leaving the bath, and a large column, both in the royal museum in Paris, are of this marble.

**MARBOD**, or **MAROBODUUS**. See *Marcomanni*, and *Arminius*.

**MARBURG**; capital of Upper Hesse, in Hesse-Cassel, situated on the Lahn, with a population of 6700 inhabitants, a castle, and a university. It is built on the declivity of a hill, on the summit of which is the castle. It has five Catholic, Lutheran, and Calvinist churches. The university was founded in 1527, and has an excellent library of above 100,000 volumes, a valuable botanical garden, an anatomical theatre, and other institutions connected with it. In 1829, the number of students was 347. It is remarkable as being the first Protestant university founded in Germany.

**MARCELLINUS AMMIANUS**. See *Ammianus Marcellinus*.

**MARCELLO**, BENEDETTO; a noble Venetian, youngest son of the senator Agostino Marcello. He was born in 1686; and, while a youth, became a great proficient in the science of music, in consequence, it is said, of a reflection thrown upon his deficiency in that respect, at a concert given by his brother Alessandro, which hurt his pride, and stimulated him to exertion. He afterwards studied under Gasparini, and, receiving a liberal education, distinguished himself as a poet, as well as a musician. In 1716, a *serenata* of his composition was performed at the celebration of the birth of the first son of the emperor Charles VI., and excited great applause.

Eight years after appeared the first four volumes of his adaptation to music of Giustiniani's Paraphrase of the Psalms, which he afterwards completed in eight more, the whole being published in 1726. Garth, of Durham, has adapted suitable words, from the English translation of the Psalms, to Marcello's music, with a view to their being performed as anthems in the cathedrals, with great success. This elaborate work was printed by subscription, in eight folio volumes. Marcello was successively a member of the council of forty, *provveditore* of Pola, and chamberlain of Brescia, in which city he died in 1739.

**MARCELLUS**, M. CLAUDIUS; the first Roman general who successfully encountered Hannibal, in the second Punic war. During his consulship (B. C. 223) he had given the greatest proofs of his valour, in a single combat with Viridomarus, a Gallic chief, whom he slew; the Gauls, discouraged by the loss of their leader, fled before an inferior Roman force. The result of this victory was the complete conquest of Upper Italy. Marcello received the honour of a triumph, as the decree of the senate expressed it, for his victory over the Insubri and Germans. This is the first time that the Germans are mentioned in the Roman history, and the last mention we have of a personal contest between generals. Soon after this, the second Punic war broke out, and, after the fatal battle of Cannæ, he was sent against Hannibal; and, as prætor, took the command of the troops remaining at Canusium, in the room of Terentius Varro. On receiving information of Hannibal's march to Nola, he hastened to anticipate him, threw himself into the city, and forced the Carthaginians to retreat, with a loss. Hannibal made a second attack upon Nola, and, as the place was untenable, Marcello resolved to risk a general engagement on the open plain. His army was inferior in point of numbers, but had the advantage of longer spears. After a hard-fought battle, Hannibal was driven to his camp. Marcello was now chosen consul, with the celebrated Fabius Maximus Cunctator for his colleague. He frustrated a third attempt of Hannibal to regain the city of Nola, and again offered him battle, which the latter declined. His activity was interrupted for a time by disease. He afterwards went to his province of Sicily, where the siege of Syracuse was his most remarkable achievement. After having used every means (B. C. 214) to capture by force that city, which was defended by the mechanical ingenuity of Archimedes, he limited himself to a blockade, and frustrated all the efforts of the Carthaginians to relieve it, and succeeded, partly by artifice, and partly by force, in making himself master of the place (B. C. 212). The city was surrendered unconditionally, and he was unable to save it from pillage, but he gave orders that no Syracusan should be put to death. Many of the inhabitants, however, and among them Archimedes, were killed in the heat of victory. Marcello was filled with regret on account of the death of Archimedes, granted many privileges to his connexions, and caused him to be buried with much pomp. After having reduced the greater part of the island, and gained a complete victory over the Carthaginians, he returned to Rome, and received the honour of an ovation. He was again made consul (B. C. 211), with M. Valerius Lavinius, and again received the command in Sicily. But the Syracusans sent ambassadors to Rome to complain of his cruelty, and pray for another general. Marcello was acquitted, but he voluntarily exchanged provinces and remained in Italy. The Syracusans afterwards repented of their conduct, and entreated his forgiveness. He pardoned them, and procured them the restoration of their former privileges, and the honour of

being considered as allies of Rome. As a mark of gratitude, they declared themselves the clients of the Marcellian family. In the mean time, Marcellus carried on the war against Hannibal in Italy, and fought an undecisive battle at Numistrum. In the succeeding year, he was defeated by Hannibal at Cannus; but, having rallied the fugitives, and inspired them with fresh courage, he renewed the contest on the following day, and gained the victory, though with a heavy loss. B. C. 209, he was chosen consul the fifth time, with T. Quintius Crispinus. The two consuls united their forces on the Liris, but Hannibal avoided giving battle. The Romans, preparing to encamp upon a neighbouring hill, were suddenly surrounded; they would, however, have been able to cut their way through, had not the Etrurians, who composed the largest part of the cavalry, immediately surrendered. Marcellus himself fell; his son and the other consul escaped. Thus died this great general, who made himself formidable to Hannibal himself. He was called the *sword*, as Fabius was the *shield*, of Rome. Hannibal took the ring from his finger, and caused the body to be burnt with the most distinguished honours, and sent the ashes to his son, in a costly urn. His family continued to flourish, and furnished many consuls, until it became extinct with the son of Octavia, the sister of Augustus, whom Virgil has immortalized.

**MARCH** (Latin *Mars*); originally the first month of the Roman year; so named, according to tradition, by Romulus in honour of his father, Mars. Till the adoption of the new style in Britain (1752), the 25th of March was new year's day; hence January, February, and the first twenty-four days of March have frequently two years appended, as January 1, 1704, or 1701—2. See *Calendar*.

**MARCH**; a movement by regular steps in the manner of soldiers; also a journey performed by a body of soldiers either on foot or on horseback. Soldiers on a march are subject to certain rules very necessary to keep them in good order, and fit to meet the enemy. The march in the first sense of regular step differs on different occasions. In the parade-march, from seventy-five to ninety-five steps, differing in different armies, are made in a minute; in the quick-march, from 108 to 115 steps; and in the storming-march, 120 steps.

*March* further signifies the music composed for such movements; it is composed in 4 or 2 time for the parade-march, and in 3 for quick-time. There are many sorts of such marches for festivals, funerals, &c., varying according to their different purposes.

**MARCHE**; one of the ancient provinces of France, bounded north by Berry, and the Bourbonnais, east by Auvergne, and south by Guienne and Limousin. Its name is derived from its having been on the frontier of these provinces, and it was often called *Marche de Limousin*. In the middle ages, it had, for some time, its own sovereign counts. Philippe le Bel acquired it by confiscation. It afterwards belonged to the house of Armagnac, and that of Bourbon-Montpensier. Francis finally united it with the crown domains. See *Department*.

**MARCHES** (from the Middle Latin, *marca*, *marca*, a boundary); the frontiers of a state. Thus in English history, we read of the lords of the Welsh marches, that is, of the frontiers of England and Wales; the marches of Scotland were divided into west and middle marches. The office of the lords marchers was originally to guard the frontiers. (See *Marquess*.) The corresponding word in French is *marche* (see *Marche*), in German *mark*, in Italian *marca*. In the estates of the church was a province called *Marca*, divided into the march or marquise

of Ancona, and that of Fermo. In the Venetian territory was the *Marca Trevizana*. In Germany, the mark of Brandenburg or the vicinani mark (Lemark), was divided into the Muesmark, Vomermark, Altmark, Vomermark, and Uckermark. The marquisate (marquise of Stiria), Danemark (Danmark), the Margrave.

**MARCHESI, LUIGI**, called also *Bardone*, a celebrated singer, born at Milan, 1744. While a youth, having attracted the notice of some *cognoscenti*, he was encouraged to go to quit his father's house privately, went to Bologna, there subjected himself to the necessary studies. After completing his studies at Munich, 1767, he returned to his native country, where he was received with the greatest admiration and esteem. The academy at Pisa caused a medal to be struck in his honour; he afterwards sang at Rome, Vienna, Petersburg, Berlin, and in 1788 went to London, where the directors of the Italian opera gave him £1500 for one winter, with a benefit and expenses. Marchesi was not less remarkable for the beauty of his person, and his grace and proper gesture, than for his voice. He sang in Vienna 1801. The time of his death is unknown.

**MARCHFELD**; the Austrian circle under the Mannhartsberg, in the country below the Leitha (so called); particularly the fertile plain between the rivers March and Danube, about twenty-three English miles long and fourteen wide, the position of which has made it at several epochs the field of decisive battles, and which is one of great interest for the military student. Here, of Bohemia, defeated here, in 1290, Rich II of Hungary, and conquered Stiria, which he then remained united to Germany. In another battle fought here August 26, 1278, between Charles and Rodolph of Hapsburg, Ottocar fell. The day but the foundation of the house of Hapsburg, which is still seated on the throne of Austria. The first battle on this bloody plain was that of Aspern, May 21 and 22, 1809; and the fourth, the battle of Wagram, July 5 and 6, 1809.

**MARCION, MARCIONITES**. See *Gentiles*.

**MARCOMANNI, MARKOMANNI**, a powerful nation of ancient German nations. After Caesar's death, they lived between the Danube and the Rhine. After the Romans had conquered Noricum and Pannonia, and had become dangerous to the Marcomanni from their proximity, the latter retired, under their king, Maroboduus, made themselves masters of the kingdom of the Boii in the present Bohemia, called by the Germans *Bojenheim*. By artifice and violence, Maroboduus soon formed a union of a number of tribes under his sovereignty, and became dangerous to the Romans, as this league could bring 200,000 disciplined troops into the field. The Romans were prevented from attacking him by an agreement of the Pannonians; for which reason Trajan concluded a treaty with him, six years after Christ, but he was defeated by the Cherusci under Arminius (A. D. 19). The same was the fate of his successor, the Goth, Catualda. He fled to the Romans, who assigned them Ravenna and Aquileia for a residence. Relations of friendship now governed the Marcomanni, who ceased all hostilities against the Romans till the time of Maximian. They subsequently made incursions into the Roman territory. Trajan and Hadrian held them in check. They invaded Pannonia (A. D. 166). After a long conflict, which is celebrated in Roman history, under the name of the *Marcomannic war*, Antoninus the Philosopher drove them back beyond the Danube. Commodus purchased peace at a

which they observed, however, only so long as they were paid tribute, or Rome had a resolute ruler. They devastated Noricum and Rhetia, and even advanced through the passes of the Alps. Under Aurelian, in 270, they filled all Italy with consternation. But in the fifth century, the name of Marcomanni disappeared. The general migration of the nations consigned the names of the ancient tribes to oblivion. After the overthrow of the dominion of the Huns, the Rugii, Heruli, Scyri, Turcelingi made their appearance in the countries of the former Marcomanni. A powerful nation, the Baioarii, we find in the mountains of Noricum and Rhetia, which Mannert assigns strong reasons for regarding as the same with the Marcomanni, who had emigrated hither, being driven from their residences by the Rugii, Longobardi, &c. The Baioarii are the progenitors of the Bavarians.

MARCO POLO. See *Polo*.

MARCULPHUS; a monk, known in the history of the feudal law, for his work, entitled the *Formulary*, consisting of a collection of *formularia* or forms of forensic proceedings and legal instruments, including charters, &c., of the kings of France. He lived about the middle of the seventh century. Jerome Bignon published the formulary of Marculphus, with learned annotations, in 1613, reprinted in 1666; but the most complete edition is that of Baluze, in the second volume of his *Capitularies* (1677).

MARCUS AURELIUS. See *Antoninus*.

MARDI GRAS (Fat Tuesday) is the French name for Shrove Tuesday, because it was formerly, and, in many cases, is still, customary to make this a day of feasting and merriment, by way of preparation for the forty days' fast of Lent, which immediately follows.

MAREMME; tracts of country in Middle Italy, partly in the States of the Church, partly in Tuscany, in the region of Sienna, on the Tuscan sea, and on the western declivity of the Apennines, and partly also in Naples. These tracts, by reason of the unhealthy exhalations of a soil abounding in sulphur and alum, cannot be inhabited in summer without danger. This unhealthiness has been especially observed since the fifteenth century, and has already begun to advance to the Arno, this side of the Volterra, although Volterra rises 3600 feet above the level of the sea. The population of a region, which was thus become unhealthy, must emigrate, or be swept away by fever, and this *mal' aria* already prevails in different streets of Rome, which it will, perhaps, one day render uninhabitable. Whenever, from a diminution of culture, the vegetation consumes less of the mephitic air, the evil becomes worse. On the other hand, the Maremme afford, in winter, a luxuriant pasturage for cattle, which graze, in summer, on the Apennines, and, in this season, man himself experiences no difficulty in dwelling here, in houses, or in the open air. In the Roman Maremme, which, the former small proprietors having been bought out, have become, for miles, he depopulated possessions of a few princes, a small part of the land is used in years of scarcity, for the cultivation of wheat. The earth is ploughed in autumn; hired labourers, from far and near, take care of the harvest, and, on the field, thrash out the grain, which is then deposited in the great magazines of the estates, whence it is conveyed to Rome or to Ostia, for further transportation. These labourers are so careless, that they sleep under the few trees, in the open air, and if they are attacked with the fever, after some heavy dews at night, the steward of the estate gives them their dearly earned wages and loaf, with which they return to their mountains, unless previously overtaken by death. The more

salubrious atmosphere of their mountains often restores them but slowly. From the oppressive poverty of the Italian mountaineers (of those, at least, who do not carry on robbery for a livelihood), there is never any want of men and women, who come down during the harvest, in the face of death, to collect a few scudi, to pay their rents, and for bread. The younger these labourers are, the more liable are they to the deadly fever. The insalubrity, moreover, betrays itself neither by mist nor by an offensive atmosphere; on the contrary, the air seems very pure, and the horizon of a clear blue. In part of Tuscany, exertions have been made to improve the corrupted air in these pestilential regions, by planting trees; by this expedient, the evil has been lessened in a degree, but by no means entirely removed, as is proved, for example, by the environs of the Lago di Bolsena (lake of Thrasymene), which have much wood, but suffer from the *mal' aria*. There were meadows at Antium, which were in ill report for their unhealthiness, even in the times of the Romans. At present, these same meadows, provided the open air at night is avoided, are perfectly healthy: 2000, and even 1500 years ago, the whole Campagna di Roma was very densely inhabited, and a garden; and probably for that very reason, the country was as healthy as it now is the contrary. Since the period of the migrations of the nations, husbandry on a small scale, and the use of the spade, which Cato Major esteemed so highly, have disappeared; and the more the property in the Campagna di Roma became accumulated in the possession of religious corporations and in entailed estates, the more unhealthy became the ancient territory of the Romans. According to Lullien de Chateauvieux, the smell and vapours betray, everywhere in the Maremme, the presence of sulphureous springs, which form permanent quagmires. But this *mal' aria* cannot proceed exclusively from the waters of the marshes, or the nakedness of the land, for it is equally dangerous on the mountains and in the depths of the forest. The evil probably has its origin in the chemical properties of the soil developed by some latent operation of nature. Unless some means of remedying the unhealthy air be discovered, or some new volcano shall effect the purification of the atmosphere by eruptions, it is highly probable that Middle Italy, south of the Alps, may become, after the lapse of centuries, a desert, used in winter for the pasturage of cattle, and totally uninhabitable in summer. The Pontine and other marshes do not belong to the Maremme. These are a consequence of the imperfect draining of the lowlands, between the coasts of the sea and the foot of the Apennines. A grand canal along the foot of this chain of mountains, should receive all its waters, and, as its bed would be higher than the level of the Mediterranean, where the former mouths of the rivers have been filled with sand, and have thereby become choked, should carry them, by many broad and deep canals, frequently cleared out, into the sea. And if the lowlands, which it is impossible to drain thoroughly, were planted with thickly-leaved trees, and many small villages were settled there, these swamps would soon become healthy.

MARENGO; a village in the plains between Alexandria and Tortona, in the royal Sardinian duchy of Montferrat, celebrated for the battle of June 14, 1800. Bonaparte had passed the Alps, between the 16th and 27th of May, with 60,000 men. Melas, the Austrian general, discovered his danger too late. June 2d, Bonaparte had obtained possession of the fortress of Bardo, which commanded the entrance of the valley of Aosta; Murat advanced on Milan, Suchet took Nice, and Berthier defeated at Montebello the lieutenant field-marshal Von Ott.

June 13th, Desaix arrived from Egypt, at the headquarters of Bonaparte; the main body of the army was concentrated at Marengo: Desaix commanded the consular guard. On the 14th the battle was fought, in which Desaix was killed, and the Austrian army, under Melas, was driven beyond the Bormida, with a loss of 1200 killed, and 7000 taken prisoners. —About noon, on the day of battle, the French columns, under Lannes and Victor, destitute of ammunition, and reduced to half their number, were compelled to retreat. They retired under cover of Kellermann's brigade of cavalry. The slow advance of the Austrians, and the false direction of their numerous cavalry, gave the remains of the French army time to rally behind the corps of Desaix, which the first consul had already ordered to Novi, to cut off the enemy's retreat to Genoa, but which was now recalled in haste. Desaix had taken his position at St Giuliano, on the left side of the road from Tortona to Alexandria, when Kellermann arrived with his brigade of cavalry, having received from the adjutant Savary the command to support the attack of this general. Thus the battle was renewed. Kellermann had only 400 horse, and those fatigued by an eight hours' contest. The infantry of Desaix was about 3000 or 4000 strong. The enemy was certain of victory. Desaix was mortally wounded at the first attack, and his little corps, unable to resist, retreated. Behind the vineyards which covered him, Kellermann saw 6000 Hungarian grenadiers break their ranks in pursuit of the French. He threw himself into the midst of the enemy, who, terrified by this unexpected attack, cut off from their cavalry, and thinking themselves surrounded, threw down their arms before the little band. The Austrian main body supposed that the enemy had received a powerful reinforcement, and fell back, in haste and disorder, to Bormida. Thus Kellermann decided the victory. This defeat led to the armistice of Alexandria, between Bonaparte and Melas, according to the terms of which the Austrians evacuated within fourteen days, the citadels of Alexandria, Tortona, Milan, Turin, Pizzighitone, Arosa, and Piacenza, with the fortified places of Genoa, Coati, Ceva, Savona, and Urbino, and retired beyond Piacenza, between the Po and the Mincio.

MARFORIO; a colossal statue, representing the river Rhine, in a lying posture, and standing in the court of a wing of the Capitol at Rome. The name *Marforio* is said to be a corruption of that of the *Mamertine* prison or of the temple of *Mars*, which were near the spot where this statue originally stood, on the *forum Romanum*. The *Marforio* is famous for having served, like the *Pasquino*, as the place where the Roman satirists placed their sallies.

MARGARET, queen of Denmark, Norway, and Sweden, very justly called the *northern Semiramis*, the daughter of Waldemar III., king of Denmark, was born at Copenhagen, in 1363, and married to Haquin or Hacon, king of Norway, in 1363. The talents, firmness, and beauty of the princess rendered her popular among her countrymen, and, on the death of her father, she succeeded in placing her son Olaf on the throne of Denmark. The death of her husband in 1380, put the government of Norway in her hands, and the plan of uniting the three kingdoms, which was favoured by the imbecility of the Swedish monarch, seems now to have occupied the mind of this princess. Olaf died in 1387, and Margaret, by her address, caused herself to be declared queen. Taking advantage of the domestic dissensions in Sweden, and flattering the nobles with the prospect of greater power, she raised a party in that country who recognised her as queen; and having defeated the troops of Albert, the Swedish king, at Falkenberg,

she soon obtained possession of the throne. Looking forward to a permanent union of the three crowns, she endeavoured to effect her purpose in the celebrated act of union, or treaty of *Cumar*, 1397. She restored tranquillity at home, and on account against the foreign enemies of her kingdom, but her peace was disturbed by the ingratitude of her son, whom she had nominated her successor. She died in 1405, after having, by her prudence, courage, and foresight, raised herself to a degree of power and grandeur, then unequalled in Europe but to that of Charlemagne. See *Norway*, *Sweden*, *in Denmark*.

MARGARET OF ANJOU, daughter of Roger, or René the Good, titular king of Sicily, as married in 1443, to the imbecile Henry VI. of England. By the marriage articles, Maine was given to her uncle Charles of Anjou, and she caused to take the conquest of Normandy by the French. In loss of this important province was obtained Margaret, and the house of commons almost told the author of her marriage and the fortunes of the queen, of high treason. He was banished from kingdom. Soon after the execution, and when having quitted the country, he was arrested, in the war of the roses, which soon began to cross England, Margaret played a conspicuous and important part. The bold, active, and even fierce ways of this princess, contrasted singularly with the character of her husband. She was far a cry to the life of the Lancastrian party. She defied the duke of York, and, placing a paper crown on his head, exposed him at the gates of the city of York. In 1461, the princess defended Warwick, a 1st Albany, and her victories were always attended with numerous executions. The son of the late duke of York, the gallant young Edward, was opposed to the head of the Yorkists, who now became queen Margaret's army was annihilated at Tewkesbury, and Edward was declared king. (See *Edward IV*.) The unhappy queen succeeded in obtaining ransom from Louis XI. of France, but was again defeated and compelled to flee. After committing herself to the wildest parts of the country, where she was often compelled to suffer the greatest privations, she was endured the greatest indignities from the hostile bands, with which the distracted kingdom was infested, the queen finally took refuge in France. It was not long before Warwick became entangled with the young king, and determined to seize Henry on the throne. Edward was in some danger to escape to the continent, but, having desired assistance from the duke of Burgundy, married England after a few months, and defeated Warwick at Barnet, on the very day that Margaret sailed for England with her son, then eighteen years of age. On hearing of the defeat and death of her champion the courage of Margaret seemed for once to fail her, and she took refuge in the monastery of Barking. But her undaunted and marvellous courage led her to the field; having collected her faithful the hostile forces met at Tewkesbury, and the Lancastrians were totally defeated. Her son was killed before the king. "How dare you," said Edward, "enter my realm with banner flying?" "I thought my father's kingdom," answered the queen, "with spirit of his mother," and having taken from his father and grandfather to him, and from him to our king descended." Edward pushed him back, and 6 barbarous lords despatched him. Henry was killed, if he was not murdered, in the Tower, and Margaret remained in prison four years. Louis XI. ransomed her for 50,000 crowns, and, in 1470, died, "the most unhappy queen, with, and without says Voltaire, "in Europe." Her courage, her

ferings, and her crimes have been delineated with historic truth and poetic beauty by the genius of Shakspeare.

MARGARET OF AUSTRIA, daughter of the emperor Maximilian I., born in 1480, was sent to France, after the death of her mother, Mary of Burgundy, to be educated at the court of Louis XI., to whose son (Charles VIII.) she was affianced. Charles, however, having married Anna, heiress of Brittany, she was sent back to her father's court, and was married in 1497 to John, Infant of Spain. On the voyage to Spain, a terrible storm threatened the destruction of the ship. In the midst of the danger, while the rest of the company were at their prayers, she is said to have composed her epitaph in the following words:

*Cy git Margot, la gente demoiselle,  
Deux fois mariée et morte pucelle.*

She arrived in safety, but, October 4, 1497, the Infant died. In 1501, she was married to Philibert II., duke of Savoy, who died in 1504. Her father then named her governess of the Netherlands, where her administration was distinguished by prudence and vigour. She died in 1530. Jean le Maire collected her addresses before the court and the estates, in the *Couronne Margaritique* (1549), which contains also many poems, and her *Discours de sa vie et de ses infortunes*. Fontenelle has made her a speaker in one of his witty Dialogues of the Dead.

MARGARET OF VALOIS, queen of Navarre, sister to Francis I., was born at Angoulême in 1492. She was brought up at the court of Louis XII., and married the duke of Alençon in 1509, became a widow in 1525; and in 1527, was espoused to Henry d'Albret, king of Navarre. She joined with her husband in every effort to make their small kingdom flourish, by encouraging agriculture and the useful arts, and by improving knowledge and civilisation. She was fond of reading, and had been led by curiosity to make herself acquainted with the principles of the reformers, to which she became partially a convert, and not only afforded protection to reformed divines, but used her influence with her brother Francis to the same purpose. She also read the bible in the French translation, and formed mysteries for representation, from the New Testament, which she caused to be performed at court. She wrote a work entitled *Le Miroir de l'âme pécheresse*, printed in 1533, which incurred the censure of the Sorbonne. She underwent some ill treatment from her husband on this account, and might have suffered more, but for the interposition of her brother, Francis I., who was much attached to her, and in complaisance to whom she, externally at least, became more strict in her attention to the ceremonial of the ancient religion. It will appear extraordinary in the present day, that a princess so contemplative and pious as Margaret of Valois, should be author of a book of tales as free in their tendency as those of Boccaccio. Such is *leptameron, ou sept Journées de la Reine de Navarre*, which was written during the gayety of youth, and not printed until after her death. She died in 1549, leaving one child, Joan d'Albret, afterwards mother of Henry IV. In 1547, a collection of her poems and other pieces was printed, under the title of *Marguerites de la Marguerite des Princesses*.

MARGARET, called *Madame de Parma*, duchess of Parma, the natural daughter of Charles V. and Margaret of Gest, was born 1522, and married first Alexander of Medici, and afterwards to Octavio Farnese, duke of Parma and Piacenza. Philip II., of Spain, appointed her to the government of the Netherlands, in 1559, where she acted, under the advice of Granvella (q. v.), with considerable prudence, and, perhaps, might have restored quiet, had

not the king sent the duke of Alva to aid in suppressing the disaffection. Alva brought such powers, that nothing but the title of sovereign was left to Margaret, who returned, indignantly, to Italy, to her husband, and died at Ortona in 1586. Her son was the famous Alexander Farnese, duke of Parma.

MARGARET OF FRANCE, queen of Navarre, wife of Henry IV., daughter of Henry II., was born in 1552, and was one of the greatest beauties of her age. Her talents and accomplishments corresponded to the charms of her person. She was married to Henry, then prince of Béarn, in 1572; but the duke of Guise was known to be the object of her affections, and notwithstanding her amiable qualities and brilliant beauty, she never possessed the heart of her husband. (See *Henry IV.*) The gallantries of Henry, which he never pretended to conceal from his wife, could not excuse nor authorize, but doubtless contributed to increase, her own irregularities. On the escape of Henry from Paris, she demanded permission of Henry III. to follow him, but was not, for a long time, allowed to depart. After living several years with the king of Navarre, she returned to Paris, on account of some disgust at the restraints placed on the exercise of the Catholic religion, and while there was guilty of the greatest licentiousness. Rejected at once from the court of Navarre and that of Paris, she maintained herself in the Agenois, in open defiance of her husband and brother. On the accession of the former to the throne of France, he proposed to dissolve their marriage, to which she consented, on condition of receiving a suitable pension, and having her debts paid. In 1605, Margaret returned to Paris, where she lived in great splendour, retaining her beauty, wit, and habits of dissipation, and died in 1615, at the age of sixty-three. The house of Margaret was frequented by the wits of the day, and she knew how to unite excessive indulgence in pleasure with attention to study. Some very agreeable poems by her are extant, and her *Mémoires* (1661 and 1713) are extremely curious.

MARGATE; a watering place in the isle of Thanet, Kent, 71 miles E. of London, with which it has frequent communication by steam vessels. It has several pleasant promenades, among which the pier is the favourite. It is much resorted to for sea-bathing. Population, in 1831, 10,339.

MARGRAVE (from the German, *Markgraf*, count of the mark; in Latin, *Marchio*; see *Marches*); originally a commander intrusted with the protection of a *mark*, or a country on the frontier. As early as the times of Charlemagne, marks and margraves appear; for instance, the mark of Austria. The margraves stood immediately under the German kings and emperors, and not under the dukes, in whose country the margraviate was situated; yet there were also some margraves dependent on dukes. In the twelfth century, margraviates became hereditary, and, at last, the margraves acquired the rank of princes of the empire, and stood between counts and dukes in the German empire. The word *mark* signified, anciently, a land-mark, and was then taken for countries on the frontier; as the mark Brandenburg.

MARIA LOUISA, queen of Spain, daughter of Philip duke of Parma, born in 1751, was married to Charles IV., against his wishes, but in obedience to the express commands of his father, in 1765. Maria was prudent, not without address, and much superior to her husband in understanding. She soon overcame the violent temper of Charles, which at first broke out into acts of personal outrage, and so far prevailed over the formality of the Spanish court as to have unrestricted access to the king. Every thing was submitted to her approval. For her

favourites she took care to secure the favour of the king previously to avowing her own inclinations, and thus had the merit of appearing to yield to the wishes of her husband. Even while princess of Austria, an intrigue with the elder Godoy was only terminated by his banishment from Madrid. His place was supplied by his younger brother, don Manuel Godoy (q. v.), who became equally the favourite of Charles. (See *Charles IV.*) Their intrigues led to the affair of the Escorial, in which Maria acted a most unnatural part against her son. (See *Ferdinand VII.*) In 1808, the revolution of Aranjuez took place, Charles abdicated, and Maria threw herself into the arms of the French. Charles was obliged to retract his abdication, and that celebrated correspondence with Murat followed, in which Maria Louisa, in a letter written with her own hand, accuses her son of hardheartedness, cruelty, and want of affection for his parents. After the well-known proceedings at Bayonne, Maria Louisa remained in France a short time with Godoy and the ex-king, and finally went to Rome, where she died in 1819. See *Spain*.

MARIA THERESA, queen of Hungary and Bohemia, arch-duchess of Austria, and empress of Germany, daughter of the emperor Charles VI., was born at Vienna, 1717, and, in 1736, married duke Francis Stephen of Lorraine (who, in 1737, became grand-duke of Tuscany, by virtue of the treaty of Vienna, October 3, 1735); the day after the death of Charles (October 21, 1740), ascended the throne of Hungary, Bohemia, and Austria; and, November 21, declared her husband joint ruler. She found the kingdom exhausted, the people dissatisfied, the treasury empty, and the army (with the exception of the troops in Italy) only 30,000 strong. The elector, Charles Albert of Bavaria, supported by France, laid claim to the Austrian hereditary territories, and the electors of Cologne and the Palatinate would likewise not acknowledge the succession of Maria Theresa. Charles Albert of Bavaria was descended from Anna, elder daughter of Ferdinand I., who, by will, had appointed that, upon the extinction of the Austrian male line, the succession to the throne of Bohemia and Austria should devolve upon his daughters and their heirs. Meanwhile Prussia, Poland and Saxony, Russia, the States-General and England, declared for the queen. France only delayed to make an express acknowledgment. Just in this situation of the Austrian court, Frederic II. renewed his claim to four Silesian principalities, and offered, if he received them, to defend the young queen against her enemies. At the same time (December 23, 1740), he marched with an army into Silesia. Maria Theresa was as much surprised as enraged at this step of the king, and Frederic's offers were refused altogether. Meanwhile, the king made rapid progress in Silesia, where the Protestants, who were much oppressed by the government of Austria, received him with joy. The queen of Hungary, although she could nowhere find an ally, with great resolution refused any kind of submission, and collected an army in Moravia, under general Niepperg. But the want of magazines, and the bad roads, prevented Niepperg from acting effectively. The Austrians were beaten at Molwitz, April 10, 1741. Marshal Belle-Isle, in the name of France, now negotiated with the king of Prussia, at Molwitz, upon the dissolution of the Austrian monarchy. Philip V., king of Spain, as a descendant in the male line of the house of Hapsburg, by virtue of the family contracts of 1617, laid claim to the throne of Austria; Charles Emanuel, king of Sardinia, a descendant of Catharine, second daughter of Philip II., demanded Milan; Augustus III., notwithstanding the treaty

just concluded by him with Maria Theresa, and similar demands on account of his own daughter of Joseph I. France had already contrived a plan of diversion; however, France would not accede to it, lest France should become too powerful in Germany, as under George II. of England, hoping, by so doing, to induce the queen of Hungary to consent. But she remained determined to defend the inheritance of her fathers, and England promised her a subsidy of £500,000. She had even announced the design of dividing the states of Prussia, and invited the king of England to invade them. But Great Britain would not negotiate a peace. Bavaria, on July 17, 1741, began the war against Austria, and the French armies having crossed the Rhine as to Maese; Frederic, likewise, having conquered all Silesia; the attempt at mediation, by the king of England, proved fruitless. Maria Theresa considered herself not warranted in giving up the eastern part of her kingdom. She became so fixed in this determination, by the birth of her son duke Joseph. Her husband had no share and interfered little in the business of government. Hardly had the negotiations with France been broken off, when Belle-Isle with a French army as the elector of Bavaria, marched into Austria. It was taken, and the elector acknowledged himself king. The Bavarians and French marched on to Vienna and Vienna was summoned to surrender. The king of England, who wished to send assistance to Maria Theresa, was compelled, by a secret French order to conclude a treaty of neutrality, in respect to her, and to promise not to oppose the entrance of the elector of Bavaria to the imperial throne. The electors of Saxony, of Cologne, and of the Palatinate acceded to the union against Maria Theresa. Just on the point of entering Italy, had received the neutrality of the pope and the remaining Italian powers and the king of Sardinia was prepared to add his troops to those of the house of Hapsburg. Frederic was master of the capital, and at the point of uniting himself with the French in Vienna. Maria Theresa's cause was desperate, broken by her allies, without troops, or money, or post-officers, she was preserved only by her courage, by the attachment of the brave Hungarians, and by the aid of England. In this necessity, she summoned her husband at Presburg, and appeared before the assembly in mourning, clothed in the Hungarian habit, the crown of St Stephen on her head, and cut with the king's sword. She addressed a speech, a letter to the states, in which she described her situation and committed herself and her children to the protection of her Hungarians. The result, the beauty, and the misfortunes of the queen, made a deep impression. The magnates drew their hats and exclaimed, "*Memento pro rege nostro Maria Theresa.*" Till then she had preserved a majestic demeanor; now she melted into tears, and the interest was still more increased. The help furnished by Hungary, by their manner of fighting, and by their ferocity, spread terror through the German and French armies. In the mean time, the allies quarrelled among themselves, so that the pride of Belle-Isle much contributed, who would treat the German princes as vassals of France. Bavaria and Saxony contended for the supremacy. The king of Prussia therefore concluded, under British mediation (October 9, 1741), a secret treaty with the English ambassador (who was treated with courtesy, for this purpose, by the queen of Hungary), according to which Lower Silesia was to be rendered to Prussia. Soon after (October 26) the

was conquered by the French and Bavarians, and the elector (November 19) was crowned king of Bohemia. He was likewise crowned emperor of Germany, at Frankfort, February 12, 1742, and took the name of *Charles VII.* But his troops were defeated near Scharding (January 23, 1742), and the electorate occupied by Khevenhiller, who gave up the land to be plundered by his army, and entered Munich upon the same day upon which Charles was crowned emperor. Frederic II., alarmed for Silesia, in consequence of the progress of the Austrians, put an end to the truce, pressed forward to Iglau, invaded Austria, and his hussars spread terror even to the gates of Vienna. He was obliged to retire, and Maria Theresa rejected his renewed proposals of peace; but the victory of Frederic at Chotusitz (May 17) hastened the conclusion of the preliminaries of peace, at Breslau (June 11, 1742). The queen ceded Upper and Lower Silesia and the county of Glatz, with the exception of the principalities of Teschen, Jagerndorf, and Troppan, and the mountains on the other side of the Oppa. The definitive peace was signed the 28th July, under the guarantee of England. From this time, the arms of Austria were victorious; prince Charles of Lorraine drove back the French to Braunau, and blockaded Prague. The general opinion that the balance of Europe depended upon the continuance of the house of Austria, excited England to arm for Maria Theresa, and Holland paid her subsidies. In Italy, the king of Sardinia, injured by Spain, became reconciled to Maria Theresa (who ceded to him a part of Milan), and supported the Austrian arms against Spain and France. The internal condition of the latter country, and the age of the prime minister, cardinal Fleury, induced this statesman to think of peace. Maria Theresa rejected the proposed conditions. Maillebois, the French commander, received, therefore, orders to press forward from Westphalia to Prague. But prince Charles of Lorraine went to meet him with a part of his army, and Maillebois was compelled to give up his intention of relieving Prague. Belle-Isle, however, escaped by artifice with the greater part of his garrison, out of the unfinished city, and marched to Eger. The whole of Bohemia was now, as far as Eger, in the power of Austria, and Maria Theresa was (May 12) crowned queen of Bohemia.

After the death of Fleury (January 9, 1743), the arms of Austria triumphed throughout Europe. England granted new subsidies, and Sardinia received £200,000 in order to support the queen of Hungary. The States-General supplied 6000 auxiliary troops. The French were now driven out of the Upper Palatinate, by prince Charles of Lorraine, and the Bavarians, beaten in their own territories a short time before, conquered by him. The emperor, Charles VII., concluded, therefore, with the queen of Hungary, a treaty of neutrality, according to the terms of which he delivered to her, until a general peace, his hereditary states, and renounced his right of succession to the Austrian territories. The victory of the so called *pragmatic army*, consisting of English, Hanoverians, Austrians, and Hessians, over the French, at Dettingen on the Maine (June 27, 1743), where George II. of Britain fought in person, affirmed the queen and her allies still more in the determination to humble France. But through a want of unanimity, the plan, that prince Charles of Lorraine should enter France, was frustrated. The emperor Charles VII., stripped of his states, had fled, with George II., the preliminaries of peace, according to which he broke off his connexion with France, and agreed to other stipulations favourable to the court of Vienna. In return for these, he was

to be recognised as emperor, and, for the support of his dignity and for the recovery of his states, was to receive subsidies. George promised to obtain Maria Theresa's consent, but she insisted on the deposition of Charles, and wished to retain Bavaria. As little was she inclined to transfer to the king of Sardinia the provinces promised him in the Milanese. Sardinia assumed, therefore, a threatening position. This and the representations of Britain compelled the queen, at length, to compliance. She gave up to Sardinia the province of Vigevano, together with some other districts, relinquished her claims on the margravate of Finale, and gave to king Charles Emanuel III. the chief command of 30,000 Austrian troops in Italy. But in spite of this, as well as of the previous victory of the Austrians near Campo Santo, over the Spaniards (Feb. 8, 1743), the Spanish and French, under the Infant don Philip, subjected all Savoy. As now prince Charles of Lorraine could not effect his entrance into France, he returned to Vienna, where he married the archduchess Maria Anna, the sister of Maria Theresa, and received, as the reward of his service, the general government of the Netherlands. Until 1744, Britain and France had fought against each other as auxiliaries to the chief contending parties. Now followed a formal declaration of war on the side of France, as well against Britain (March 15) as against Austria (April 11). The French conquered the most important fortresses in the Netherlands, and marshal Saxe threatened to subdue the whole country, when prince Charles of Lorraine fell upon Alsace. Already the Austrian light cavalry had spread terror to the gates of Luneville, and king Stanislaus was compelled to fly from the place. The king of France, nevertheless, prepared a great force to meet the prince, and Charles was recalled, in order to oppose the king of Prussia, who had again taken up arms. The proud and passionate Maria Theresa had refused to acknowledge the emperor at the diet of Frankfort. Moreover, she let her purpose be too plainly seen of holding Bavaria, of making conquests in France and Italy, of again taking Silesia, and, in connexion with Saxony and Britain, of dividing the Prussian states. Frederic, therefore, in order to anticipate her, and for the defence of the emperor, formed (May 22, 1744) with the emperor, with France, the elector of the Palatinate, and the king of Sweden, as landgrave of Hesse, a union at Frankfort. Accordingly, in August, he made an irruption into Bohemia, with 80,000 men, conquered Prague and the whole province upon the east side of the Moldau. The Bavarian and Hessian troops, at the same time, pressed forward into Bavaria, and placed the emperor again in possession of his capital. The terror of them spread even to Vienna, but Maria Theresa remained unshaken. She animated her Hungarians at the diet of Breslau, and these, assisted by Saxony and the Austrians, hurried to the deliverance of Bohemia. Charles of Lorraine also hastened out of Alsace and Lorraine, to the borders of Bohemia, and the Prussians were again compelled to quit the kingdom. On the other hand, France conquered Freiburg, the Austrian bulwark on the west, and pressed forward into the Netherlands. Even in Italy, the Austrian commander, prince Lobkowitz, after he had driven back the Spaniards, and almost made prisoner don Carlos, king of Naples, near Belletre, was compelled to retreat to Lombardy, on account of a want of troops. But the death of Charles VII. (Jan. 20, 1745) opened a new field to the ambition of Maria Theresa. France endeavoured anew to wrest from the house of Austria the imperial throne. But the cause of Austria prevailed, in spite of French artifice, at the Russian court. Britain also assisted the queen, Maria Theresa, again

with troops and money. The object of the union of Frankfort having failed, Frederic II. sought the intervention of Great Britain, in order to be reconciled with Austria.

In the mean time, Maria Theresa concluded a treaty (April 22, 1745) at Fuesen, with the new elector of Bavaria, by which the latter recognised the pragmatic sanction, and pledged himself to remove the foreign auxiliaries from his states, and to vote for the accession of the duke of Lorraine, the husband of Maria Theresa, to the imperial throne. The queen of Hungary had, besides, concluded a quadruple alliance with the king of Poland, with Holland and England (June 8, 1745), at Warsaw, as well as a treaty at Leipsic (May 18), in which secret articles were introduced respecting the division of the Prussian states between Austria and Saxony. During these proceedings, the French made some progress. After the victory of marshal Saxe over the allies, near Fontenoy (May 11, 1745), the most important places of the Austrian Netherlands fell into the hands of the French. In Italy, where Genoa united itself with Spain, the French and Spaniards took a great part of the Milanese territories, and the king of Sardinia was compelled to withdraw to his capital. In Germany also, Frederic delivered himself from a critical situation by his victory over the Austrians and Saxons, at Hohenfriedberg (June 4, 1745). Soon after, the British cabinet concluded, at Hanover, a secret treaty with Frederic, in which Silesia was guaranteed to him, in conformity with the peace of Breslau. But the queen of Hungary and the elector of Saxony showed no inclination to negotiate.

Meantime, Charles of Lorraine was defeated near Sorr, by Frederic II., and Maria Theresa had merely the consolation of having her husband, Francis Stephen, chosen emperor (September 13). October 4, he was crowned with the title of *Francis I.* At this solemnity, Maria Theresa was the first to exclaim, from a balcony, "Long live the emperor Francis I." Notwithstanding her finances were entirely exhausted, and even the silver vessels of the churches had been sent to the mint, the imperial queen was unwilling to consent to peace. The Prussian proposals were altogether rejected, revenge was sought for, and Maria Theresa embraced the bold plan of marching an army, composed of Saxons and Austrians, against Berlin. Besides, she expected powerful support from Russia; but Frederic was beforehand with her: he defeated the Saxons, near Hennenndorf (November 23), upon which Charles of Lorraine drew back, from Lusatia to Bohemia, and the defeat of the Saxons, near Kesselsdorf (Dec. 15), made the Prussians masters of the whole electorate of Saxony. The imperial queen did not yield to her own misfortunes, but, moved by the fate of her allies, concluded, under the British mediation (Dec. 25, 1745), the peace of Dresden, in which Frederic received Silesia, and Maria Theresa was recognised as queen of Bohemia, and her husband as emperor. This peace was so much the more necessary for Austria, as Britain, on account of the landing of the Pretender in Scotland, had been obliged to withdraw her auxiliary troops from the Netherlands, by which means the French had gained a superiority there. May 4, 1746, Louis XV. made his entry into Brussels, and, with the exception of Luxembourg, all the Austrian Netherlands was in the hands of the enemy. The loss of a battle near Rocou (October 11), increased the misfortunes of Austria in this quarter. On the other hand, the army of the empress was victorious in Italy, under the prince of Lichtenstein, at San Lorenzo, over the Spaniards and French; and when, after the death of Philip V., his successor,

Frederic VI., withdrew his troops from Italy, the Austrians obtained a complete supremacy, and, particularly, blockaded Genoa. The French blockaded the same by sea, and the city sustained almost without any conditions, to the human. But, exasperated by extortions, the citizens drove the imperial general Botta (who had 600 men, his whole artillery and baggage) from Genoa and its territories (December 5—9). Meantime, as well as France and Spain, wished to join. But the imperial queen had made a delicate alliance with Russia (May 22, 1746), to which no island and Britain had acceded. The French, however, drove the Austrians from Provence, which he had laid waste, and freed Genoa (1747), when he was besieged anew. In the Austrian Netherlands, he made still greater progress. But the advance of the Russians into Germany, and the victory of Lord Hawke over a French squadron, by which the sea force of France was destroyed, hastened the pace. April 30, 1748, the preliminaries were signed to France, Great Britain, and Holland; they terminated the peace of Aix-la-Chapelle (November 18), which, also, Spain, Austria, and Sardinia signed. Maria Theresa was acknowledged as the lawful mother of her father's kingdom; the Infant don Philip claimed only the duchies of Parma, Placencia, and Tuscany; several provinces also ceded to the king of Sardinia by the treaty of Worms, were left to him.

Maria Theresa now turned all her attention to the restoration of her finances and the improvement of the army. The yearly income, which, in the time of Charles VI., had amounted only to 20,000,000 roubles, by prudent management, to 30,000,000 roubles, although Parma and Silesia, which had also produced 6,000,000, were lost. The army consisted of 108,000 men, besides the troops in Italy and the Netherlands, and the whole military department, under the direction of Daun, was placed upon a better footing. Maria Theresa also made great changes in the administration of justice, of the finances, and of the police. Though she unwillingly allowed herself to be governed, yet, from her inexperience, she did not rely upon herself, and sought to procure exact information by consultations with her council, her husband, and others. The difference of opinion of two of her counsellors, Waser and Kaunitz, frequently led her to waver between opposite measures until she at length confided to the more pliable prince Kaunitz, the chief direction of public affairs. Several causes of dissension, which were then between Britain and Austria, induced the latter to think of a reconciliation with France; and Maria Theresa, in spite of her pride and her strong principles, consented, upon the advice of Kaunitz, to write very kindly to the marchioness of Pompadour, who, ensnared by this conciliatory of the greatest queen of Europe, exerted all her influence to effect the connexion which Maria Theresa desired. Yet her endeavours were foiled, at the same, by the counter representations which the friends of Frederic II. and the enemies of Austria made to the court of Versailles.

In 1755 arose dissensions between Britain and France, respecting their possessions in America, and Great Britain demanded aid of Austria. This she refused, and thus the foundation for the dissension of these powers, hitherto friendly, was laid. Frederic II. made use of this opportunity, and concluded with George II. (Jan. 16, 1756) a treaty, in which they mutually agreed to prevent the entrance of foreign troops into Germany. The marchioness of Pompadour, in this year, effected a change in the French ministry, and this made it possible to establish friendly relations between the courts of Vienna and

Versailles. Maria Theresa concluded now (May 1) the union with France against Frederic the Great, which occasioned the seven years' war (q. v.; also *Frederic II.*). After the conclusion of this unfortunate war, Maria Theresa's son, the archduke Joseph, was chosen Roman king, March 27, 1764, by which means the imperial queen confirmed her family in the possession of the German imperial dignity. Her husband, the emperor Francis, died Aug. 28, 1765, and his death caused her deep and lasting distress.

Joseph II. was now emperor, but, although declared by his mother, her colleague in his hereditary possessions, he mingled as little as his father had done in the internal government. Only the direction of the army was given to him. Maria Theresa founded and improved schools, universities, and academies, and granted prizes to the students. She rewarded also those who made any important improvements in the arts, and turned her attention particularly to agriculture, which was denominated, on a medal that she caused to be struck, the support of all the arts. Still greater was her merit in the abolition of many abuses of the church. She reduced the presence of the clergy at the making of wills, deprived the church and the convents of their gift of sanctuaries, and suppressed the inquisition in Milan. She abolished the order of Jesuits, and prohibited the admission of individuals of both sexes into convents before the age of twenty-five years. She also abolished the rack in all her states. Apparently through the influence of Kaunitz, she concluded at Petersburg (Aug. 5, 1772), with Russia and Prussia, the agreement for the partition of Poland. In this partition, she received Galicia and Lodomeria (27,000 square miles, with 2,500,000 inhabitants). To induce her to abstain from farther demands, the Porte was compelled to give up Bukovina to her (Feb. 25, 1777). Austria was now in a prosperous situation. It had 260,000 troops, and an income exceeding its expenditures. The political dissension therefore sought, by the marriage of the archduke with the daughter of Maria Theresa (1770), afterwards so unfortunate Maria Antoinette, to make a closer union between France and Austria; and the court of Vienna acceded to the proposal, hoping, the accession of Louis XVI. to the throne, to gain a powerful influence over the cabinet of Versailles. About this time, the death of the elector of Bavaria (Dec. 30, 1777) produced the Bavarian war succession. (See *Teutchen, Peace of.*) Austria refused, on this occasion, the Inviviertel; but the line of her influence over Germany was perceived. After this peace, the court of Vienna sought to unite Britain as well as Russia more firmly to it, in order to procure for the archduke Maximilian the electoral dignity of Cologne and the bishopric of Munster, which was at last effected, in spite of the opposition of Frederic II. Thus had Maria Theresa obtained for her three younger sons government of important states: for Leopold, the grand duchy of Tuscany; for Ferdinand, by a marriage with the daughter of the duke of Modena, the possession of that duchy; and for Maximilian, the title of elector and bishop of Cologne and Munster, her six daughters, the two younger were united to, namely, of France and Naples; and the house of Austria, which, in 1740, seemed on the brink of ruin, was now, by the internal situation of its states, as well as by its foreign family and other connections, at the very summit of power.

Maria Theresa died Nov. 29, 1780, at the age of sixty-three. As a ruler, she was unceasingly active. She loved her children with the deepest tenderness. Her servants she was very kind. The welfare of her subjects was her highest aim. But she lent an

ear too easily to spies and informers, and endeavoured to introduce them into the privacy of families. Her great piety bordered upon enthusiasm, and made her intolerant; hence the pernicious restraint of the press, &c. She wrote two or three books of devotion, of which one was published at Vienna (1774). She sometimes gave way to her passions, yet knew how to control herself quickly. When young, she was one of the handsomest women of her time. In advanced age, she became very corpulent. The small-pox, in 1767, and, soon after, a fall from a carriage, which nearly deprived her of sight, destroyed her beauty. After the death of her husband, she appeared to be sunk in deep melancholy, and neglected her appearance entirely. She deserves to be recorded as an instance of conjugal love. Of sixteen children, which she bore the emperor, ten survived her. The four sons and the two younger daughters, we have noticed above. Of the four elder ones, the first was abbess of Prague and Klagenfurt; the second, Marie Christine (the favourite of her mother), was married to duke Albert of Saxe-Teichen, a son of Augustus III., king of Poland; the third was abbess of Innsbruck, and the fourth, wife of the duke of Parma.

MARIANA, JUAN, or JOHN, one of the first Spanish historians, was born at Talavera, 1536, devoted himself to the clerical profession, and entered the society of the Jesuits. At the university of Alcalá, he acquired that pure taste and that eloquence which are found in his writings. He then journeyed, and taught theology, for thirteen years, with distinction, in Rome, Sicily, and Paris. The climate of the latter city, however, and still more his indefatigable industry, undermined his health, so that he returned, in 1574, into the Jesuits' college at Toledo. He now wrote his *Historia de Rebus Hispaniæ* (first ed., Toledo, 1592), in elegant Latin, that the great deeds of his countrymen might become known to all nations. His tone is impartial, though he ardently loves Spain, and admires Spanish virtue. Though a Jesuit, he complains of pope Alexander VI., and says that he caused Cæsar to leave the clerical order *contra fas, contra auspicia, contra omnia aequitatis jura*. Though a Spaniard, he is not blindly prejudiced for his king. He describes, with sorrow, the conquest of Naples; and his censure of Ferdinand is moderated only by considering his good qualities as personal, his bad ones as common to all princes. His style is elegant, and often beautiful and concise. His freedom excited the suspicions of the inquisition. He has not, however, much claim to originality. Ranke, in his *Zur Kritik neuerer Geschichtschreiber* (Leipsic and Berlin, 1824), says that, having made excerpts of Mariana and Zurita throughout, he hardly found a single instance in which Mariana followed sources peculiar to him. Every thing important appears to have been taken from Zurita, because they agree entirely; and Zurita's work preceded Mariana's considerably, having been dedicated to the deputies of Arragon, in 1579, while the five last books of Mariana's History appeared in 1605. Ranke concludes, therefore, that Mariana cannot maintain a place among the sources of modern history, but admits that his nature and spirit will always render him worth reading. The great success of Mariana's work, and the fear of seeing it badly translated, induced the author to translate it into the Castilian idiom himself, with those improvements which the progress of years had suggested to him. Four editions of the translation appeared during his lifetime, each with corrections and additions. Excellent editions of the Spanish work appeared at Valencia (1785 to 1796, nine vols., folio) and at Madrid (1819, eight vols.) An English translation was made by captain Stephens, the conti-



*Statuta Illustrissima Reip. S. Marini.*—See Valli, *Origine e Governo di San Marino* (1655); Dellico, *Memorie di S. Marino* (1804); Simoud's *Travels in Italy*.

MARIONETTES. See *Puppetshows*.

MARI'IME LAW. See *Commercial Law*.

MARIUS, CAIUS; a Roman of Arpinum, in the territory of the Volsci, born of obscure parents, whom he assisted in the labours of the field. With strength of body he united much understanding, firmness of purpose, and a spirit of enterprise. His character was rough, ambitious, and unyielding. Marius devoted himself to a military career, and gave the first proofs of his courage at Numantia, under Scipio Africanus. His merits successively raised him through the different ranks, and Scipio foresaw in him a great general. During the consulship of Cæcilius Metellus and L. Aurelius Cotta, he was made tribune by the influence of the former. In order to check the abuses at the Comitia, he proposed the law making the entrance to the place of voting narrower, so as to protect the citizens from the solicitations of the candidates and their friends (*lex Maria*). The patricians, indignant at a law so injurious to their influence, demanded of Marius an explanation of his motives. The two consuls declared against him; but Marius threatened them with the weight of his tribunitial authority, and, without regard to his obligations to Metellus, ordered the lictor to conduct the consul to prison. His firmness triumphed, and gained him the favour of the people. He afterwards modified the law proposed by Gracchus for the division of corn among the poor citizens, so as to spare the public treasury. He then stood candidate for the edileship, but without success. He was, however, appointed prætor. Having been charged with procuring his election by bribery, he was acquitted, and discharged the duties of his office to general satisfaction, supplying the deficiencies of his education by the natural strength of his understanding. The office of proprætor of Spain, which was conferred on him the following year, he discharged with great reputation. He delivered the country from robbers, and endeavoured to civilize the yet savage natives. On his return, he again devoted himself to political affairs; and by his marriage with Julia, the daughter of Julius Cæsar, connected himself with the illustrious Julian family.

A wider career was now open to him. He accompanied the consul Q. Cæcilius Metellus, as his lieutenant, to the Jugurthine war. His courage and patience in hardships, in which he placed himself on a level with the meanest soldier, gained for him the esteem of Metellus and the love of the army. But Marius was so ungrateful as to vilify the man who had raised him from obscurity, in order to rise himself. Their hatred increased daily. At length Marius asked permission of Metellus to return to Rome, in order to seek for the consulship. Metellus, not without ridicule, refused his request; but Marius continued his importunity, till he obtained object, a few days before the election of the consuls.

In six days he hastened to Rome, and, by promises against Metellus, and the most extravagant promises, he gained over the minds of the people completely, that he was chosen unanimously; and, though Metellus had been appointed proconsul of Africa for the third time, he obtained the command of the province (B. C. 108). L. Cassius Longinus

his colleague in the consulship. As Marius perceived that his plebeian origin would never permit him to gain the support of the patricians, and that he could expect nothing but from a powerful party among the common people, he declared himself the enemy of the nobles. In proportion to the violence

with which he attacked the nobility in his public speeches, was the favour of the populace. As the rich refused to enrol themselves in his legions, in order to complete the number, he had recourse to the lowest class of citizens, who had previously been employed only in cases of the most pressing necessity, and taught the Roman people to enrich themselves by the service. With the speed of lightning, he appeared in Utica, and began the campaign.

In the mean time, Jugurtha had found an ally in Bocchus, king of Mauritania. Two armies opposed the Romans. Marius avoided a general engagement till he was forced to yield to the impatience of his men. He then directed his march through the deserts of Numidia to Capsa, the capital of the country, which he stormed and destroyed. Terrified by this cruel example, every place which he approached surrendered. While Marius was prosecuting the war, L. Cornelius Sylla, the quæstor, arrived with a reinforcement of cavalry, and, by his courage, his perseverance against obstacles, and his austere manner of living, gained the friendship of his commander. After the capture of Mulucha, Marius led his troops back to the sea-coast, in order to place them in winter quarters. On this march, Bocchus and Jugurtha attacked him, and surrounded him in his intrenchments. The Romans seemed to be lost; but, during the night, Marius fell upon the enemy, exhausted with dancing and revelry, and almost entirely destroyed them. After this defeat, Bocchus made his peace with the Romans, and was persuaded by Sylla to betray Jugurtha to them. Marius divided a part of Jugurtha's territory between Bocchus and Hiempsal II., or Mandrestal, and made the remainder a Roman province. Before his return to the capital, he received the unexpected information that he was chosen consul the second time. The people, terrified by the approach of the Cimbri and Teutones, had chosen him contrary to the laws. Marius received in Rome the honour of a triumph. He then marched over the Alps to Gaul, while C. Fulvius Fimbria, his colleague, went to Upper Italy. The Cimbri and Teutones, instead of passing into Italy, had invaded Spain, and thus given Marius an opportunity to discipline his army. As the terror of the Cimbri was unabated, he was made consul a third and fourth time in succession. The barbarians at length returned from Spain, and threatened to invade Italy from two sides. Marius stationed his army at the confluence of the Rhone and the Isère, while his colleague Lutatius Catulus was to take his position at the foot of the Norican Alps. As it was impossible for ships to enter the mouths of the Rhone, he constructed a canal, the Fossa Mariana, uniting the waters of the Rhone with the Mediterranean, to supply the army with provisions from the sea. This work was scarcely finished, when the Teutones, with the Ambrones, pitched their camps opposite to the Romans. Marius hesitated to meet in the open field so superior a force; and, by cutting off their means of subsistence, he hoped, if not to destroy, at least to weaken them. But the barbarians determined to continue their course, without regard to the Roman army. Marius pursued and overtook them at Aquæ Sextiæ. He first attacked the Ambrones, and, on the next day the Teutones, and destroyed both armies (B. C. 102).

On the report of this victory, messengers were sent from Rome, to inform him that he was appointed, for the fifth time, to the consulship, and that the honour of a second triumph was decreed him. The latter, however, he would not accept until he had made himself worthy of it by the defeat of the Cimbri. These barbarians had entered Italy on the east: Marius united his forces with those of Lutatius, and marched against them. They then sent an em-

bassy, requesting a grant of territory in which they might reside. But Marius scornfully announced to them the total destruction of their allies. Exasperated by this news, the Cimbri advanced to meet him. Bojorix, their king, called upon Marius, to fix upon a time and place for a decisive engagement. He selected a plain called *Campi Raudii*, not far from Vercelli, which would not allow the Cimbrian army (300,000 foot and 15,000 horse) to avail themselves fully of their superiority of numbers. The Roman army was 52,000 strong. Marius reserved to himself the chief attack, but the battle was decided by Lutatius and Sylla. The defeat of the barbarians was complete: 150,000 fell, 60,000 surrendered, and the remainder preferred a voluntary death to slavery (B. C. 101). Marius and Lutatius entered the city in triumph.

The victorious general was appointed consul for the sixth time, although the noble Metellus Numidicus was his rival. He now entered into a combination with the tribunes of the preceding year: Apuleius Saturninus and the prætor Servilius Glaucia, and, in connexion with them, employed every means to gain the people, and deprive the patricians of their privileges. This was effected chiefly by the law, that every order of the people should be confirmed by the senate, within five days after its promulgation. The senators were compelled to swear obedience to this law; and Metellus, refusing to do it, was punished with exile. In the mean time, Marius had become an object of suspicion to both parties, by his ambiguous conduct, and on the next consular election, he was not rechosen. Saturninus and Glaucia were the victims of popular fury.

Chagrined at the recall of his enemy Metellus, Marius went to Asia, under pretence of performing a vow to Cybele, but, in reality, to gain new importance by kindling a new war. On his return, he was astonished to find himself almost entirely forgotten, and Sylla the favourite of the people. His hatred was excited, and a civil war would have been the consequence, if the consuls had not checked it in its commencement. Soon after this, the social war broke out. Marius gained a few victories in an inferior command, but acquired less reputation than might have been anticipated. His strength was broken by age and sickness, and, in the midst of the war, he resigned his office. This dangerous contest was hardly closed, when the civil war broke out between Marius and Sylla. They were both candidates for the command against Mithridates. The consuls favoured Sylla. P. Sulpitius, tribune of the people, who favoured Marius, attacked them sword in hand, and drove Sylla from Rome. Marius received the chief command; but the army marched to Rome under his rival, where Marius was committing the greatest violences against the friends of Sylla. Sylla entered the city without resistance. Marius and his son fled, and were proscribed. Separated from his son, Marius wandered about on the coasts of Italy, and, after escaping several times the pursuit of his enemies, was found by some horsemen in a marsh. He was conducted naked to Minturnæ, where the magistrate, after some deliberation, resolved to obey the orders of the senate, and of Sylla. But the Cimbrian slave, to whom the execution was intrusted, awed by the look and words of Marius, dropped his sword, and the people of Minturnæ, moved with compassion, conducted him to the coast, whence a vessel conveyed him to Africa. He landed amid the ruins of Carthage, and joined his son, who had sought assistance in Numidia in vain. They spent the winter together in the island of Cercina. When they received information that their party had once more triumphed in Italy, by means of Cinna,

Marius hastened to return. He declined to be ours offered him, and united himself with Cinna and Sertorius. They resolved to attack the city, which was defended by Octavius. Provisions and water falling in the city, the senate, therefore, chose to throw open the gates, on condition that Cinna should be put to death without trial. This was granted. Marius was at first unwilling to enter the city, till the act of proscription upon him was repealed. But while the citizens were assembled to rescind the act, he entered with a mob of followers, and in violation of the constitution a dreadful massacre took place, to which Cinna and Cinna finally put an end. He had given orders for the death of every one whose name was on the list, not return. Almost all the senators, who were opposed to the popular party, were put to death, and their estates confiscated. When the term of his consulship was completed, he declared himself Marius consul. Marius was now seventy years of age, and enjoyed this dignity for the second time, but seventeen days after he died (B. C. 86). He was haunted by his preceding sufferings, and by the anxiety which the threats of Sylla occasioned.

MARIVAUX, PIERRE CHARLES DE CASTELBAUX, a novelist and dramatic writer, born at Paris, 1688. He was led by his inclination to write for the theatre; and, thinking that the new way was to be done in the way of classical tragedy, he wrote comedies of intrigue. At the time of his appearance, his dramas were popular; but they only have remained on the stage. His characters want life, his plots variety. The development of the intrigue is so simple, that the dramatic interest is coverable from the beginning. He is a traitor, and affected, that the French have given to him a conceit and affectation of manner a *marivaudage*. Among his other productions the best is his *Vie de Marianne*, which shows interesting situations, faithful delineation of the tenderness of sentiment; *Le Paysan philosophe*, *Philosophe indigent*, &c., are not of much merit. The same forced and concerted style is displayed in his theatrical productions, prevalent in that century. He became a member of the French Academy in 1743, and died in 1763.

MARJORUM (*origanum*): a genus of plants, two or three species of which are cultivated in gardens, and used for culinary purposes. They are very agreeable aromatics, and diffuse a strong and pleasant odour.

MARK, COUNTY OF, in the former county of Philadelphia, at present in the Prussian province of Pennsylvania, government of Minden, contains 15 square miles. Part of it is extremely fertile, but not so populous. It affords much iron-ore and coal, which furnish fuel for the many manufactures and a large quantity of wares of metal. About 5000 people are engaged in manufacturing. In 1804, the population amounted to 133,000. In 1807, the county of Mark was added to the grand duchy of Berg, and since the greater part of the department of the Rhine in 1813, it reverted to Prussia.

MARK. See *Marches*.

MARK ANTONY. See *Antony*.

MARK, THE EVANGELIST: according to the old ecclesiastical writers, the person known in the Acts of the Apostles by the name of Jude Thaddæus, was, for many years, the companion of Paul and Peter on their journeys. His mother Mary was generally in the train of Jesus, and his home at Jerusalem was open constantly for the reception of the apostles. He was himself present at a number of the events which he relates, and received his information partly from eye-witnesses. His gospel

plainly intended for Christian converts from paganism. It is not certain, however, whether it was first read at Rome or Alexandria, where he had established churches, or at Antioch. He is distinguished from the other evangelists by his brevity, passing over much that relates to the character of Christ as Messiah, which could be important only to Jewish converts. The genuineness of his gospel has never been questioned on any good grounds.

MARK, or MARC, denotes a weight used in several parts of Europe, and for several commodities, especially gold and silver. When gold and silver are sold by the mark, it is divided into 24 arats.—*Mark* is also, in England, a money of account, and in some other countries a coin. The English mark is two thirds of a pound sterling, or 3s. 4d., and the Scotch mark is of equal value in Scotch money of account. For the mark-banco of Hamburg, see *Coins*.

MARK, LIBRARY OF ST. See *Venice*.

MARK, ORDER OF ST.; a Venetian order, the origin of which is not known. The doge, as well as the senate, elected knights of St Mark, who enjoyed a pension. Foreigners, also, particularly scholars, were elected.

MARK, PLACE OF ST. See *Venice*.

MARKLAND, JEREMIAH, an eminent critic, was born in 1693, and received his education at Cambridge. In 1717, he obtained a fellowship in that university, which he held until his death in 1776. His time was devoted to his favourite studies, uninterrupted by any avocations but those of a college and travelling tutor. His principal works are, an edition of the *Sylva* of Statius; Notes on Maximus Tyrius; Remarks on the Epistles of Cicero to Brutus, and of Brutus to Cicero; with a Dissertation upon four Orations ascribed to Cicero; an edition of the *Supplices* of Euripides; to which was annexed a tract *De Græcorum quintâ Declinatione*, and other philological works.

MARLBOROUGH, DUKE OF. See *Churchill*.

MARL. Compact limestone (q. v.), by increase of argillaceous matter, passes into marl. Marl is essentially composed of carbonate of lime and clay, in various proportions. But some marls are more or less indurated, while others are friable and earthy. In some, the argillaceous ingredient is comparatively small, while in others it abounds, and furnishes the predominant characters. The calcareous and argillaceous marls unite by imperceptible degrees, and the latter sometimes pass into clay. Marl frequently contains sand and some other foreign ingredients. We divide marls into calcareous and argillaceous, and into indurated and earthy. The hardness of indurated marl is inconsiderable. In most cases, it may be scratched by the finger nail, and may always be easily cut by a knife. It has a dull aspect, like alk or clay, often with a few glimmering spots arising from sand or mica. Its fracture, usually earthy, is also splintery or conchoidal. It is opaque; colour commonly gray, often shaded with yellow, red, brown, black, &c. It also presents shades of green, and is sometimes reddish or yellowish-brown. Specific gravity usually between 2.3 and 2.5. It occurs in masses either compact, or possessing a slaty structure. All solid marls crumble by exposure to the atmosphere, usually in the course of a year, but sometimes a longer period is requisite. The same changes generally take place in a very short time, when the marl is immersed in water, in which it forms a short paste. It crumbles very easily, and forms a more tenacious paste in proportion as it becomes more argillaceous. It is more or less easily fusible. All marls effervesce with acids, sometimes very briskly, and sometimes feebly, according to their solidity and the pro-

portion of carbonate of lime, which may vary from 25 to 80 per cent.; indeed, in the argillaceous marls, it is often much less. Earthy marl differs from the preceding by being more or less friable, or even loose; but they gradually pass into each other. Like the indurated marl, it may be either calcareous or argillaceous. It sometimes greatly resembles clay, but may be distinguished by its effervescence in acids. Marl, like clay, belongs both to secondary and alluvial earths, where it occurs in masses or in beds. Hence it is found associated with compact limestone, chalk, gypsum, or with sand or clay. It contains various organic remains, as shells, fish, bones of birds and of quadrupeds, and sometimes vegetables. The organic remains are numerous and extremely interesting in the marly strata examined by Cuvier and Brogniart in the vicinity of Paris. Marl is found more or less in most countries. Its most general use is as a manure. The fertility of any soil depends in a great degree on the suitable proportion of the earths which it contains; and whether a calcareous or an argillaceous marl will be more suitable to a given soil, may be determined with much probability by its tenacity or looseness, moisture or dryness. To employ marls judiciously, therefore, the farmer should be in some degree acquainted with the chemical properties or constituent parts of the marl itself, and with the ingredients of the soil. He may, in general, determine the existence of marl by its falling into powder, when dried, after exposure to moist air. To ascertain the proportion of its ingredients, the calcareous part may be extracted from a given weight of the marl, by solution in acids, and the residue, being dried and weighed, will give the quantity of clay with sufficient accuracy. See *Manures*.

MARLOWE, CHRISTOPHER, an eminent English poet and dramatist of the Elizabethan age, was educated at Cambridge, whence he proceeded M. A. in 1587. He afterwards settled in London, and became an actor, as well as a writer for the stage. Besides six tragedies of his own composition, and one written in conjunction with Thomas Nashe, he left a translation of the Rape of Helen, by Coluthus; some of Ovid's Elegies; the first book of Lucan's Pharsalia; and the Hero and Leander of Musæus, completed by George Chapman. The exact time of his death is not known; but, according to Anthony Wood, it took place previously to 1593, and was owing to a wound received from the hand of a servant man, whom he had attacked on suspicion of being rivalled by him in the favours of a mistress.

MARLY, MARLY-LE-ROI, or MARLY-LA-MACHINE; a village of France,  $1\frac{1}{2}$  league from Versailles, on the edge of the forest of the same name. It still contains some fine country seats; but the royal castle built by Louis XIV., and the beautiful gardens attached to it, no longer exist, having been destroyed during the revolution. It is now remarkable only for its water-works for supplying Versailles with water. The celebrated machine, which conducted the water over the Seine, having fallen to decay, its place is supplied by a forcing pump, which raises the water 500 feet, and an aqueduct of thirty-six arches.

MARMONTEL, JOHN FRANCIS; a distinguished French writer, was born in 1723, at Bort, a small town in the Limousin. He was the eldest son of a large family, the offspring of parents in an humble situation of life; but his mother, a woman of sense and attainments much superior to her rank, favoured his ardour for mental cultivation; and by her influence he was sent to the Jesuits' college of Mauriac. At the age of fifteen, his father placed him with a merchant at Clermont; but having expressed his dislike of this occupation, he was enabled to obtain

admission into the college of Clermont, where he gradually acquired pupils; and his father soon after dying, he showed the goodness of his heart, by taking upon himself the care of the family. He subsequently engaged as a teacher of philosophy, in a seminary of Bernardines, at Toulouse, and became a distinguished candidate for the prizes at the Floral games, which acquired him the notice of Voltaire, who recommended him to try his fortune at Paris. He accordingly arrived there in 1745, and, after experiencing some vicissitudes, brought out a tragedy in 1748, which at once raised him into competence and celebrity; and, having been recommended to the king's mistress, madame Pompadour, he was appointed secretary of the royal buildings, under her brother, the marquis de Marigny. Having distinguished himself by writing some of his well-known tales, to assist his friend Boissy, then intrusted with the *Mercure de France*, on the death of the latter, it was given to him, and resigning his post of secretary, he took up his abode with madame Geoffrin. He subsequently lost the *Mercure de France*, by merely repeating, in company, a joke upon the duke d'Aumont, and was committed to the Bastille, because he would not give up the real author. In 1763, after much opposition, he succeeded Marivaux as a member of the French academy. His next literary production was *Bélisaire*, which, in consequence of its liberal sentiments in favour of toleration, was censured by the Sorbonne, and widely read in every country in Europe. In order to benefit Grétry, he worked up several little stories into comic operas, which were all acted with great success. On the death of Duclos, he was appointed historiographer of France. He took part in the celebrated musical dispute between Gluck and Piccini, as a partisan of the latter. In 1783, on the death of D'Alembert, he was elected secretary to the French academy. On the breaking out of the revolution, he retired to a cottage in Normandy, where he passed his time in the education of his children, and the composition of a series of tales of a more serious cast than his former ones; together with his amusing *Memoirs of his own Life*. In April, 1797, he was chosen member of the council of elders; but, his election being subsequently declared null, he again retired to his cottage, where he died of an apoplexy, in December, 1799, in the seventy-seventh year of his age. Marmontel holds a high place among modern French authors. Warm and eloquent on elevated subjects; easy, lively, inventive, and ingenious on light ones, he addresses himself with equal success to the imagination, the judgment, and the heart. His *Contes Moraux*, in general, inculcate useful and valuable lessons, but their morality is sometimes questionable. Some of his didactic works in prose, continue to be highly esteemed, and more especially his course of literature inserted in the *Encyclopédie*. Since his death, besides his own memoirs, there have appeared *Memoirs of the Regency of the Duke of Orleans* (printed from his MS., in 2 vols., 12mo). The works of Marmontel have been collected into an edition of thirty-two volumes, octavo.

**MARMORA**, SEA OF, anciently the Propontis; a sea between Europe and Asia, about sixty leagues in length, and twenty in its greatest breadth. It communicates to the S. W. with the Archipelago, by the Dardanelles, and with the Black sea to the N. E. by the straits of Constantinople. Constantinople lies on its western shore. The tides are hardly perceptible, the navigation easy. A current sets from the Black sea into the sea of Marmora, which, in turn, runs into the Archipelago.

**MARMOT** (*arctomys*); a genus of small quadrupeds, somewhat resembling the rat, with which they

were classed by Linnæus. They have two incisors in each jaw, and ten grinders in the upper, and in the lower jaw; four toes, and a claw on the first of a thumb, on the fore feet, and five on the hind.

There are several species, the most common of which are the Alpine marmot, *A. flaviventris*, the size of a rabbit, with a short tail of a greyish-yellow colour, approaching to brown near the head. This species inhabits the mountains of Europe, just below the region of perpetual snow, feeds on insects, roots, and vegetables. Various animals (which live in societies) are more or less a sentinel, who gives a shrill whistle on the approach of any danger, when they all retire into their burrows, which are formed in the shape of the letter S, and well lined with moss and hay. They pass these retreats, in a torpid state, from the middle of April. They are easily tamed.

The Quebec marmot (*A. campbelli*, Leach), a northern part of the American continent, is said to be a solitary animal, dwells in burrows, and is not a good swimmer, but has the faculty of ascending trees. Its burrows are almost perpendicular, and ascend to a great distance from the water. When the water is sometimes eaten. Its fur is of no value.

Woodchuck (*A. monax*). This species is also known by the name of ground hog, and is found in all the Middle States of America, in great numbers, and making burrows in the sides of fields, which extend a considerable distance, and terminate in chambers lined with dry grass, leaves, &c. They feed on vegetables, and are very fond of roots. They are capable of being tamed, and are very useful. The female produces six young at a birth.

There are many other marmots inhabiting America which have been considered as belonging to the sub-genus *spermophilus*. The most common of these is the Prairie dog, or Woodchuck (*A. americanus*). It has received the name of prairie dog, from a supposed similarity between its sound, and the barking of a small dog. They live in great communities; their villages, as they are called by the hunters, sometimes being many miles from the entrance to each burrow is at the end of a large mound of earth thrown up, during the progress of the excavation below. The hole descends to the depth of one or two feet, and then continues in an oblique direction. The marmot, the rest of the species, becomes torpid in winter, and, to protect itself against the cold of the season, stops the mouth of its burrow with a neat globular cell at the bottom of it, composed of dry grass, so compactly put together, that it is rolled along the ground almost as hard as a stone. Other American species of this sub-genus are *P. guttatus*, *Richardsoni*, *Franklini*, *americanus*, *glaucostris*, *lateralis*, *Hoodi*. See Richardson's *Am. Bor.* and Goodman's *Nat. Hist.*

**MARNE**, a river of France, rises near Paris, runs about 220 miles, and enters the Seine a few miles above Paris.

**MAROCÇO**. See *Morocco*.

**MARONITES**; a sect of Eastern Christians whose origin was a consequence of a long and controversial controversy. In the seventh century, the sect of Christ, though he united in himself the divine and human nature, had but one will. This doctrine arose among the Eastern nations, and was maintained by several emperors, particularly Heraclius, when their last patron, the emperor Phocas, died, in 713, the Monothelites were banished by his successor, Anastasius. The sect of this party survived in the Maronite church, from their founder Maron—a native of Syria, about mount Lebanon, which is now a

early as the sixth century. Another monk, John Maro, or Marum, also preached Monothelitism there in the seventh century. Regarded as rebels by the Melchites, or Christians who adhered to the opinions of the emperor, they became, in the country of Lebanon, which is now called *Kesruan*, a warlike mountain people, who defended their political as well as their religious independence boldly against the Mohammedans, and who, even now, under the Turkish government, resist the payment of a tribute, like the Druses. The political constitution of the Maronites is that of a military commonwealth. Governed by their ancient customary rights, defended from external attacks, they support themselves, among the mountains, by husbandry and the produce of their vineyards and mulberry-trees. A common spirit unites them. In simplicity of manners, temperance, and hospitality, they resemble the ancient Arabians. Revenge for murder is permitted among them, and, as a sign of nobility, they wear the green turban. Their church constitution resembles very much that of the old Greek church. Since the twelfth century, they have several times submitted to the pope, and joined the Roman Catholic church, without giving up their own peculiarities. At last, Clement XII. induced them to accept the decrees of the council of Trent, at a synod held in 1736, at their convent of Harhanna. Till that time, they had received the sacrament under both forms. After this synod, their priests still retained the right to marry, after the manner of the Greek church. The use of the Arabic language was preserved in the church service. Mass, only, was read in the ancient Syriac. Their head is called the *putriarch of Antioch*, although his residence is in the monastery of Kanobin, upon mount Lebanon, and he gives an account, every ten years, to the pope, of the condition of the Maronite church. Under him are the bishops and other clergymen, who form seven degrees of rank. In Kesruan are over 20 Maronite convents and nunneries, which profess the rule of St Antony, and devote themselves to agriculture and gardening. Since 1548, there has been a Maronite college established at Rome, for the education of clergymen; yet neither this establishment, nor the mission of papal nuncios, has effected an entire incorporation of this sect with the Romish church; and those in Kesruan, as well as the large numbers at Aleppo, Damascus, Tripoli, and in Cyprus, still retain their ancient habits, and some even their ancient liturgy.

**MAROONS**; the name given to revolted negroes in the West Indies and in some parts of South America. The appellation is supposed to be derived from Marony, a river separating Dutch and French Guiana, where large numbers of these fugitives resided. In many cases, by taking to the forests and mountains, they have rendered themselves formidable to the colonies, and sustained a long and brave resistance against the whites. When Jamaica was conquered by the English, in 1655, about 1500 slaves retreated to the mountains, and were called *Maroons*. They continued to harass the island till the end of the last century, when they were reduced by the aid of bloodhounds. See Dallas's *History of the Maroons*.

**MAROT, CLEMENT**, a French epigrammatist and writer of light lyrical pieces, from whom the French date the beginning of their poetry, born at Cahors, 1505, went to Paris as page of Margaret of France, Duchess of Alençon, whose brother Francis I., he afterwards accompanied to the Netherlands. His court with the beautiful Diana of Poitiers is well known. In 1525, having followed the king to Italy, he was wounded and made prisoner in the battle of Pavia. After his return to Paris, he was suspected of being favourable to Calvinism, and was thrown

into prison. His time, during his confinement, was spent in preparing a modernized edition of the Romance of the Rose, and the king finally set him at liberty. His connexion with Margaret, now queen of Navarre, with whom he had quarrelled, was renewed, but could not protect him from new difficulties on account of his religious sentiments, and he fled to Italy, and thence to Geneva (1543), where Calvin succeeded in making him a proselyte to the new doctrines. He soon recanted his profession of faith, returned to Paris, and, not long after, again fled to Turin, where he died in 1544. Marot had an agreeable and fertile fancy, a lively wit, with a certain levity of character. All his poems, even his translation of the Psalms, made in conjunction with Beza, and for a long time used in the Protestant churches in France, are in an epigrammatic manner. Nature and *naïveté* are the characteristics of his style, called, by the French, *style Marotique*. His works have been repeatedly printed, with those of his father, John, and his son, Michael. They appeared by themselves (Paris, 1824), with his life and a glossary.

**MARPURG, FREDERIC WILLIAM**, a German musician of eminence, born at Seelhausen, in the Prussian dominions, in 1718. He passed some portion of his youthful years in the French metropolis, and, on his return to his native country, acted in the capacity of secretary to one of the ministers at Berlin, in which capital he was afterwards placed by the government at the head of the lottery department. He was the author of many valuable works connected with the science of music, especially of a history of the organ from the earliest antiquity, replete with information, but which he unfortunately did not live entirely to complete. Among his numerous writings are the Art of Playing on the Harpsichord; a Treatise on Fugue (Berlin), considered by Kollman to be the most profound and masterly work of the kind in the German language; Historical and Critical Memoirs to promote the Study of Musical History, a periodical work, filling five octavo volumes; a Manuel of Thorough Bass and Composition; Elements of the Theory of Music; Introduction to the Art of Singing; Introduction to the History and Principles of Ancient and Modern Music; Critical Letters on Music (2 vols.); Essay on Musical Temperament; besides a vast number of single songs, odes, &c. His death took place at Berlin, from a consumption, in 1795.

**MARQUE, LETTER OF.** See *Letter of Mart*.

**MARQUESAS, MARQUIS OF MENDOZA'S ISLANDS, or MENDOZA ISLANDS**; a cluster of five islands in the South Pacific ocean, first discovered by Mendoc, a Spaniard, in 1597, and visited by captain Cook, in 1774. The trees, plants, and other productions of these isles, are nearly the same as at Otaheite and the Society isles. The refreshments to be got are hogs, fowls, plantains, yams, and some other roots; likewise bread-fruit and cocoa-nuts; but of these not many. The inhabitants are the finest race of people in this sea. The affinity of their language to that spoken in Otaheite and the Society isles, shows that they are of the same nation. The men are punctured or tattooed from head to foot. Lieutenant Paulding, in his account of the cruise of the United States' schooner Dolphin among the islands of the Pacific ocean (New York, 1831), says, "The men of the Marquesas were in general quite naked; but few ornaments were worn by either sex. A few were tattooed all over; others but slightly. Some had pricked into their flesh, fish, birds, and beasts, of all kinds known to them. Others were tattooed black, even to the inner part of their lips. There are men who pursue tattooing as a regular business. The men are finely formed,

large, and active. Their teeth are very beautiful. A plurality of wives is not admitted among them. The only arms now generally used are muskets." Population of the group, vaguely estimated at 50,000. Lon. 138° 45' to 140° 30' W.; lat. 8° 30' to 10° 30' S.

**MARQUETRY** (French, *marqueterie*, *marqueter*, to inlay); inlaid cabinet work, in which thin slices of different coloured wood, sometimes of ivory, pearl, shell, or metal, are inlaid on a ground. Works in which black and white only are employed, are called *Morescoes*. Marquetry in glass, precious stones, or marble, is more commonly called *Mosaic*.

**MARQUETTE**, JOSEPH, a French Jesuit, and missionary in North America, after having visited the greater part of Canada, was sent, by the French authorities, in company with Joliette, to examine the situation and course of the Mississippi. Marquette and his party (1673) ascended the Outagamis from lake Michigan, and descending the Wisconsin, reached the Mississippi, and proceeded as far as the mouth of the Arkansas. Their voyage left little room to doubt that it emptied into the gulf of Mexico, and, not thinking it prudent to continue their course, they returned to lake Michigan, by the Illinois. Marquette remained among the Miami till his death, in 1675. This event caused his discoveries to be lost sight of until they were again brought into notice by La Salle. (q. v.) Marquette's relation was published by Thévenot (1681), in a supplement to his *Recueil de Voyages*.

**MARQUIS**, **MARQUESS** (in middle Latin, *marchio*; Italian *marchese*; French, *marquis*; German, *markgraf*); a title of honour, next in dignity to that of duke, first given to those who commanded the marches (q. v.). Marquises were not known in England, till King Richard II., in the year 1337, created his great favourite, Robert Vere, the earl of Oxford, marquis of Dublin. The title given a marquis, in the style of the heralds, is *most noble and potent prince*.

**MARRIAGE**. No social relation is more universally established than matrimony, resting, as it does, on the fundamental principles of our being, and giving rise to the primary element of all social order and civilization—the domestic connexions. Misguided philosophers and fanatic sects have, indeed, at different times, preached against it, and even suspended its exercise, in a limited circle, for a limited time; but such a violation of the order of nature was necessarily brief. As marriage is a connexion existing in all ages, and probably in all nations, though with very different degrees of strictness, it constitutes one of the most interesting phenomena for the inquirer into the various manifestations and different developments of the common principles of our nature. In almost all nations, the day of marriage is celebrated with religious ceremonies. Nothing is more natural than to pray for the blessing of Heaven on such a union, and the prayer of a priest is generally esteemed, in the early ages of nations, as most efficacious. With the most ancient inhabitants of the East, the bride was obtained by presents made, or services rendered, to her parents. (See *Jacob*.) To this day the same practice prevails among the Circassians, and the poorer Turks and Chinese. Respecting the customs of the ancient Persians, Babylonians, Indians, and other inhabitants of Asia, the ancient writers have left us little or no information. It is only known that polygamy was customary with them. The women lived in harems, yet they were probably not so restricted as at pre-

sent; at least, it was customary for every woman in Babylon, once in her life, to go dressed as a stranger, in the temple of the goddess of Love. In Syria and the other countries of Western Asia, girls served, for several years, in the temple of the Asiatic Aphrodite, and bestowed their beauty on the visitors of the tetrapylon. In India and other countries of Upper Asia, the first husband of a woman, immediately after marriage, belongs to the Bramins. This connexion with the priests was sought for with prayers and gifts. Even the Egyptians practised polygamy in ancient times. Herodotus maintains that it existed among all nations except the priests; Herodotus denies it. A similar custom existed in Assyria (according to Herodotus Thrac): the marriageable girls were sold to public auction, and the money thus received furnished the portions for those whose charms were sufficient to attract purchasers.

With the ancient Hebrews, the wedding lasted ten or twelve months after the betrothal, and was called *mishteh* (i. e. festival meal). From the time of Moses, polygamy was prohibited; and Hebrews and others took several wives, they considered themselves guilty of a violation of the law, unless if these wives were foreigners. The Hebrews married, as the Jews even now do, very young. On the day of the wedding, the bridegroom was anointed and ornamented, accompanied by a friend (*paranymph*), and followed by several companions into the house of the bride, and accompanied by them, and followed by her companions, with song and music (at a later period also with dancing), to his or his father's house, where the wedding was celebrated at his expense (generally by some dowry if a widow was married, only for herself, if not). The bridegroom appeared with a crown; the bride likewise, wore a high golden crown, reaching to the pinnacle of a wall (see Hirt, *De German. ex. Ant. Jena*, 1740, 4to), and the conversation was marked by songs and enigmas.—See Zacc, *De Germ. vet. Hebr. Nupt.* (Hamburg, 1722, 4to). The day of the *paranymph* was, to play the part of a friend in the room of the bridegroom, and to assist in his wedding him (*John* iii. 29; ii. 9; *Judges* xiv. 1). Married women took their meals separately, and had their own separate entertainments. The custom of matrimony seems to have consisted in pronouncing a blessing over the couple. After the wedding feast, the bridegroom and bride were led, yet still modestly, into the bridal chamber, where the bridegroom accompanied them with torches and songs; there sat parable of the ten virgins, who took their place in order to meet the bridegroom. If the examination made by the matrons the next day led to the conclusion that the wife had not been previously chaste, she was stoned.—Compare Hirt, *De German. vet. Jena*, 1754, 4to.)

The wedding ceremonies of the ancient Jews deviate considerably from those of other nations. The rabbies, indeed, maintain that they follow strictly the ceremonies observed at the wedding of Tobias, though the Bible says nothing of the greater part of them. The Jews marry very young, and hold it a direct sin against the commandment to "be fruitful and multiply," if they are not married in their eighteenth year. Marriage is permitted to males at the age of thirteen years on the day, if they appear to have reached the age of puberty. Girls may marry at the age of twelve years and one day, under the same condition. If the signs of maturity are wanting, or if a menstruation exists, Jews are not permitted to marry until the thirty-fifth year. Harbours are considered a great misfortune with them, as with the Arabians, and

\* For the legal relation between husband and wife, in modern civilized countries, see the article *Husband and Wife*.

most, perhaps all, Oriental nations, and perhaps we might say, all nations living in a state in which the natural feelings are unchecked. After the suitor has obtained the consent of the girl and her guardians, the betrothment takes place with certain ceremonies. The bridegroom pays (or, at least, formerly paid) a *morning gift*, so called—a remnant of the custom of buying the daughter from the father. The wedding is not allowed to take place on Saturday (Sabbath), and was usually performed on Wednesdays, because Thursday was a day of justice, and the husband would immediately go to court, and ask for a divorce, in case the signs of virginity had been wanting. At present, the marriage takes place sometimes on Friday. The eve before the wedding, the bride goes into the bath, accompanied by her female friends, who make a great noise. The ceremony of the wedding generally takes place in the open air, seldom in a room. The couple sit under a canopy, generally carried by four boys. A large black veil covers both, besides which, each of them has a black cloth (*taled*), with tassels at the four corners, upon the head. The rabbi, the preacher of the synagogue, or the nearest relation of the bridegroom, offers to the couple a cup of wine, and says, "Praised be thou, O God, that thou hast created man and woman, and hast ordained matrimony." Both drink. The bridegroom then puts a gold ring, without a stone, on the finger of the bride, and says, "With this ring I take thee as my wedded wife, according to the custom of Moses and the Israelites." Then the matrimonial contract is read (see *Jewish Law*), and the bridegroom shakes hands with the parents of the bride. Wine is brought once more, in a vessel easily to be broken; six prayers are spoken; the couple drink of the wine, and the cup is thrown violently to the ground, according to custom, in remembrance of the destruction of Jerusalem; according to others, to admonish the company to orderly behaviour. The company then proceeds into the dwelling of the bridegroom, where they sit down to dinner, and he chants a long prayer. After the meal, men and women perform a certain dance, each sex separate. In presence of ten persons of advanced age, another prayer is pronounced over the bride, and she is led into the bridal-chamber, from which moment the marriage is considered to be complete.

Of the multifarious ceremonies accompanying the wedding, with the latter Greeks, the germs are to be found as early as the time of Homer, viz. the veiling of the bride veiled to the suitors, from the house of her father to that of her husband, with pipes, the singing of joyous songs, playing on the flute and harp, dancing, bathing of the bride, ornamenting her, conducting of the couple to their apartment by the *thalamepos*, a female guardian of the bride chamber. At later periods, the ceremonies of the festival were more extended. The day before the wedding, which was celebrated particularly in the month Gamelion, or on the fourth day of each month, the betrothed parties each cut off a lock of hair, and dedicated it to all the patron gods of matrimony (Jupiter, Juno, Diana, the Fates); the pile of the victims was thrown away; the entrails were observed. The ceremonies were, properly speaking, nothing but a mimic repetition of the first marriage of the gods (*gamos hieros*). On the day of the wedding, the couple put on wreaths of flowers or leaves, sacred to Venus, or having some other relation to marriage. The house was also ornamented with wreaths. Towards evening, the bridegroom took the bride from her father's house, generally in a chariot, accompanied by a *paranymphos*. If he had been already married, the

*paranymphos* alone conducted her, and was then called *nymphagogos*. The bride, (who carried a vessel containing barley, and called *phrygetron*) was preceded by torch-bearers, music and song, also by females who carried symbols of domestic life, as a sieve, a spindle, &c. When the couple arrived at home, fruits were poured over them, as a symbol of plenty; the axle of the vehicle in which they had ridden was burnt, to indicate that the bride could not return, after which the meal followed, in apartments adorned for the occasion, for which friends and relations assembled, dressed in festival dresses. In Athens, a boy appeared during the meal, crowned with thorns and acorns, holding a basket, which contained bread, and calling out, "I left the bad and found the better" (*ἔφυγον κακόν, εὗρον ἀγνόν*)—an allusion to the life of the primitive inhabitants of Attica, without bread and matrimony. Dances and songs diverted the guests. After the dance, followed the procession into the bride chamber, where the bed was generally covered with a purple cloth, and strewn with flowers. Another bed was also placed in the same room, for the bridegroom, in case evil omens should prevent the consummation of the marriage. Here the bride washed her feet (in Athens, in water from the fountain Callirhoe), served by the *luthrophoros* (a boy always the nearest relative). In Athens, the pair also ate a quince, probably in allusion to Proserpine. The bride was now placed in the bed by her nearest relatives, particularly by the mother of the bride, who wound the fillets of her own hair round the torch, and, whilst the bridegroom unloosed the zone of the bride, which was consecrated to Minerva or Diana, boys and girls danced before the door, stamping and singing songs (*epithalamia*, choruses, praises of the young couple, good wishes, &c.—(See Theocritus, 18th idyl.) A *thyroros* (door-keeper) prevented the women from entering to assist the bride. The next morning, the same boys and girls sung *epithalamia egetica* (awakening songs). The festival lasted for several days, each having its proper name.

Very different from all this was the custom of the Lacedæmonians. They retained the ancient form of carrying off the bride by force. After the bridegroom had carried off the girl, a female paranymph cut the hair of the bride, put on her a male dress, seated her in a dark room, upon a carpet; the bridegroom then came clandestinely, unbound the zone, placed the bride upon the bed, and, soon after, stole away to the common sleeping room of the youths, and repeated these visits several times before the marriage was made known. After this, the solemn conducting home of the bride, accompanied by sacrifices, took place.

The Romans had, in a legal sense, three different ways of concluding a marriage—*coëntio*, *confarreatio*, and *usus*—of which the *confarreatio* was the most solemn and most conclusive. At the betrothment (*sponsalia*), the day of marriage was settled, great care being taken not to fix upon one of the *atri dies* (unlucky days), viz., the month of May, the calends, nones, and ides, and the days following them, the feast of the Salians, the *parentalia*, &c. On the other hand, a peculiar predilection was entertained for the second half of June. The day before the wedding, the bride sacrificed the virgin-like *toga prætexta* to the *Fortuna virginatis*; her *bullæ aureæ*, her *strophæ* and toys to the *Lar familiares*, or to Venus, after she had first sacrificed to *Juno iugo*, the goddess of marriages, and after her hair had been divided with a lance (*calibaris*) into six locks (in allusion to the rape of the Sabines), and arranged according to the fashion of matrons. On the day of the wedding, the bride was ornamented. She

covered her hair with the *vitta recta*, put on a wreath of flowers, the tunic of matrons, and encircled her waist with a woollen zone, tied in a *Hercules knot* (so called), at which moment she implored the *Juno cinxia*. A red or fire-coloured veil now covered her face (allusion to bashfulness); shoes of a like colour were put on. After the auspices were taken, and sacrifices had been offered to the gods of matrimony, particularly to Juno, the bile being thrown away, the couple seated themselves upon the fleece of the victim, in allusion to the original dress of men, and to the domestic duties of the wife. In the evening, the bride was led home by the bridegroom. The bride rested in the arms of her mother, or one of the next relatives, and the bridegroom carried her off, in allusion to the rape of the Sabines. The bride was led by boys; others preceded her, bearing torches. The bride (or female slaves) carried distaffs, wool, &c. The music of the lyre and the flute accompanied the procession, during which the bridegroom threw walnuts among the people. The bride was lifted, or stepped gently over the threshold of her parents' house, and of that where she entered, this part of the dwelling being sacred to Vesta, the protectress of virgins. These thresholds were ornamented with flowers, &c. She was followed, or, according to some, preceded by the boy Camillus.\* Relations and friends accompanied the procession, where jokes and merriment abounded. Arrived at her new house, she hung woollen bands, as signs of chastity, at the door-posts, and rubbed the posts with the fat of hogs and wolves, to guard against enchantment. Her first step in the house was made on a fleece (symbol of domestic industry). The keys were handed over to her, and both she and the bridegroom touched fire and water, as signs of chastity and purity. With the water the feet were washed. In the times of the republic, the bride carried three pieces of the coin called *as*. One she held in her hand, and gave to the bridegroom, as if purchasing him; another, lying in her shoe, she put on the hearth of the new house; the third, which she had in a pocket, she put on a cross-way. After some more ceremonies, followed the wedding meal, accompanied by *epithalamia*. The bride was then conducted by matrons, only once married (*pronubæ*), into the nuptial chamber (*thalamus*), and laid on the bed (*genulia lectus*). Virgins now sung *epithalamia*, in praise of the couple, and, in order not to excite Nemesis by such praises, boys used to sing indecorous songs. After the husband had given another feast, (*reposita*), the wife entered on her new duties.

Of the marriage rites of the ancient Celtic and German tribes, as little is known as of the ancient Asiatic tribes; and in the little which is recorded, the ancient authors contradict each other. They are almost unanimous, however, in stating that the ceremony of buying the wife was customary with them; but it is doubtful whether polygamy existed among them or not. Cæsar says it prevailed among the Britons; others say the same of the inhabitants of Spain. The Germans and Gauls seem to have had, generally, but one wife; yet exceptions are known (for instance, Ariovistus). According to the historian Adam, of Bremen, polygamy was common with the ancient Saxons and people of Ditmarsh. Among the ancient Germans, the marriage of a free person with a slave was punished. If a slave had seduced a free girl, he was beheaded, and she burned. They married late: marriage was prohibited before the twentieth year. The suitor paid a price to the father of the girl, from which, afterwards, the *morning gift*, so

called, originated. If a girl was betrothed, she was watched by the friends of the suitor, if the latter delayed the marriage longer than the year, the engagement was dissolved. After marriage, the wife was inseparable from the husband as long as he lived; he was bound to the chase, in war, &c. and she betrayed herself when the husband had fallen. Divorce was very rare; violation of matrimony was punished by death.

The Mohammedans consider marriage a civil contract. They practise polygamy. The Mohammedans may have four regular wives; they may, besides, purchase concubines (Circassian and other slaves); they have, as well, wives, whose obligation to live with a man is for a certain time. Generally, the Mohammedans have but one wife; the wealthier sort have two or three, very rich, still more. With the Turks, the marriage is concluded upon between the parents, and is, in most, the contract is only confirmed before the law. Generally, the bridegroom has to buy the bride most commonly, they do not see each other before marriage. The bride is conducted as heretofore, closely veiled, to the bridegroom. Entertainments follow, and, in the evening, the bride is met by an eunuch (or, with the poorer classes, by a maid or servant), into the bride chamber. It is a real marriage for a Turk to be obliged to marry a daughter of a sultan. He prescribes the pretence to be made to his daughter; the husband is obliged to do as he will in all things. He must give so many presents that he is frequently ruined.

In Arabia, if a young man is pleased with the appearance of a girl in the street, where the women appear always veiled, he endeavours to get a sight of her face, by procuring acquaintance with a boy where she frequently comes, and requesting permission there by the aid of some kind relative. If he is pleased, he makes a bargain with the father; the contract is signed before the sheik. After the ceremonies, baths, entertainments, &c. he awaits his bride in his tent. Matrons remain there, where the bride bows, and receives a gold piece pressed on her forehead. She is then carried by him into the interior of the tent. The bride and other women dance around it all night.

In Barbary, the marriage contract is concluded with the father or some relative, or, in want of them, with the cadi, a price paid for the bride, and a sum assigned for her support in case of divorce. The evening before the marriage, the bridegroom proceeds, on horseback, accompanied by many friends to the house of the bride. The bride is then carried on a mule, covered with a sort of bus (or among the wealthier classes, on a camel, bearing a sort of canopy) to the house of the bridegroom. The bridegroom and his friends accompany her, the latter expressing their joy by the discharge of firearms. The bride is then conducted to the bridegroom, in a dark apartment, and it is not till after the consummation of the marriage that he obtains a sight of her face. He cannot go out of the house for eight days, and so for two months. Formerly the bridegroom, at the end of the eight days, played the king, and made a number of petty disputes; but since the middle of the eighteenth century, when the emperor of Morocco had eight of such kings tied to the walls and dragged to death, this custom has ceased. The wedding ceremonies, among the Mohammedans and Hindostanis, are similar, only the procession is accompanied by music and song.

With the Persians, the bridal purification is agreed upon by the bridegroom and the bride; the bride; this is either left to the father, or given to the bride in case of divorce. The ceremony is

\* His office was to carry the bride's ornaments, and the amulets for the future offspring, in a small box.

signed before a cadi, in a solitary place, so that enchanters may not deprive the bridegroom of his vigour.

As it is considered, with all the Mohammedans, a matter of the greatest importance to find the signs of maidenhood in the bride, and as the whole relation between the two sexes is such as not to enable the bridegroom to take the bride's virtue upon trust, it is often made a point of the marriage contract, that the marriage shall be null if satisfaction is not received on this point. So much attention is paid to this subject, that, in case an accidental injury, as by a fall from a camel, &c., might bring it in question, fathers not unfrequently have an attested record made of the cause of the accident. The Circassians, who sell their daughters to the Turks, use mechanical means to prevent the loss of their virginity, from the age of puberty.

With the heathen Hindoos, any one who marries out of his caste, loses its privileges, and becomes little better than a Paria (q. v.). The Hindoos marry their children very early, often in the seventh year. When the marriage is agreed on, gifts are sent, with song and music to the bride. Similar ones are returned to the bridegroom. On the day before the marriage, the bridegroom, adorned with a crown and flowers, proceeds through the city, accompanied by music, and attended by the young men of his own occupation, in palanquins, carriages, and on horseback. The bride does the same, on the day of the wedding, attended by her young female acquaintance. In the evening, the wedding takes place. A fire is lighted between the couple, a silk cord wound round them, and a kerchief, folded up, is placed between them, after which the Bramin pronounces a certain formula, the purport of which is, that the husband ought to give sufficient support to the wife, and that she ought to be faithful: the blessing follows. The Buddha religion prescribes other ceremonies and rules.

In Pegu, the women are bought, and generally only for a certain time.

In Siam, the husband may have, besides the legitimate wife, others, whose children, however, are not legal, and are sold as slaves.

In China, the wife is bought; poor people ask ives from the founding houses. The young couple do not see each other before the contracts are exchanged. The bride is then conveyed, with music, robes, &c., to the husband. She is carried in a bair, securely enclosed, the key to which is given, after arrival, to the bridegroom. Here he sees her for the first time. Formerly, the wife was sent back immediately, but at present this is generally evented by the contract; the relations also conve to get a pretty accurate description of the bride beforehand. The bride is then led into the house, where she bows low before the family idol. Entertainments then follow, each sex being separate. After marriage, the wife sees only the husband, and, on particular occasions, the father or some other relative, unless express provision is made for more liberty in the contract.

In Japan, the bridegroom awaits the bride in the temple of Fo, where the bonze blesses them, during which ceremony the couple bear a torch or lamp. The festival then lasts for seven or eight days.

The Parsees, or worshippers of fire, consider matrimony a holy state, conducive to eternal felicity, and betroth children very young. Matrimony between cousins is most esteemed. Betrothment is, with them, a ceremony entirely binding. At the wedding, the priest asks the parties whether each have the other; if they say yes, he joins their hands and strews rice over them. Weddings

among them are celebrated with much public festivity.

Among the Indians of North America, the weddings are very simple.—See the article *Indians*.

Among Christians, marriages, of late, are celebrated with much less ceremony than formerly. In England, among the wealthier classes, it is customary for the couple to go, in a morning dress, to church, and, immediately after the marriage, to set out on a journey. With the Catholics, matrimony is a sacrament, and dissolvable by the pope only. With Protestants this is not the case. In Scotland and the United States of America matrimony in the eye of the law is a mere civil act; justices of the peace may perform the ceremony; yet such instances are rare. Marriages concluded by clergymen simply are valid also, and, in so far, the law differs from that in the former French republic and empire, where the contract, in the presence of the civil officer, could not be omitted.

MARROW. See *Bone*, and *Medulla*.

MARS, MAVORS (with the Greeks *Ares*); the god of war. According to the oldest poets, he was the son of Jupiter and Juno; according to later ones, of Juno alone, and the fiercest of all the gods. Ares or Mars is, originally, a Pelasgian deity, whose worship was first celebrated in Thrace, and afterwards transferred to Greece. In the earliest times he was the symbol of divine power, and with the Greeks, the symbol of war, so far as regards strength, bravery and fierceness, or, in other words, was the god of battles. Minerva, on the contrary, as the goddess of war, was the symbol of courage joined with wisdom and military art. In later times, he is always represented in the human form, and is the protector of innocence. The Romans early adopted his worship from the Greeks. According to tradition, Romulus and Remus, the founders of Rome, were the fruit of his intercourse with Rhea Sylvia. Several temples in Rome and the Campus Martius were dedicated to him. His service was celebrated by particular *flamines* devoted to him, and by the college of the Salii, whose duty it was to preserve his shield (*ancile*), said to have fallen from heaven. The month of March was sacred to him, and his festivals were celebrated on the 1st of March and 12th of October. He was likewise the god of spring. Among the Romans, soldiers, and gladiators, and fire were sacred to him; also horses, birds of prey, vultures, cocks, woodpeckers, and wolves; the *suovetaurilia* were also in honour of him. In peace, they called him *Quirinus*; in war, *Gradivus* (the striding). They considered Bellona as his wife and sister. The Greeks, on the other hand, assigned him no wife, although he had children by Venus and several other mistresses. His intrigue with the former was betrayed to Vulcan by Sol. Vulcan immediately made a fine iron net, which he threw over the two lovers, whom he found in bed together: he then called together all the gods, and exposed his captives to the scorn of Olympus. He was the father of Harmonia, by Venus; Deimos (*Terror*) and Phobos (*Fear*) were his sons. Simonides also calls Cupid the son of Mars and Venus. Phobos is his constant companion in war; Phobos and Deimos harness the steeds to his chariot, and guide him to the fight. Enyo, the destroyer of cities (Bellona), and Eris, always hover around him in battle. The fables relate many of his exploits. He is mentioned in the account of the war of the giants only by the later poets. According to Claudian, he was the first who attacked the giants: he slew Pelorus and Mimas. But he was compelled to flee, with the other gods, before Typhoeus, and, to escape his fury, changed himself into a fish. In the fight with Otus and Ephialtes, the sons

of Aloeus, he was taken and confined in a brazen prison, where he languished thirteen months. But the mother of the Aloides, discovered the place of his confinement to Mercury, by whom he was delivered. He twice engaged in combat with Hercules, for the protection of his sons. In one of the combats, the god was wounded; in the other, Jupiter separated the combatants by hurling his thunderbolts between them. Mars having slain Halirrhoëtus, the son of Neptune and the nymph Euryte, for offering violence to his daughter Alcippe, Neptune accused him before the twelve gods, who judged the cause on a hill near Athens (Areopagns, Mars' Hill), and acquitted him. As Mars was the first who was tried in this place, it derived its name from that circumstance. In the Trojan war, he assisted the Trojans against the Greeks. Diomedes wounded him, and he bellowed like 10,000 men united. He fought also against Minerva, and hurled his spear against her ægis: she smote him to the ground with a rock. Mars is represented as a young warrior in full armour, of a strong frame, broad forehead, sunken eyes, thick and short hair. His attributes are a helmet, a spear, a sword, and a shield.

*Mars* is also the name of a planet. See *Planets*. In chemistry, *Mars* was formerly put for iron; in both cases, it is marked by this sign: ♂

MARS' HILL. See *Areopagns*.

MARSDEN, WILLIAM, born in 1754, at Verval, in Ireland, was sent out, early in life, as a writer, to the island of Sumatra, where he rose to be chief, and gained much information respecting the language, manners, and antiquities of the Oriental archipelago, a part of which he communicated in articles sent by him to the royal and antiquarian societies. The chief of these are, On a Phenomenon observed in the Island of Sumatra; Remarks on the Sumatran language; Observations on the Language of the People commonly called Gipsies; On the Hejira of the Mohammedans; On the Chronology of the Hindoos; and On the Traces of the Hindoo Language and Literature extant among the Malays. His separate publications are, the History of Sumatra (1802); a Dictionary of the Malayan Language, in two parts, Malayan and English, and English and Malayan, (1812); and a Grammar of the Malayan Language; to which is prefixed an interesting Discourse on the History, Religion, and Antiquities of the Oriental Islands.

MARSEILLAISE HYMN, the celebrated song of the patriots and warriors of the French revolution, was composed by M. Joseph Rouget de l'Isle, while an officer in the engineer corps at Strasburg, early in the French revolution, with a view of supplanting the vulgar songs then in vogue, relative to the struggle then going on. He composed the song and the music in one night. It was at first called *L'Offrande à la Liberté*, but subsequently received its present name, because it was first publicly sung by the Marseilles confederates in 1792. It became the national song of the French patriots and warriors, and was famous through Europe and America. The tune is peculiarly exciting. It was suppressed, of course, under the empire and the Bourbons; but the revolution of 1830 called it up anew, and it has since become again the national song of the French patriots. The king of the French has bestowed on its composer, who was about seventy years old at the time of the last revolution, having been born in 1760, a pension of 1500 francs from his private purse. M. Rouget de l'Isle had been wounded at Quiberon, and persecuted by the terrorists, from whom he had escaped by flying to Germany. The celebrity of the Marseillaise hymn, and the important influence which it has exerted, induce us to give it at length.

Allons, enfants de la patrie,  
Le jour de gloire est arrivé!  
Contre eux le combat est livré.  
Ici, l'ennemi nous attend!  
Mort ou liberté, nous le tenons!  
Il le faut, il le faut, il le faut!  
Marchez, marchez, marchez!

Aux armes, citoyens! Marchez, marchez!  
Marchez, marchez, marchez!

CHŒUR.

Aux armes, citoyens! Marchez, marchez!  
Marchez, marchez, marchez!

Que veut cette horde d'armes,  
De traitons, de piques, de baïonnettes?  
Pour qui ces braves citoyens?  
Ces braves citoyens, pour la patrie!  
Pour la patrie, pour la patrie!  
Pour la patrie, pour la patrie!  
Pour la patrie, pour la patrie!

Aux armes, &c.

Quoi! des combats, des combats!  
Pour la patrie, pour la patrie!  
Pour la patrie, pour la patrie!  
Pour la patrie, pour la patrie!  
Pour la patrie, pour la patrie!  
Pour la patrie, pour la patrie!  
Pour la patrie, pour la patrie!

Aux armes, &c.

Tremblez, tyrans! et vous, perfides!  
L'opprobre de tous les peuples!  
Tremblez, vous qui vous croyez invincibles!  
Vous qui vous croyez invincibles!  
Vous qui vous croyez invincibles!  
Vous qui vous croyez invincibles!  
Vous qui vous croyez invincibles!

Aux armes, &c.

Français, en guerriers magnanimes,  
Portez ou recevez nos coups!  
Épargnez les faibles citoyens!  
A regret! à regret! à regret!  
Mais les despotes nous le font!  
Mais les despotes nous le font!  
Mais les despotes nous le font!

Aux armes, &c.

Amour sacré de la patrie,  
Courage, soulève ton bras!  
Liberté, Liberté, Liberté!  
Combats avec les despotes!  
Sous nos drapeaux, que la victoire  
Assure à nos braves citoyens!  
Que la victoire, que la victoire!

Aux armes, &c.

MARSEILLES (properly *Marsylla*, the ancient Massilia; a city of France, capital of the département Bouches du Rhone, on the lion's gulf, lat. 43° 2' N.; lon. 5° 22' E.; seat of a bishop, and of civil and military authorities. The port is extensive and spacious, capable of accommodating 100 vessels, not admitting a ship of larger size than 1000 tons. A new port has recently been constructed, which will receive ships of the line, and is well adapted to the ground. The lazaretto is the finest in France. The old city is principally composed of crooked streets, and steep streets, lined with high houses. The city has wide, straight streets, with handsome houses are in general handsomely built, and several agreeable promenades and squares. The cathedral is one of the oldest in France. The Hôtel de Ville is the handsomest building in the city. There are an observatory, several hospitals, a school of arts and sciences, a royal college, a public library, 60,000 volumes, and numerous other literary, scientific, and charitable institutions. The principal articles of export are Naples soap, made of Marseilles olive-oil, brandy, anchovy, spirit, excellent corks, chemical preparations, coral, perfumery, &c. It carries on a considerable commerce with

parts of the world, particularly with Italy, Spain, Barbary, and the Levant. In 1826, 82,000 bales of cotton (one quarter of the whole amount imported into France) were carried into Marseilles. Sugar (for its refineries), dye-wood, and other colonial articles, from its imports. In 1824, 5723 vessels, with a burden of 392,996 tons, were entered at this port. The inhabitants are laborious, intelligent, and honest, but quick and ardent; they are very fond of music, dancing, and shows. Population, 115,943.

Marseilles was founded, 600 B. C., by a colony of Phœnicians, and formed, at an early period, a flourishing republic, celebrated for the wisdom of its institutions. Cicero calls it the *Athens of Gaul*. Under the domination of the Romans, it continued to rival Alexandria and Constantinople in commerce. During the middle ages, it again became a republic, but, in 1251, was reduced by the counts of Provence. In 182, it was annexed to the crown of France. In the revolution, its inhabitants were at first distinguished by their zeal in favour of the new doctrines; but, in 1793, it was found on the side of the ironists.

MARSHAL (in ancient German, *Marschalk*); derived, according to some, from the ancient German word *Mar*, a horse of the nobler kind, and *Shalk*, originally a servant (though at present a cunning fellow); hence *Marschalk*, a man appointed to take care of the horses. *Martchal*, in French, still designates a farrier, though it also denotes a high dignity. As the word came, in the sequel, to designate high officers of state and war, this derivation of the word proved unacceptable to some persons, and it was tempted to derive it from *mar*, *maer*, from the Latin *major*, as in *major-domo*; but the first derivation is the most probable, and it is by no means the only instance in which the names of high dignities originated with low employments. A similar instance is the French *connétable*, from *comes stabuli*. *Marshat* signified at first a person intrusted with the charge of twelve horses under the *comes stabuli*. In France, the title sunk still lower, so as to designate, as we have said, every farrier; but in other parts of Europe, it rose in dignity, as horses were highly valued at courts, so that it came to signify the person appointed to the care of all the horses of a prince; and, these persons being at length appointed high commands in the army, and important posts in the state, the title came to signify one of the best officers of the court. The marshal of the man empire derived his origin from the Frankish *marshals*, and was equivalent to the *comes stabuli* or *nétable*. He was bound to keep order at the coronation of the emperor, and to provide lodgings for the persons connected with the ceremony. He was called *arch-marshal*, a dignity belonging to the Electorate of Saxony. At the coronation it was his duty to bring oats, in a silver vessel, from a heap in an open market-place, and to present the vessel to the emperor. His duties were discharged by a military marshal (*Erbmarschal*). In France, *échal de France* is the highest military honour; *échal de camp* is equal to major-general, in Prussia to field-marshal. In Prussia, general-field-marshal is the highest military honour. In England, *marshal* means the commander-in-chief of all forces. It is also given as an honorary rank to royal officers who have no immediate command. *Marshal* was, and in many countries of Germany is, the title of the president of the diet of the estates. *Office* is sometimes hereditary. *Marshal* also signifies a person who regulates the ceremonies on solemn celebrations. *Marshal* is also used to denote inferior officers in England. The marshal of the king's bench has the custody of the prison

called the *King's bench*. He attends on the court of the same name, and takes into custody all prisoners committed by it.

*Marshal, Earl*. See *Earl Marshal*.

*Marshal, Provost*. See *Provost Marshal*.

MARSHAM, SIR JOHN, a learned writer on ancient history and chronology, born in 1602, in London, was educated at Oxford, and entered as a student of the law at the Middle Temple. In 1638, he was made one of the six clerks in chancery, which place he lost; and suffered in his estate for his attachment to royalty during the civil wars. At the restoration of Charles II., he recovered his office, was knighted, and became a member of parliament. Three years after he obtained a baronetcy. He died in 1685. His *Canon Chronicus Ægyptiacus, Ebraicus, Græcus* (London, 1672, folio), displayed much erudition and some ingenuity. He also published a work on the difficulties in the chronology of the Old Testament, and wrote the preface to the first volume of Dugdale's *Monasticon*.

MARSI; 1. a tribe in Samnium, on the northern bank of the *lacus Fucinus*, in the present *Abruzzo ulteriore*. They had the same language with the Sabines. They distinguished themselves in the social war, which, from them, is also called the *Marsian war*.

2. A German tribe belonging to the *Istævones*, a member of the Cheruscan league. (See *Cherus-cans*.) They pressed forward after the defeat of Varus, and settled chiefly on the banks of the Lippe, but retreated during the succeeding wars with the Romans.

MARSIGLI, LODOVICO FERNANDO, count of, was born in 1658, of an illustrious family at Bologna, and, after having received a good education, went to Constantinople in 1679, with the Venetian ambassador. On his return, he entered into the imperial service, and was employed as an engineer in the war with Turkey. He was taken prisoner at the passage of the Raab, and sent as a slave to Bosnia. On obtaining his liberty, he was again employed, and, having been made a colonel of infantry, was sent, with his regiment, to garrison the fortress of Brisac; and, that place being taken by the French in 1702, was accused of misconduct, and ignominiously dismissed from the Austrian service. Retiring to Switzerland, he published a justificatory memoir, and afterwards took up his residence at Cassis, near Marseilles, where he occupied himself with the study of marine botany, and other scientific pursuits. In 1709, pope Clement XI. made him commander of his troops; but he soon relinquished this office, and retired to his native place, where, in 1712, he founded the institute of Bologna. He afterwards travelled in England and Holland, and, in 1725, published, at Amsterdam, his *Histoire Physique de la Mer* (fol.); and, in 1726, his most valuable work, the *Danubius Pannonico-Mysicus* (6 vols., fol.), containing the natural history of the Danube, in its course through Hungary and Turkey. He died at Bologna in 1730, at the age of seventy-two.

MARSTON, JOHN; an English dramatic author, who lived in the reign of James I., was educated at Corpus-Christi college, Oxford, and was entered at the Middle Temple, of which society he became lecturer; but little more of his personal history is known, except that he was at one time upon terms of friendship with Ben Jonson. He was the author of eight plays, all acted at the Black Friars, with applause. Six of these were printed in one volume, in 1633, and dedicated to the viscountess Falkland. He also wrote three books of satires, entitled the *Scourge of Villany* (1599), reprinted in 1764.

MARSTON MOOR, in Yorkshire, England;

celebrated for the battle between the royal forces under prince Rupert and the troops of the parliament under Fairfax and Cromwell (1644), in which the latter were victorious. See *Charles I.* and *Cromwell*.

**MARSUPIALS**, in zoology; a singular family of the order *carnivora*, in the class *mammalia*, so called from a pouch (*marsupium*), in which the young remain immediately after birth, and into which they retreat in case of danger, when older. See *Kangaroo*, *Opossum*.

**MARSYAS**; a son of Olympus, Oagrus or Hyagnis. Fable relates that, after Minerva had thrown away the flute which she had invented, displeased because it disfigured the countenance in playing, and had pronounced the severest maledictions against any one who should take it up, Marsyas accidentally found this instrument, on which he soon acquired such skill, that he dared to challenge Apollo to a contest. The Muses were invited to be the umpires. At first, the stronger music of the flute drowned the softer tones of the lyre, on which the god played; and Marsyas was on the point of winning the victory, when Apollo accompanied his instrument with his voice. Marsyas was unable to do the same with his flute. The Muses decided in favour of Apollo, who put to death his rash competitor by flaying him alive. In this way was the curse of Minerva accomplished. This fable is emblematic of the preference given by the inventors of the fable to the art of singing to the lyre above that of performing on the flute. Many ancient and modern artists have represented the contest, as well as the punishment of Marsyas.

**MART**, or **MARQUE**, LETTER OF. See *Letter of Mart or Marque*.

**MARTELLLO TOWERS**, so called, by corruption, from *Mortella*, in Corsica, where a strong tower maintained a determined resistance to a superior English force in 1794. In consequence of the great strength exhibited by this fort, the British government erected twenty-seven similar towers on the Kentish coast, at intervals of about a quarter of a mile, as a defence against the threatened invasion from France. They are circular, with walls of great thickness, and roofs bomb-proof. One traversing gun is mounted upon each, in working which the men are secured by a lofty parapet. They are surrounded by a deep dry fosse; the entrance is by a door several feet from the ground, approach to which is then cut off by drawing up the ladder. The ordinary guard consists of from six to twelve men.

**MARTEN** (*mustela*). The term *marten* is sometimes applied to the whole weasel tribe. The European marten (*M. foina*) inhabits most parts of Europe. It is a most elegant and lively animal, exceedingly agile and graceful in its motions. The female breeds in hollow trees, and produces from three to seven young at a time, which, in winter, have sometimes been found sheltered in magpies' nests. These animals are very destructive to poultry, eggs, &c., and also feed on rats, mice, and moles; they are also very fond of honey, and will sometimes eat seeds and grain. They have a musky smell. They are capable of being tamed, but generally require to be kept chained. The pine marten (*M. martes*), is an inhabitant of the woody districts in the northern parts of America, from the Atlantic to the Pacific. This species is also found in Northern Asia and Europe. It very closely resembles the marten of Europe, but may be distinguished by its smaller size, longer legs, finer, thicker, and more glossy fur, and from the throat being marked by a broad yellow spot, whilst the same part in the European marten is white. The pine marten preys on mice, rabbits, and partridges, &c. A partridge's head, with the feathers, is the best bait for the log traps in which this animal

is taken. When this animal is pursued, and retreat cut off, it shows its teeth, and arches its back, and hisses like a snake. It is dog by the nose, and bite so hard that even the latter is accustomed to brist when the animal to escape. It is easily tamed. It burrows in the ground and stays about six weeks, and brings forth its young in a litter, about the latter end of April. The litter is fine, and much used for trimming. Thousands of 100,000 are collected annually in the state of Pennsylvania, commonly called the *M. canadensis*, is also a native of the western part of America. It is a larger and stronger animal than the last mentioned species; climbs very well, and preys principally on mice. It lives in a hole, preferring damp places in the variety of its habits, inhabits a wide extent of country, from Pennsylvania to the Great Slave lake. It brings forth its young from two to four young. It is caught by traps of which considerable numbers are every year exported by the fur traders.

**MARTENS**, GEORGE FRIEDRICH VON; born at Gottingen, and Hanoverian noble commoner, one of the most eminent writers and lecturers on the history of the nations. His earliest work, which has been a standard book on the subject, was published at Gottingen, in 1789, and has been translated by (name). It bears the title of a *Compendium of the History of the Nations*, founded on the *Treaties and Customs of the Modern Nations of Europe*. He afterwards published a *Course of Diplomacy* (in 3 vols., 8vo). Collection of the principal *Treaties of Peace and Alliance* since 1761 (14 vols., 8vo); and several other works. The merit of these works caused the name of the author to be sought for by the German sovereigns. In 1807, Jerome Bonaparte appointed him a counsellor of state, in the *French empire*, and he was retained in it after the fall of Napoleon. In 1814, he was employed, at the congress of Vienna, to draw up the reports of the *ambassadors* before the ministers, and was afterwards sent as a *delegate* to prince Christian, in Norway. In 1818, he was nominated minister from Hanover to the diet at Frankfurt, where he died in 1821.

**MARTHA**, SISTER, was long severely admired for her active and impartial humanity. Sister Martha was known by the name of *Sister Martha*, was before the French revolution, what is called a *nun* in a convent; that is, a nun who has the use of the convent box fixed on pivots in the wall, by means of which messages and articles are conveyed to and from the convent, without any of the nuns being seen. After the dissolution of the convents, Martha returned into society, she dedicated her talents and means to the consoling of the poor and prisoners of prisoners. Though her pecuniary resources were small, her kindness was unbounded. In 1800, when she was between sixty and seventy years of age, six hundred Spanish prisoners arrived at Besançon, a place where she resided. She hastened to their assistance, did her utmost to supply their necessities, watched over those who were sick. She was employed by them to solicit the governors of the prison, when they had any thing to request. One day, when she was visiting him on the lower floor, he said, "Sister Martha, you will be well glad to hear that your good friends the Spaniards are going to leave Besançon." "Yes," replied she, "but the English are coming, and all the other are my friends." Her impartial benevolence was indeed, extended to all; and, in 1814, in 1815, her powers were called forth to comfort and console the wounded French and allied soldiers. "I was in the field of battle," said the duke of Angoulême,

"that I became acquainted with your character. Our soldiers, when they were wounded, and far from their country, used to exclaim, 'Oh, where is Sister Martha? If she were here, we should suffer less.'" After the confederated sovereigns obtained possession of Paris, they were desirous of seeing this admirable woman, and did not forget to reward her virtues. The emperor of Russia gave her a gold medal, and a sum of money; the emperor of Austria, the cross of civil merit, and 2000 francs; and the king of Prussia, a gold medal. The Spanish monarch sent her a cross. She was also presented to Louis XVIII., who received her graciously, and conferred honours upon her. She died at Besangon, in 1824.

MARTHA, SANTA; a city of Colombia, on the northern coast, with a large, safe, and commodious harbour, strongly fortified; lat. 11° 19' N.; lon. 78° 18' W.; population, 5000. The heat is great, and the houses are liable to be filled with a fine sand, blown up by the south-west winds. It has considerable commerce.

MARTHA'S VINEYARD; an island of Massachusetts, on the south side of Cape Cod, twelve miles west-north-west of Nantucket, nineteen miles long, and from two to ten broad; lon. 70° 40' W.; lat. 41° 0' N. The greatest part of the island is low and level, and but a small part of the land is good. The principal manufactures are those of wool and salt. The island contains three towns, Edgartown, Tisbury, and Chilmark. On the north side of the island is the harbour of Holmes' Hole.

MARTIAL, MARCUS VALERIUS, the most celebrated of the epigrammatical writers among the Romans, was born at Bilbilis, in Celtiberia, A. D. 43, and educated at Calagurris (*Calahorra*), the birth-place of his friend Quintilian. He went to Rome when young, during the reign of Nero, and lived under the reign of Galba and the following emperors; from one of whom he received marks of esteem and favour. Domitian appointed him tribune, and made his circumstances more easy by presents. Trajan, who was no friend to satirists, withheld the favour which Martial had received from his predecessors. This induced the poet to retire to his native city. Pliny the Younger gave him a sum of money to pay the expenses of the journey. While in Italy, he married a Spanish lady, who brought him a considerable estate. He died in the year 101. His celebrity is founded on fourteen books of epigrams, of which he himself modestly says, "*Sunt bona, sunt quædam mediocritas, et mala plura.*" The number and value of his epigrams give a high idea of the wit of the poet. Most of them are ingenious and cutting; many are full of grace and attic salt; and many, in which he satirises the vices of his age, are extremely indecent and immodest. He is the true father of modern epigram, which is distinguished from the simple Greek epigram, by the convergence of all its parts to one witty point. The best editions of his works are that of Paris, 1617, folio; of Scriverius (Leyden, 1618 and 19, 3 vols. 12mo); of Schrevelius (Leyden 1656); of Rader (Mentz, 1627, folio); an expurgated German translation has also been published by Willmann, Jögnne, 1825.

MARTIAL LAW. The law martial applies to soldiers in actual service, and in Britain, is founded on particular statutes. Chief-justice Hale, in his history of the Common Law, chapter ii. says, it is a law of rules, and a jurisdiction rather indulged by the law than constituting a part of it. But it does not appear why it is not a part of the law of the land, much as the law merchant or any other branch of it. It is true it applies only to persons in actual military service, and only to their conduct in such service; but so the maritime law applies only to per-

sons engaged in maritime trade, and has reference only to acts done, or obligations arising in that trade. The jurisdiction under the law martial is in a distinct tribunal, and the mode of proceeding is different from that which prevails in the common law and in equity jurisdiction; the tribunal for the trial of offences against the military law being a court-martial appointed by some superior officer. A military code, and also a special tribunal for the trial of offences against its provisions, are absolutely necessary for the government and regulation of an army, since the offences to which such a code relates, are quite different from those cognizable by the common law, and are such that the ordinary tribunals are not fitted to have jurisdiction of them: the proceedings, too, must be more summary than is practicable before the standing judiciary.

MARTIN, Sr, the most famous of this name, was born of heathen parents at Sabaria, in Pannonia (now *Stein*, in Lower Hungary), about the year 316. He attended the catechetical school at Pavia. His father was a military tribune, and compelled him, in his sixteenth year, to take up arms. He is said to have early escaped from his father, and received instruction in a Christian church. While a soldier his life was marked with the rigour of a monk. He served under Constantius and Julian, and went to Gaul, where he appeared as the model of all virtue. Among other acts, he divided his cloak with a poor man, whom he met at the gates of Amiens. The legend says that Christ appeared to him in the following night, covered with the half of this cloak. Soon after this vision, Martin was baptized in 337, and lived many years in retirement, till St Hilarius, bishop of Poitiers, appointed him exorcist. While on a journey to visit his parents, he was attacked in the Alps by two highway robbers; the axe of one assailant was already hovering over his head, when the other, touched by his look of innocence, saved him, and was immediately converted. In Pannonia, to which he returned, as was alleged, at the command of the Divinity in a dream, he converted his mother, and opposed, with zeal, the Arians who prevailed in Illyria. For this, he was scourged from the country, on which occasion he manifested the firmness of a martyr. He now established a monastery in Milan, and afterwards, having been driven thence by the bishop Auxontius, founded another on the island of Gallinaria, in the Ligurian sea. He next settled at Poitiers, where he assembled a number of religious persons, and is said to have wrought many miracles; for instance, to have raised one of his pupils from the dead. In the year 375, the bishopric of Tours was conferred on him against his will. In order to withdraw himself from the world, he built the famous convent of Marmontiers, between the Loire and a steep rock, where he finished his life in the year 400. This is regarded as the oldest abbey of France. St Martin was the first to whom the Roman church offered public adoration. His exertions in spreading the true belief, and exterminating paganism in France, are deserving of all commendation. The anecdote, that the emperor Maximinus, at a banquet, to which he invited Martin, offered him the goblet in order to receive it from his hand, has made him the patron of drinkers. His festival, which takes place on the 11th of November, was formerly celebrated with banquetings and carousals, where the hilarity was frequently excessive (as is shown by the French expression *Martiner*, and *le mal de St Martin*). The *Professio Fidei de Trinitate*, attributed to St Martin, is regarded as spurious.

MARTIN. Of five popes of this name, the most important are,

*Martin I.*, of Todi, in Tuscany, who was educated

with care, and elected pope in 649. At a synod of Italian bishops in the Lateran church at Rome, he caused the Monothelites and the emperor Heraclius to be solemnly condemned. He was therefore carried captive to Constantinople, and condemned to death as a traitor. At the request of the patriarch Paulus, the punishment of death was transmuted into that of banishment. Martin was deprived of all marks of his dignity, exposed to the contumelies of the people and soldiers, and banished to the Chersonese, where he died in 655. On account of these sufferings, he was numbered among the saints. We have eighteen epistles of his, of little value.

*Martin V.*, of the ancient family of Colonna, was chosen pope in 1417, after the abdication of Gregory XII., and the deposition of Benedict XIII., during the council of Constance. No one of his predecessors or followers has ever been consecrated with such solemnity. He rode on a white horse, which the emperor of Germany and the elector of the Palatinate, both on foot, led by the bridle. A number of princes, and a whole council, formed his retinue. His first act was to promulgate a bull against the Hussites, which is remarkable from the circumstance that in it the pope seems to recognise the supreme authority of the councils. In 1418, he dissolved the council of Constance, though a number of difficulties were not adjusted, and dissensions continued in the church. Benedict XIII. still lived; and, at his death, in 1424, a new antipope was elected in Clement VIII., who first renounced his pretensions in 1429, when he received the bishopric of Minorca as an indemnification. A council which Martin V. convened at Pavia, and thence removed to Sienna, was dissolved, without having established any thing. He died soon after, in 1431. He has the merit of having restored unity to the church, and pacified Italy. We yet possess some works of his.

MARTIN, DON JUAN, EL EMPEDICADO. See *Diaz*.

MARTIN, LOUIS CLAUDE, St, a mystical writer, of noble descent (marquis), was born at Amboise, in Touraine, Jan. 18, 1743, entered early the military service, travelled over Europe, served during the revolution in the national guard, and retired to solitude. He died at Antray, near Chatillon, Oct. 14, 1803. He was modest and pious: his works are full of symbolic mysticism. He found a number of adherents, who called themselves *Martinists*. He translated Jacob Bohme's *Aurora* (*Morgenrothe*). His mystical work *Des Erreurs et de la Vérité* (Lyons, 1775) is famous. He farther wrote *Tableau naturel des Rapports qui existent entre Dieu, l'Homme, et l'Univers* (Edinburgh, 1782, 2 vols.); *De l'Esprit des Choses* (1800, 2 vols.); *Ecce Homo*; *Le nouvel Homme* (1796); *Ministère de l'Homme d'Esprit* (1802); *L'Homme de Désir* (new ed., Metz, 1802, 2 vols.); *Le Crocodile, ou la Guerre du Bien et du Mal, Poème épico-magique, en CII. Chants* (1800); *De Dieu et de la Nature*, &c.

MARTINET; a word frequently used to signify a strict disciplinarian, who sometimes gives officers and soldiers unnecessary trouble. It is supposed to have originated from an officer of that name, who was in high repute as a drill officer, during the reign of Louis XIV. The word also signifies, in French, a sort of scourge, used by schoolmasters; and perhaps this instrument may have been the true source of the above military term.

MARTINI, JOHN BAPTIST, a skilful composer and musician, born at Bologna, in 1706, entered early into the order of Minim Friars, and travelled for some time in Asia; and it was not until his return, that he entirely devoted himself to music. His progress was so rapid, that, at the age of seven-

teen, he was appointed chapel-master of his order in Bologna, where he continued until his death, in 1754, composing a large number of the functions of profusion. A new school of Martini issued some of the most elegant composers in Italy. He wrote a *Trattato di Musica* (in 3 vols., folio); as also an *Essay on Musical*, and *Compendio della Teoria del Suono*.

MARTINICO or MARTINIQUE is the largest of the Caribbee islands in the West Indies, belonging to France; forty-eight miles long, and about sixteen broad; square miles, 244,000, in 1827, 101,865; 9937 whites, 10,000 of colour, and 81,142 slaves; chief towns, St. Pierre and Fort Royal; lon. 61° to 61° 25' E. and 24° to 14° 56' N. It is very fertile, and covered in all parts, by a number of hills, rising mostly of a conical form. These mountains are above these smaller eminences. The hills are the indelible marks of a volcano. The island is covered with which it is covered, constantly with clouds, which occasion not only damp, but also but to make it horrid and unbecomingly, and a two others are in most parts cultivated. From the mountains, but chiefly from the first, are the springs that water the island. These waters flow in gentle streams, are changed into rain by the slightest storm. Their quality depends on the nature of the soil they pass through: in some parts they are excellent, in others, so bad that the inhabitants are obliged to drink the water they have collected in the rainy seasons. The island has suffered great ravages in 1825: hurricanes, in 1825 and 1823, were destructive: the hurricanes of 1825 and 1828 did but little damage. The island is the superficial area of the island, 17,000 employed in raising sugar-cane, 3461 cotton, and 491 cotton; 17,191 is pasture, 17,000. The annual production is valued at 10,000,000 francs. The island consumed French produce to the value of 16,000,000 in 1824, and exported to the mother country 18,000,000 in value. The commerce engaged in this commerce was 2500 tons. The revenue, in 1823, was 4,000,000 francs. The administration is conducted by a council, the head of which is the governor. The island was discovered by the Spaniards, in 1493, and named by the French in the middle of the seventeenth century. The British captured it repeatedly in the last time, in 1809, and restored it to France in 1814.

MARTYN, HENRY, an able missionary, was born in Cornwall, in 1781; in 1797, entered a dissenting college, Cambridge, of which society he was chosen fellow, in 1802. The following year, he went to India, and, in 1805, went to India, as a chaplain to the East India company. In the East, he distinguished himself by his rapid acquirement of the languages. He became master of Sanscrit, and translated the Common Prayer into Hindustani, and performed divine service publicly in that language. From India, he proceeded to Shiraz in Persia, and translated the Psalms and New Testament into the Persian tongue. He also held communion with the learned Mohammedans, and converted some of them to Christianity. He died of a disease, at Shiraz, October 16, 1812.

MARTYR, FERDINAND, (more correctly *Ferdinando d'Ugento*), an Italian writer, who, after having attached himself to the cardinal Vintimille, afterwards archbishop of Milan, went to Spain (1575), distinguished himself in the military service of Philip II. and Isabella, and then embraced the clerical profession. Ferdinand employed him in some important

\* A hectare is nearly two and a half English acres.

affairs, and created him counsellor of the Indies. Charles V. also treated him with favour. He died in 1526, at the age of seventy-five years. His principal works are *De Rebus Oceanicis et Orbe novo Decades*,—a history of the discoveries of Columbus and his successors, from their own relations; *De Insulis nuper inventis* (1521); *De Legatione Babylonica*,—an account of his embassy to Egypt, whither Ferdinand sent him, in 1501; and his *Opus Epistolarium*.

MARTYR, PETER (whose family name was *Ernigli*), one of the earliest Protestant divines, distinguished for learning and abilities, was born at Florence, in the year 1500, and entered, at the age of sixteen, into the order of the regular canons of St Augustine, at the monastery of Fiesole. In 1519, he removed to Padua, where he studied Greek and philosophy. In 1526, he commenced preacher, and attracted great applause in several cities of Italy. After receiving numerous important offices in his order, his religious opinions were considered as favouring too much of the doctrine of the reformers, and it became necessary for him to quit Italy, and

Zurich, in Switzerland, he was received in a friendly manner by the Protestant clergy (1542). Soon after, he became professor of divinity at Strasbourg, and, in 1547, accompanied Bucer, Fagius, and other learned reformers, on the invitation of arch-bishop Cranmer, to England. Martyr had followed the example of Luther, in marrying a nun, who had renounced her vows. He was appointed to the theological chair at Oxford, in 1549, and became very efficient assistant to the English reformed clergy, in carrying on their plans of innovation in the church. On the accession of queen Mary, being commanded to quit the country, he returned to Strasbourg, and resumed his former situation. In 1556, he removed to Zurich, to occupy the office of theological professor. In 1561, he assisted at the famous conference between the Catholics and Protestants held at Poissy, in France; and died at Zurich, the following year. Peter Martyr was the author of many works on divinity, including commentaries on some parts of the Old and New Testaments. He is said to have excelled Calvin in erudition, and the knowledge of languages, and his personal character was extremely amiable.

MARTYRS (from the Greek *μαρτυρ*, a witness); a name applied, by the Christian church, to those persons, in particular, who, in the early ages of christianity, and during the great persecutions, suffered ignominy and death, rather than renounce their faith; and thus testified their unshaken confidence in the truth and divine origin of the new doctrines. The animation which faith inspires in noble souls, wherever it is opposed and oppressed, has given to the Christian church many heroic examples in this sort; and, in all ages and countries, religious men have aroused the spirit of martyrdom, which leads to the sacrifice of life and worldly good for truth. An account of the life, persecutions, and death of the Christian martyrs, is called *martyrology*. The first, I., bishop of Rome, was the first who adopted a work of this kind. The Roman martyr is the most celebrated. On the worship of martyrs, see the article *Saints*.

*Martyr*, in a wider sense, is used for any innocent man who suffers in a good cause, or in a cause which he considers so; thus we say, to be a martyr for truth, to a cause, &c. For further information see *Persecutions*.

*Martyrs, Era of.* See *Epoch*.

*Martyrs, Festivals of the,* seem to have been observed as early as the second century. The Christians offered prayers at the tombs of the martyrs, thanked God for the example which they had

given to the world. The rite was concluded with the sacrament of the Lord's supper and the distribution of alms. Eulogies were also delivered, and accounts of the lives and actions of the deceased read. These festivals were called the *birth days of the martyrs*, because on the day of their death they were born to the joys of eternal life. The churches or chapels consecrated to the martyrs were styled *martyria*. They sometimes, though not always, contained their bones, and sometimes were particular rooms in the great churches.

MARVELL, ANDREW, was born at Kingston-upon-Hull, in 1620, and sent to Trinity college, Cambridge, whence he was inveigled away by some jesuitical emissaries, and was found by his father in a bookseller's shop in London, and induced to return to college. On the death of his father, in 1640, he made the tour of Europe, and distinguished himself by some humorous satires against Richard Flecknoe, an English poetaster, resident at Rome, which circumstance induced Dryden to give the name of *Mac Flecknoe* to his satire against Shadwell. He afterwards acted as secretary to the English legation at Constantinople, and, on his return, was appointed assistant to Milton, in his office of Latin secretary. In 1660, he was chosen member of parliament for his native place, which he represented to the end of his life, and obtained a high character for diligence, ability, and integrity. In the reign of Charles II. Marvell was in the opposition, and his whole efforts, both in and out of parliament, were directed to the preservation of civil and religious liberty. Although he rarely spoke, his influence was great. The earl of Devonshire was intimate with him, and prince Rupert often followed his advice. He had the character of being the wittiest man of his time, and wrote a number of poetical effusions, of the humorous and satirical kind, which were very effective as party pieces. Marvell was the author of several tracts, one of which, entitled an *Account of the Growth of Popery and Arbitrary Power in England*, gave so much offence, that a reward was offered for the printer and publisher. Notwithstanding the earnestness with which he opposed the court, his wit made him a favourite with Charles II., who deputed the lord treasurer Dauby to wait upon him, with the offer of £1000, and a promise of future favour. He rejected the bribe without hesitation; and was obliged, on the departure of the courtier, to send to a friend for the loan of a guinea. The life of Marvell was more than once threatened by his irritated enemies; and his death, which happened in August, 1678, without much previous illness, has been attributed, with no support from direct evidence, to poison. He was buried at St Giles's in the Fields, at the expense of his constituents, who voted a sum to erect a monument to his memory; but it was not admitted by the rector. The most complete edition of his works is that by Thompson, with an account of his life (3 vols. 4to, 1776).

MARY is probably derived from the Hebrew *Miriam*, (strife, disobedience). Mary, the mother of Jesus, in the language of the church, *Our Dear Lady*, or the *Holy Virgin* (in French, *Notre-Dame*; Italian, *Madonna*; English, *Our Lady*), is described in the gospel history as a virgin in humble circumstances, but of the stem of David, who lived in obscurity in Nazareth, a city of Galilee, and was betrothed to Joseph, a carpenter. A heavenly messenger broke in upon her solitude with a salutation of the deepest veneration. The Virgin was astonished at the appearance: her modest feelings could not account for such a mark of distinction. The angel saluted her as the highly-favoured of God, and announced to her that she should bear a son, who

should be called the Son of God, the long expected Saviour of the Jews. "How shall this be," she replied, "seeing I know not a man?" The angel informed her that the power of God should overshadow her, and make that which was impossible a reality, as had been the case with her aged friend Elizabeth, who was barren. She bowed in submission to the will of the Supreme,—"Behold the handmaid of the Lord: be it unto me according to thy word." The feelings excited by her high and wonderful destiny raised her above doubt, and the song of praise into which she bursts forth at her meeting with Elizabeth expresses the joy which she felt at her destination. The little we learn of her feelings at the birth of Christ, the salutations of the shepherds, and his presentation in the temple, show that the emotions which were excited by the annunciation still remained. She sees the connexion between the vision of angels, which the shepherds related, and what she already knew: she was not astonished when she heard the prophetic blessing of Simeon. At the wedding in Cana, she sought the miraculous power of her Son to relieve the embarrassment occasioned by a want of wine. She doubtless attended him through all his perilous course, with ever-watchful anxiety; for we find her absorbed in silent sorrow at his cross, with the beloved disciple John. To his care, Jesus intrusted her as to a son, after which she disappears from history.

Towards the end of the fourth century, parties were formed among the Christians, which paid her too little or too much veneration. Some Thracian and Scythian women, having a very slight knowledge of Christianity, carried into Arabia their pagan feelings towards a mother of the gods, and established a formal worship of the Virgin Mary. They worshipped her as a goddess with prayers, processions, and sacrifices, and, among other ceremonies, offered her, on a carriage consecrated to her service, small cakes (Greek, *kollyris*), whence they were called *Collyridians*. Even orthodox theologians began to maintain the opinion that Mary always remained a virgin as a doctrine of faith; and a party in Arabia, which regarded her as the actual wife of Joseph and the mother of several children by him, was called *Antidikomarianites*, that is, the adversaries of Mary. At the end of the fourth century, Helvidius in Palestine, and bishop Bonosus in Illyria were declared heretics for the avowal of similar opinions. Poetry and the Catholic church readily adopted the image of Mary for an ideal of female excellence. With the worship of saints, the veneration of the Virgin Mary is naturally connected. In the sixth century, the Christian church began to celebrate festivals in her honour, of which the Purification, the Annunciation, and the Visitation (the visit of Mary to Elizabeth) are still retained in many Protestant countries. The Greek and Catholic Christians, and the schismatic churches in the East, observe several feasts besides the above in honour of the Virgin; for instance, the birth of Mary, and her ascension to heaven (by the Catholics called the *Assumption*). The festival of the immaculate conception is celebrated only by the Catholic church. It was first introduced in 1145: it was not received, however, universally, on account of the violent opposition of the Dominicans. These disciples of St Thomas Aquinas (q. v.) refused to admit that Mary was conceived and born without original sin. The council of Trent left this dispute undecided, notwithstanding the violence with which it had often been renewed. The worship of Mary gave rise to a belief in the miraculous power of several old images of the Virgin. Those at Loretto, in Italy, and Czestochow, in Poland, are particularly celebrated

for their healing powers, but a *business of soul and body*. To such images, the *devotion* has been accustomed to perform pilgrimages to obtain the indulgence promised to pilgrims by the pope. Several religious orders have been founded in honour of the Virgin Mary, among which are the mendicant order of Servites, and it is the order of females called by her name; for instance, the order of the Conception, of the Annunciation, or *Immaculate*, of the Visitation. For the *scriptural* worship of the Virgin, so important in history as to be of influence on the fine arts, see *Virgin* art. viii.

Sacred history mentions several Marys

1. *Mary of Bethany*, the sister of Lazarus, the ready scholar and tender worshipper of Jesus, whom he vouchsafed his peculiar friendship as a imperishable name (*Matthew* xiii. 17).

2. *Mary of Magdala*, or *Mary Magdalene* who was cured by Christ of an inveterate demon, proved her gratitude by the most devoted adhesion to him. She served him with her property, accompanied him on his journeys, and wept at his crucifixion. She was the last to leave his grave, and the first to visit it on the morning of the resurrection, and to behold her risen Lord. See *Magdalen*.

3. *Mary*, the wife of Cleophas, the mother of St apostle James, and, 4. *Mary*, the sister of Mary the mother of Jesus, both of whom we find at his sepulchre, and who had probably been a train.

MARY OF MEDICI, daughter of Francis I. of Medici, grand duke of Tuscany, was born in France, in 1573, and married to Henry II. of France, in 1600. After his death in 1610, she became regent. The duke of Epernon had access to parliament of Paris to confer on her the regency of France, at the same time regent and guardian of a minor son, Louis XIII., dismissed the great nobles, and allowed herself to be guided by Italian and Spanish favourites. The state lost respect and was torn by the dissensions of the great nobles. A treaty, concluded in 1614, granted to the Catholics everything which they had asked for; but the party spirit rose anew, as Mary's conduct caused universal dissatisfaction, she having given herself totally up to the guidance of the *cardinal* and his wife, the two most dangerous persons that ever stood near a throne. The death of the marshal, murdered by order of Louis XIII. at the end of the civil war. Mary was installed in France, whence she proceeded to Angoulême. Then, then bishop of Lugon, renewed the *cardinal* and his son, in 1619, but Mary, dissatisfied with the fulfilment of the terms of the agreement, started a new war, which, however, was soon subdued. At the death of the *cardinal* de Lorraine, however, Mary stood at the head of the *cardinal* de Lorraine, in order to strengthen her authority, she appointed Richelieu, her favourite, into the *cardinal* de Lorraine, had the *cardinal* reached the summit of his power, when he made his former protector, *cardinal* de Lorraine, was no longer dependent upon her, and so immediately laboured to effect his downfall. Louis XIII. having fallen seriously sick at Lyons, she sought him to promise to abandon the *cardinal*. He refused the fulfilment of this promise, the *cardinal* vowed to reconcile the two parties after his death. Mary was not to be moved, and the king was much displeased that he consented to sacrifice his secret council of state was held, the chief members of which was the *cardinal*, who showed, as a sign of grace, that either the queen or he himself must be executed. He then set forth the dangers which threatened the state from without and within so forcibly, that the king held himself lost without the support of the

prime minister. All the other members of the council of state agreed with the king, partly from flattery, partly from fear of opposing him, partly from the wretched state of the kingdom. The king was apprehensive, in consequence of the suggestions of the cardinal, that the queen intended to put her second son Gaston on the throne. The queen therefore received orders, in 1631, to retire to the castle of Compiègne, and all her adherents were either banished, or confined in the Bastille. The queen soon felt that she was in reality a prisoner at Compiègne, and fled, in the same year, to Brussels. She afterwards repeatedly demanded justice from the parliament, and died in 1642, in great want, at Cologne. Paris owes to her the magnificent palace of the Luxembourg, the aqueducts, and the public walk, called *Cours-la-Reine*. She was jealous, obstinate, and ambitious. With Henry IV. she had not been happier than with Louis XIII. The amours of her husband caused her the greatest grief, and jealousy often excited her to violence. With unbounded passion, she united all the weaknesses of her sex. She was ambitious from vanity, confiding from want of intelligence, and more varicious of distinction than power. Her biography appeared in 1774 (Paris, 3 vols.)

MARY I., queen of England, daughter of Henry VIII., by Catharine of Arragon, was born in 1516. In her infancy, she was betrothed, first to the dauphin of France, afterwards to the emperor Charles V., and, lastly, to the duke of Orleans. After her mother's death, she was declared illegitimate, but was restored to her rights, when the succession was finally settled in 1544. She was bred up by her mother, in a zealous adherence to the Roman Catholic faith; on which account, she was treated with rigour under Edward VI. She ascended the throne in 1553, after an abortive attempt to set her aside in favour of lady Jane Grey. One of her first measures was the reinstatement of the prelates who had been superseded in the reign, while Cranmer was prosecuted for high treason, and several other Protestant bishops imprisoned. The marriage of the queen with the archbishop Philip, son of the emperor Charles V., afterwards Philip II., united as it was with a complete restoration of the Catholic worship, produced much content. Insurrections broke out under Cave, in Devonshire, and Wyatt, in Kent, which, although oppressed, formed sufficient excuses for immuring princess Elizabeth in the Tower, and dooming the youthful and unfortunate Jane Grey and her husband, Guildford Dudley, who had been hitherto spared, to execution. Philip arrived in England in 1554, when nuptials were celebrated; but the attempts of Mary to secure him a paramount authority in England were unsuccessful. She succeeded better in a conciliation of the kingdom to the pope, which was effected, in great form, by the legate cardinal Pole. The sanguinary laws against heretics were revived, and those shocking scenes of cruelty followed, which were fixed upon this princess the hateful epithet of *bloody queen Mary*. The legate Pole disapproved of her severity; but the arguments of Gardiner and others were more congenial to the gloomy bigotry of the sovereign, and 277 persons were committed to the flames, including prelates, private clergymen, laymen of all ranks, women, and even children. Her union with Philip II. was equally unpropitious to herself and the nation. Eleven years younger than the queen, he treated her with great neglect; and, to prevent the fulfilment of his threat of desertion, England was forced into a war with France, and the stance of English troops facilitated the Spanish victory over the French at St Quentin. This result, which was of no service to England, was quickly counterbalanced at her expense, by the loss of Calais,

which was taken in 1558, after it had been in the hands of the English for 200 years. This disgrace sank deep in the heart of Mary, who was already declining from a dropsical complaint, and preyed upon by a consciousness of the hatred of her subjects, and the indifference or aversion of her husband. She terminated her short and dark reign, of little more than five years, in November, 1558, in the forty-second year of her age. Mary was not destitute of the characteristic vigour and ability of her family; but her natural capacity was clouded by bigotry, and the prejudices fostered by the connexion of her mother's divorce and ill-treatment with the separation from the see of Rome. Hateful as was the severity really displayed, it has not unfrequently been highly exaggerated, and censured with too little regard to the intolerance prevalent in that age. With Mary I., ended the dominion of popery in Great Britain.

MARY II., queen of England, born in 1662, was the daughter of James, duke of York, afterwards James II., by his wife Anne Hyde, daughter of lord Clarendon. She was married, in 1677, to William, prince of Orange, and, when the revolution was effected, which dethroned her father, Mary was declared joint-possessor of the throne with her husband, king William, on whom all the administration of the government devolved. This arrangement cost Mary no sacrifice, her strong regard to, and profound respect for, her consort being always conspicuous. She was strongly attached to the Protestant religion and the church of England. During the absence of William in Ireland, in 1690, Mary managed parties at home with extreme prudence, and acted with equal ability during his various visits to the continent. The unfriendly terms on which she lived with her sister Anne have been regarded as a blemish in her character; but political jealousies, and the weak attachment of the latter to overbearing favourites, may sufficiently account for it. Mary died of the small-pox, at Kensington, in the year 1695, in her thirty-third year. See *William III.*

MARY STUART, queen of Scots, celebrated for her beauty, her accomplishments, her errors, and her misfortunes, was born at Linlithgow palace, December 8, 1542, and was the daughter of James V. of Scotland, by his queen, Mary of Lorraine, a French princess, of the family of Guise. Her father dying when she was about eight days old, violent disputes arose among the nobility about the guardianship of the infant sovereign, and the conduct of public affairs. The regency was at length vested in the earl of Arran, and Henry VIII. of England having demanded the hand of Mary in marriage for his son Edward, the regent's rejection of the proposal occasioned a war, in which the Scots were defeated at the battle of Musselburgh. At the age of six, the young queen was sent by her mother to France, where she was educated in a convent, and appears to have been instructed in every branch of learning and polite accomplishment which was fashionable at that period. April 20, 1558, she was married to the dauphin, afterwards Francis II. He died about six months after his accession to the crown, in December, 1560, and the widowed queen returned to Scotland. The future incidents of her life are matter of well-known history, and, remarkable as they are, a very slight notice of the most important can alone be introduced into this article. The queen, having received overtures of marriage from various quarters, gratified her inclination by uniting herself with her cousin, the young and handsome Henry Stuart, lord Darnley, by whom she became the mother of James VI. Darnley proved a profligate and ungrateful husband, and a weak and worthless man. Excited by jealousy, he caused his wife's secretary, David Rizzio, to be

murdered in her presence, and offered her many other indignities, which produced an open quarrel between them. An apparent reconciliation took place, when Darnley, who had continued to reside separately from the queen, was assassinated, and the house he had inhabited was blown up with gunpowder, in February, 1567. This barbarous transaction was but very imperfectly investigated; and, in the month of May following, the imprudent Mary wedded the earl of Bothwell, who was openly accused as the murderer of the late king. Scotland soon became a scene of confusion and civil discord. The people rebelled against the authority of the queen. Bothwell, a fugitive and an outlaw, took refuge in Denmark; and Mary was made a captive, treated with insult and contempt, and committed to custody in the castle of Loch Leven. After some months' confinement, she effected her escape, and, assisted by the few friends who still remained attached to her, made an effort for the recovery of her power. She was opposed by the earl of Murray, the natural son of James V., who had obtained the regency in the minority of her son. The battle of Langside ensured the triumph of her enemies; and, to avoid falling again into their power, she fled to England, and sought the protection of queen Elizabeth. That princess treated her with all the jealousy of a personal and political rival; and, after keeping her a prisoner during eighteen years, she caused her unfortunate captive to be tried and executed for an alleged conspiracy against her government. Mary received the news of her destined fate with great serenity; wrote her will, and, having prepared herself for death, by practising the ceremonies enjoined by the Catholic faith, to which she was devotedly attached, suffered decapitation, February 8, 1587, in the castle of Fotheringay, where she had been long confined; and, August 1, was interred, with great pomp, in the cathedral of Peterborough. Her body was subsequently removed, by her son, James I., to Henry VII.'s chapel, Westminster, where a magnificent monument was erected to her memory. She wrote with elegance in the Latin and French languages, and many of her compositions have been preserved, consisting of poems, letters, and a discourse of royal advice to her son. The character and conduct of Mary, queen of Scots, have been made the subject of much controversy. In the list of her partisans may be mentioned Goodall, W. Tytler, Whitaker, H. G. Bell, and professor Rennie; while the Scottish historians, doctor Robertson and Laing, have exhibited the evidence against her. "No inquiry," says Sir Walter Scott, in his History of Scotland, "has been able to bring us to that clear opinion upon the guilt of Mary which is expressed by many authors, or to guide us to that triumphant conclusion in favour of her innocence of all accession, direct or tacit, to the death of her husband, which others have maintained with the same obstinacy. The great error of marrying Bothwell, stained as he was by universal suspicion of Darnley's murder, is a spot upon her character for which we in vain seek an apology. What excuse she is to derive from the brutal ingratitude of Darnley; what from the perfidy and cruelty of the fiercest set of nobles who existed in any age; what from the manners of a time in which assassination was often esteemed a virtue, and revenge the discharge of a debt of honour; must be left to the charity of the reader." Chalmers's Life of Mary (1818) and Miss Bengers's Memoirs of Mary (1823) may be consulted. The misfortunes of Mary have furnished a subject for the tragic muse of Schiller, Alfieri, and others.

MARY'S COLLEGE, MOUNT ST., is situated in a romantic spot at the foot of a branch of the Blue

Ridge mountains, two miles from the town of Hagerstown, in Frederick county, Maryland; about from Baltimore, fifty miles, and from Washington city. It was established, in 1784, by donor Dulois, now Catholic bishop of New York. In 1820 it was raised to the dignity of a college by the general assembly of Maryland, and named Mount St Mary's college. Only twelve students have graduated; but the number of students in the year beginning with July, 1831, is 120. The government of the college is vested in a council of trustees. There are nine professors, and sixteen assistant professors and tutors. The philosophical course is very good, and the library consists of 20,000 vols. There is only one vacation, viz. from the 15th of August to the 15th of June. Commencement is in the last week of June.

MARY'S COLLEGE, ST. See Baltimore.

MARY'S FALLS, ST.: rapids on the river Mary's, between Lake Superior and Lake Huron. The water descends twenty-two feet over a bed of granite in the space of a mile. Canoes and large boats descend the falls with a full load, and ascend with aid of a cable.

MARY'S RIVER, ST.: a small river which separates Georgia from Florida, and runs into the Atlantic ocean; lat. 30° 43' N.; lon. 82° 0' W.

MARYLAND; one of the United States of America, bounded north by Pennsylvania and Delaware, east by Delaware and the Atlantic ocean, south-west and west by Virginia; lat. 37° N. to 39° 30' N.; lon. 75° 30' W. to 80° 45' W. Area 13,950; population in 1790, 349,721; in 1800, 349,692; 1810, 380,546; in 1820, 467,300; in 1830, 446,913. The number of slaves included in the last number was 102,578; and of free people of colour, 52,912. The increase of population in the last forty years has been nearly equal to 50 per cent. per annum. The proportion between the coloured population and the white is as 1 to 15. The seat of government for Maryland is Annapolis. Baltimore is much the largest city. Frederick, Hagerstown, Easton, and Cambridge are considerable towns. Chesapeake bay divides the state from north to south. The part of the coast of the bay is called the eastern shore, the part west, the western shore. The country on the eastern side of the Chesapeake, with the exception of a small part of its northern extremity, is an extensive plain, low and sandy, much intersected by rivers and creeks, having few springs, and abounding with stagnant water. In this part, the air, in summer, is much affected by disagreeable, and the inhabitants are subject to agues and intermittent fevers, and many of them have a sickly appearance. The Maryland part of the peninsula included between the Potomac and Chesapeake bays, is much lower and more cultivated level than the Delaware part. The soil is well adapted to corn, wheat, tobacco, and some pasture. The genuine white wheat, which is said to be peculiar to this state, is raised in some of the counties on the eastern shore. The country on the western shore of the Chesapeake, below the falls of the rivers, resembles that on the eastern shore. Above these falls, the country becomes high, and the western part of the state, it is mountainous. The western parts of the state are crossed by several ranges of mountains. All the mountain country abounds with springs of excellent water, and the climate is salubrious and agreeable. There are extensive orchards of apples, pears, peaches, plums, and cherries. The forests abound in oak, hickory, and other trees which feed great numbers of swine. There is much wild, and when fattened, are killed, and exported. Beef and mutton are also produced. Some cotton for domestic use is raised in Maryland.

but its quality is not good. The principal rivers are the Potomac, which divides this state from Virginia; Susquehanna, Patapsco, Elk, Sassafras, Chester, Choptank, Nanticoke, and Pocomoke. The most considerable export from this state is that of flour; next to this is that of tobacco. The other exports are principally of iron, Indian corn, pork, flax-seed and beans. The trade of Maryland is principally carried on from Baltimore with the other states, the West Indies, and various parts of Europe. The value of exports of domestic produce during the year ending Sept., 1829, was 3,662,273 dollars. The tonnage of vessels owned December 31, 1828, was 70,948. The tonnage of steam-boats, in 1827, was 207½. The most numerous denomination of Christians in Maryland is the Roman Catholic. There are also many Presbyterians, Methodists, Episcopalians, Baptists, and Friends, and several denominations having less numbers. The legislative power is vested in a senate of fifteen members, and a house of delegates, consisting of eighty members; and these two branches are styled the *general assembly of Maryland*. The members of the house of delegates, one from each county, are elected annually by the people, on the first Monday in October; and the members of the senate are elected every fifth year, on the third Monday in September at Annapolis, by electors who are chosen by the people on the first Monday of the same month. These electors choose nine senators from the western shore, and five from the eastern, who hold their office for five years. The executive power is vested in a governor, who is elected annually on the first Monday in January, by a joint ballot of both houses of the general assembly. No one can hold the office of governor more than three years successively, nor be eligible for governor until the expiration of four years after he has been thrice elected. The governor is assisted by a council of five members, who are chosen annually by a joint ballot of the senate and house of delegates. The general assembly meets annually at Annapolis, on the last Monday in December. The council of the governor is elected on the first Tuesday in January; the governor nominates to office, and the council appoints. The constitution grants the right of suffrage to every free white male citizen, over twenty-one years of age, having resided twelve months within the state, and six months in the county, in the city of Annapolis, or of Baltimore, next preceding the election at which he offers to vote. The state is divided into six judicial districts, for each of which there are three judges. Each court is constituted of one of the judges of the court of appeals, and two associates. The chancellor and judges are nominated by the governor, and appointed by the council; and they hold their offices during good behaviour. The principal literary seminaries in Maryland are the university of Maryland, St. Mary's college, Mt. St. Mary's college and Baltimore college in Baltimore, and St. John's college at Annapolis. There are several academies, which receive 800 dollars a year from the state treasury. A law in favour of primary schools was passed in 1825, and has been partially carried into effect in four or three counties. The state has a school fund of 75,000 dollars, together with a tax for the same purpose on bank capital, of twenty cents on every 100 dollars.

Maryland was granted, in 1632, by Charles I. of England, to Sir George Calvert, lord Baltimore, a Roman Catholic, and an eminent statesman, who had been secretary to James I.; but, before the patent was completed, lord Baltimore died, and the patent, dated June 20, 1632, was given to his eldest son, Leonard, who succeeded to his titles, and who, for

upwards of forty years, directed, as proprietor, the affairs of the colony. Leonard Calvert, brother of Cecilius, lord Baltimore, was appointed the first governor; and he, together with about 200 persons, commenced the settlement of the town of St. Mary's, in 1634. A free toleration of religions was established, and a system of equity and humanity was practised with regard to the Indian tribes. The state was named for Henrietta Maria, queen of Charles I. After the colony of Maryland had established its general assembly, even to the time of the revolution, the right of appointing the governor, and of approving or disapproving the acts of the assembly, was retained by the family of lord Baltimore. The constitution of Maryland was formed in 1776, but many amendments have since been made. For further information, see *An Historical View of the Government of Maryland, from its Colonization to the present Day* (Baltimore, 1831).

MASACCIO (properly *Tommaso Guido*); one of the oldest painters of the Florentine school, to whom the art of painting owes very much, is said to have been born about 1402, at St. Giovanni, in the Val d'Arno. In the church del Carmine, at Florence, are some excellent paintings of his, also at St. Clemente, in Rome, but in a bad state. Baldinucci has described his life accurately, and corrected Vasari. Both place Masaccio among the first painters, by whom the harshness and difficulty of the art was diminished, and life and expression given to it. Annibal Caro composed an epitaph for him, in which he says Buonarroti taught all other painters, and learned from Masaccio alone.

MASANIELLO. See *Masanietello*.

MASCARET; the swell occasioned near the mouth of a river by the influx of the tide from the sea, counteracting its current, and thus forcing back its waters. In large rivers, where the latter part of their course is but little if at all above the level of the ocean, the collision is sometimes tremendous, and is attended with loud roarings, as is the case at the mouth of the Amazonas. It has been poetically said that the genius of the river and the god of the ocean contend for the empire of the waters. The Indians in South America call it *pororoca*. The reader will recollect the lines in *Rokeby*:—

Where Orinoco, in his pride,  
Rolls to the main no tribute tide,  
But 'gainst broad ocean wages far  
A rival sea of roaring war.

MASERES, FRANCIS, cursitor baron of the exchequer, was born in 1731, of a French refugee family, studied law, was made attorney-general of Quebec, and some years after, on his return to Britain, cursitor baron of the exchequer. He was an excellent mathematician, and published, in 1759, a treatise on the negative sign, in which he argues against the doctrine of negative quantities. He also printed a collection of *Scriptores Logarithmici*, a work in 6 vols. 4to; a Treatise on Life Annuities, with several Historical Tracts; and by his liberality, induced the reverend Mr Hellins to undertake his edition of Colson's translation of Agnesi's *Istituzioni Analytiche*. He died in May, 1824, aged ninety-three.

MASHAM, ABIGAIL, the favourite of queen Anne, noted in English history for her political intrigues, was the daughter of Mr Hill, a rich merchant of London, who married the sister of Mr Jennings, the father of the duchess of Marlborough. The bankruptcy of her father obliged her to become the attendant of a baronet's lady, whence she removed into the service of her relative, then lady Churchill, who procured her the place of waiting-maid to the princess Anne. She retained her situation after her



having been appointed governor of the Bastille, in 1698, carried the prisoner with him there, but still masked. An apartment had been prepared for him, more convenient, and furnished with more care than those of the other unfortunate beings who inhabited this sad abode. He was not permitted to cross the courts, and he could not take off his mask even before his physician. In other respects, the greatest attention was shown him, and nothing which he requested was refused him. He was fond of fine linen and lace, and was very attentive to his whole personal appearance. His education appeared to have been carefully attended to; and he amused his leisure by reading, and playing upon the guitar. The physician of the Bastille related that this unknown person was admirably formed, and that he had a very fine skin, although rather brown. He interested by the mere sound of his voice, never complaining of his situation, and never giving any hint of his character. His unknown person died Nov. 19, 1703, at ten o'clock in the evening, without having undergone any severe sickness. He was buried the next day, at four o'clock in the afternoon, in the cemetery of the church of St Paul. He was, it is said, about thirty years of age, although the record of his decease, which he is mentioned under the name of Maroli, makes him only about forty-five. Orders were given to burn every thing which had been employed in his service. The walls of the chamber which he occupied were rubbed down and white-washed. The precautions were carried so far, that the tiles in his room were removed, in the fear that he might have displaced some of them, to conceal a letter behind them. Voltaire, from whom the greater part of these particulars is borrowed, remarks, that at the period when the prisoner was confined, no person of importance disappeared from Europe; and yet it cannot be doubted that he must have been one. The marks of respect which Louvois showed him, prove sufficiently.

Conjecture has exhausted itself to discover who this mysterious personage might be. Laborde, first *chamberlain* of Louis XV., and who had received in this prince many proofs of confidence, showed a desire to discover him. The king replied, "I pity you, but his detention injures only himself, and has vented great misfortunes; you cannot know him." The king himself had not learned the history of the man in the mask till his majority, and he never intrusted to any one. The author of *Secret Memoirs*, to be used for the History of Persia (Pecquet), is the writer who has attempted to raise the veil which covers the unknown prisoner. In this book, published in 1745, he pretends that it is the count of Vermandois, who was arrested, it was said, for having given poison to the dauphin; but it is known that the count of Vermandois died in 1683, at the siege of Stralsund. Lagrange Chancel, in a letter to Fréron, attempts to prove that the prisoner is the duke of Orléans, and that he was falsely reported to have been killed at the siege of Candia. Saint Foix, in 1788, wished to prove, in his turn, that it was the duke of Monmouth, who was said to have been beheaded at London, but who had been withdrawn as a punishment. Le P. Griffet, who held the office of confessor to the prisoners of the Bastille, on December 3, 1745, to 1764, has examined these different opinions in the Treatise upon the Proofs which serve to establish the Truth of History, chap. 1; and he adds that all the probabilities are in favour of the count of Vermandois. Voltaire has said (*Philosoph. Dict.*, art. *Anecdotes*) that the unknown prisoner could be no one of the persons just mentioned, but does not declare who he is. "The writer of this article," adds he, "knows,

perhaps, more of him than P. Griffet, and will not say more of him." Voltaire, doubtless, knew that the report was spread that the prisoner was a count Girolamo Magni, or Mattioli, first minister of the duke of Mantua, who had been removed from Turin in 1685, or rather 1679, by order of the cabinet of Versailles, because it was feared that his dexterity might defeat the negotiations entered into with the court of Piedmont. Delort, *Hist. du Masque de Fer*, published at Paris, 1825, likewise maintains this opinion. Dutens, nevertheless, reproduced it in 1789, in his *Intercepted Correspondence*, Lett. 6, and again in 1806, in the *Memoirs of a Traveller in Repose*, vol. ii. p. 204—210; and two other writers, in 1801 and 1802, endeavoured to establish this opinion, with a great array of evidence. The abbé Soulavie, editor of the *Memoirs of the Marshal de Richelieu*, inserted in them, vol. iii. p. 75, a History of the Iron Mask, written by his Keeper. This account was said to have been given by the regent to his daughter, who communicated it to the marshal. According to this account, the Iron Mask was a twin brother of Louis XIV. Before the birth of this prince, two herdsmen announced to Louis XIII., that the queen would give birth to two dauphins, who would occasion a civil war, which would convulse the whole kingdom; and this prince immediately formed the resolution of removing him who should be born second, in order to prevent these troubles. The opinion entertained by a certain party, that the unknown prisoner was the offspring of a criminal intercourse between the queen and the duke of Buckingham, has been sufficiently disproved. At the time of the destruction of the Bastille, in July, 1789, there were not wanting curious persons, who sought, in the archives of this fortress, to discover some notices which might throw light upon this historical problem. In the last number of the journal entitled *Leisure Hours of a French Patriot*, p. 386, dated August 13, 1789, is mentioned a note written upon a card, which a man, inspecting the Bastille, took up at random, with several papers. The card contains the number 64,389,000, an unintelligible cipher, and the following note—"Fouquet, arriving from the isle of Marguerite, with an iron mask." Afterwards X... X... X..., and below "Kersadwin." The journalist declares that he has seen this card. The romance of M. Regnault Warin, entitled *The Man with the Iron Mask* (in 4 vols., 12mo, published in 1804, and the fourth edition of which appeared in 1816), is preceded by a dissertation of twenty-eight pages, in which the author endeavours to prove that this mysterious personage was the son of Buckingham and Anne of Austria. He goes so far as to give the portrait of the prisoner. The *Mélanges d'Histoire et de Littérature* (Paris, 1817, 8vo) contains a Dissertation upon the Man in the Iron Mask, pp. 77—156, in which the various hypotheses are judiciously discussed, even that of the chevalier de Taulés, French consul in Syria, in the year 1771, who, in a memoir (published in Paris, 1825), seeks to prove that the man in the iron mask was a patriarch of the Armenians, named Awediks, removed from Constantinople at the instigation of the Jesuits, several years after the death of cardinal Mazarin. He has no difficulty in refuting this fable, and finishes by saying—"After an impartial investigation, and having weighed all the circumstances, I cannot doubt that he was the son of Anne of Austria, but without being able to determine at what period he was born." It has also been maintained that this prisoner was don John of Gonzaga, natural brother of Charles Ferdinand, duke of Mantua. A letter of Barbesieux, of November 17, 1697, in which he says to Saint Mars—"without explaining yourself to any

one whatsoever with regard to what your ancient prisoner has done,"—seems to overturn all the hypotheses, according to which this unhappy man owed his misfortune only to the accident of his birth.

MASKS, or LARVÆ (q. v.), were used in the most ancient times, particularly in the processions and ceremonies attending the orgies of Bacchus. As there were in the ceremonies three degrees, those of Satyrs, Sileni, and the bearded Bacchus, so each degree had its peculiar and characteristic mask. These are often found represented on ancient vases. On account of this religious signification, it is not strange that they were used in connexion with the Phallus, the symbol of fruitfulness, as an effectual defence against witchcraft. An old writer explains the power of the mask to protect against enchantment, in this way: that its ridiculous distortion, drawing upon itself the pernicious glance of the sorcerer, averts it from the person for whom it was intended. It was natural that the Greeks, whose highest aim was beauty, should elevate the character of the mask; thus, at length, there sprung from this fashion of misshapen masks the more pleasing Sileni and Satyr masks, and other sportive fancies of artists, which, in time, produced the grotesque and arabesque. As the origin of Grecian tragedy was closely connected with the worship of Bacchus, masks were used in it even in the beginning. Who first introduced them into comedy is unknown. We shall err if we consider the Grecian and Roman masks exactly like those of the modern Italian; these latter only cover the face; the former were a covering for the whole head, and represented, with the features, the head, hair, and eyes. The following cuts represent two Roman masks:—



They were, at first, made of the bark of trees, then of leather, afterwards of wood, which the artist fashioned according to the design of the poet. Tragic masks were distinguished by great, open mouths,

and a frightful appearance; comic by a highly countenance: there were, also, new masks in orchestric, or those with regular features, or drama. They had mostly very large, open mouths, with which were metallic bars, or other strong means to strengthen the voice of the speaker—a contrivance which was required by the enormous and immense size of the old theatres. New masks (as called), ignorant of the peculiarities of a vocal stage, are unsparing in their contrivances to assist for the introduction of masks into their jaws. They say they, all imitation of nature, and even a variability of voice necessary for the expression of a man, were thus rendered impracticable. They also remember, that the tragic imitation of an actor aimed at the highest dignity and grandeur; it was ideal, and the close representation of a man's character, in which the moderns are so much in place the chief merit of the actor. Would that were to them the last thing to be admitted in their theatre. "The Greeks preferred beauty to any of representation. The introduction of the mask on account of this feeling, and necessity, however essential, as they would have considered it a more than profanation for an actor, with common eyes features, bearing the stamp of his individuality, to have played Apollo or Hercules. It may be added, that, from the custom, one of the ancient theatres, the minute imitations of nature, of countenance, which the moderns attempt, would have been lost. As the Roman theatre was almost all its parts, formed upon the Grecian, it offered little in the use of the mask. The very Francesco de' Ficoroni, upon the subject of comic personages of ancient Rome, is a most and highly interesting, from the copious illustrations.

The Italian popular theatre, called *Commedia dell'Arte*, which has a close resemblance to the Roman mime and pantomime, still retains the use of the mask; for these drolleries of the art demand only requiring no particular learning, or high cultivation, continued even under the government of the barbarians. As early as the twelfth century when Imerius established a new school of art in Bologna, we find the Bologna doctor, also called *troubaire*. He has a mask with a black nose and forehead, and red cheeks; his character is that of a painter or tedious proser. The *Pantalone* came upon the stage about the end of the fourteenth century. He is that of the father; he represents a rich Venetian trader; his dress, was, formerly, the mantle, a sort of mantle with short sleeves and a single collar. The garment was worn by Venetian traders in that dress, and is still worn by lawyers. It was likewise a part of the costume of *Pantalone*, that the breeches or stockings should be in one piece: hence the origin of the name *pantalone*. They were in the old costume, always red, and the *zimarra* above that. When the republic of Venice lost the kingdom of Negropost to the Turks, the fashion of the old dress was changed from red to black as a sign of mourning, and has remained the same since. In the mask there was nothing unusual; the beard was not worn, and the representation was that of a good old merchant. The board of the new *Pantalone* is different: it passes round under the chin, and terminates at a point in the middle. The cut is lengthened, and the full pantaloons were tightened to the knee. The *zimarra* and dippers remained the same. The character of *Pantalone* is usually that of a goodnatured, simple, old man. He is generally in love, and is continually imposed upon by a son, or a servant. In modern times, he is often a grandfather of a family, full of honour, and conversation.

observant of his word, and very strict to his children; but in the particular of being continually imposed on, he remains the same. He speaks in the Venetian dialect—the doctor in the Bolognese. Buffoons are likewise among the oldest masks of the Italian stage; one is Harlequin (q. v.), the other is Scapin, cunning and knavish servants of Pantalone and the Doctor. Brighella is not so old, as his garment, furnished with green ribands, and made in the fashion of the middle ages, proves. Sismondi gives the following account of his origin, from the Chronicle of Malvezzi: “1200 of the nobility of Brescia wished to compel the citizens to take up arms against the people of Bergamo, and they resisted. A bloody battle ensued, in the streets of Brescia, in which the obduracy was beaten; they fled to Cremona, where they formed a military band; the popular party formed a similar band, under the name of *Brugella* or *Brihella*.” The name has been preserved on the stage, in a mask, which represents a proud, bold, and crafty lebeian of Brescia. This derivation is opposed to the common account, according to which, Brighella sprung from Ferrara. The Doctor of Bologna, Pantalone of Venice, Harlequin of Bergamo, Brighella of Ferrara, and all the personages, who are best comprehended under the name *Zanneschi*, the captains pavento, Tracasso, Tempesta (who call to mind the yrgopolynices of Plautus), Trufaldin the Bergamese, have, therefore, all been on the stage from the fifteenth century. Besides these, the Romans had the *on Pasquale* and the *Gelsonni*; the Florentines, the *Pasquello*; the Calabrians, the *Giangurgolo*; the Sicilians, the *Travaglini*; the Messenians, the *Giovanelli*; the Neapolitans, the *Coviello*, *Pasquariello*; the Milanese, the *Girolamo*; the Piedmontese, the *Pianduja*. Of the female masks, the *Colombine* of the Italian theatre is to be mentioned. Of the other characters may be mentioned *Pedrolino*, *Bertolino*, *Trivelino*, *Mamolino*, and *D. Pione Balansoni*. Respecting the mask of *Pulcinella*, see this article.) *Umbante*, in 1530, is said to have introduced the masked characters into the higher comedy. Accurate representations of these masks are to be found in *Iconobion's History of the Italian Theatre* (Paris, 1728, 2 vols. 8vo.) See professor Franc. Valentini's *Trattato sulla Commedia del Arte, ossia improvvisa, Maschere Italiane ed alcune Scene del Carnevale di Roma*, Berlin, 1826, 4to, with twenty coloured engravings. See, also, the article *Carnival*.

The mask used at masked balls, or masquerades, is a covering for the head and face made from a light stuff, in which a man may disguise himself and remain unknown, or perhaps represent some other character. There are whole and half masks; for example, masks of the nose and the eyes. The best are of wax and of linen; the poorer, of paper. The former are made very well in Berlin and Italy, particularly at Venice; the latter in France, at Paris and Rouen. There are natural masks, caricature masks (*maschere*), &c. Catharine of Medici is said to have first introduced masked balls. A similar mummery was in vogue at the court of Henry VIII. (1510—46), who used the disguise.

*Mask*; a species of drama. See *Masque*.

MASKELYNE, NATHANIEL, an eminent mathematician and astronomer, born in London, in 1732, educated at Westminster and Cambridge, was chosen a fellow of the royal society, and, in 1761, deputed to proceed to the island of St Helena, to observe the transit of Venus. During the voyage, he employed himself in making lunar observations, with a view to determining the longitude. In 1763, he went to Barbadoes, to try the accuracy of Harrison's time-keeper. On the death of Mr Bliss, he became royal astronomer; and, in 1767, commenced the publica-

tion of the *Nautical Almanac*, for which he published a volume of accompanying tables. (See *Mason, Charles*.) In 1774, doctor Maskelyne was employed in making observations on the eclipses of Jupiter's satellites at Greenwich; and the same year he went to Scotland, to ascertain the gravitative attraction of the mountain Schehallien, in Perthshire, of which he published an account in the *Philosophical Transactions*. He died in 1811. He was the author of the *British Mariner's Guide*, containing complete and easy instructions for the discovery of the longitude at sea and land (1763, 4to); and *Astronomical Observations made at the Royal Observatory at Greenwich* (1784—88, 3 vols., fol.); besides many papers in the *Philosophical Transactions*.

MASON, CHARLES; an English astronomer, an assistant of doctor Bradley at the royal observatory at Greenwich. He was employed to examine the lunar tables of Mayer, and the result of his labours appeared in Mayer's *Lunar Tables*, improved by C. Mason, published by order of the Commissioners of the Board of Longitude (London, 1787). Mr Mason was sent to America with a grand sector, to determine the limits of the provinces of Maryland and Pennsylvania. He was accompanied by Mr Dixon, in conjunction with whom he measured a degree of the meridian; and an account of their operations was published by doctor Maskelyne in the *Philosophical Transactions* for 1768. Mason died at Pennsylvania, in February, 1787. He communicated to the royal society an account of observations on the transit of Venus, June 8, 1769, made at Cavan in Ireland, and other papers, which may be found in the *Philosophical Transactions*.

MASON, WILLIAM, an eminent English poet, was the son of a clergyman in Yorkshire, where he was born in 1725. He studied at Cambridge, where he received a fellowship. His first appearance in the literary world was by the publication of *Isis*, a poem (1748), in which he satirised the Jacobitism and high church principles which prevailed in the university of Oxford. This piece provoked a reply from Thomas Warton, entitled the triumph of *Isis*. In 1752, he published his *Elfrida*, a tragedy with choral odes on the ancient Greek model. Having taken orders in the church, he obtained the living of Aston in Yorkshire, and was appointed one of the royal chaplains. In 1759, appeared his *Caractacus*, a drama, on a kindred plan with the former. In 1762, Mr Mason was made precentor of York. One of his principal works, the *English Garden*, a poem, in four books, appeared in 1772, 77, 79, and 81 (4to); and a second edition, with a commentary and notes, by W. Burgh, was printed in 1785 (8vo). This work was translated into French and German. In 1775, he published the poems of his friend Gray, with memoirs of his life. His principal subsequent publications are, *Odes*; a translation of Du Fresnoy's *Art of Painting*, with Sir Joshua Reynolds's notes (1783, 4to); the *Life of William Whitehead*, with his poems (1789, 3 vols., 8vo); and an *Essay on Church Music*. Besides his acknowledged works, Mason is supposed to have been the author of the Heroic Epistle to Sir William Chambers, and other satirical pieces, which were published under the signature of M'Gregor. At the beginning of the American war, Mr Mason became so active an advocate for freedom as to give offence at court, and he was consequently dismissed from his chaplainship; but alarmed by the French revolution, his zeal cooled in the latter part of his life. He died April 7, 1797.

MASON, JOHN MITCHELL, D. D.; an American theologian and pulpit orator, was born in the city of New York, March 19, 1770. He entered Columbia College, in that city, and was graduated in May, 1789,

with the reputation he ever afterwards sustained, of a thorough classical scholar. Under his father, a learned and respectable clergyman of the Presbyterian denomination, he then prepared himself for the sacred ministry, until the year 1791, when he left his native country, in order to complete his education at the university of Edinburgh. Here he attended the most celebrated courses of lectures connected with divinity, and formed valuable and distinguished acquaintance. In the theological societies he made himself conspicuous by the vigour of his understanding, the energy of his elocution, and the rigour of his doctrines. Towards the end of the year 1792, he was obliged to return to New York, by the death of his father, whom he soon succeeded in the Scotch Presbyterian church in Cedar street. In this situation, he confined his attention almost entirely to the benefit of his immediate flock, until the year 1798, when he composed and published a series of Letters on Frequent Communion. In 1800, he conceived the idea of a public theological seminary, to be established by the authority, and to continue under the superintendence, of the general synod of the associate reformed church. The plan which he digested was carried into operation, by his own agency and influence, in 1801. The synod appointed him their professor, and with their sanction, he visited Europe for the purpose of procuring a library. After his return, he zealously discharged the duties of his office until he was constrained to leave it by the decline of his health. In 1810, he dissolved his pastoral relation with the Cedar street church, and formed a new congregation, with whom he took possession of the Murray street church, when it was opened, in 1812. In 1811, he accepted the appointment of provost of Columbia college—a station which he filled for five years. The variety and severity of his labours at length affected his health so seriously, that he resigned his provostship, and, in 1816, repaired to Europe to recruit his debilitated frame. He returned towards the end of 1817, in better condition, and preached and taught again with characteristic force and success. In 1821 he undertook the charge of Dickinson college, in Pennsylvania, but in this his strength soon failed. In the autumn of 1824, he returned to New York, where he died in 1829, in the sixtieth year of his age. The principal works of doctor Mason, besides his Letters on Frequent Communion, are a Plea for sacramental Communion on Catholic Principles (1816), Essays, Reviews, &c., which are to be found in the Christian's Magazine, together with a number of Sermons, Orations, &c., published at different times.

MASON'S AND DIXON'S LINE. See *Mason, Charles*.

MASONRY, *FREE*; a term applied to the organization of a society, calling themselves *free and accepted masons*, and all the mysteries therewith connected. The society, if we can treat as one a number of societies, many of which are unconnected with each other, though they have the same origin, and a great similarity in their constitution, extends over almost all the countries of Europe, many of America, and some other parts of the globe. According to its own peculiar language, it is founded on "the practice of social and moral virtue." Its character is charity, in the most extended sense, and "Brotherly Love, Relief, and Truth" are inculcated in it. Like every other society of any magnitude, it has been the object of hyperbolic encomium from its friends, and obloquy from its enemies. Like every other society of any duration, it has been subject to the influences of human frailties, among which vanity always takes a prominent part. Like any other society founded on general principles, and, at the

same time, well organised, it has, at particular times, been subservient to the production of much good, and at others of much evil, according to its different purposes for which it has been conceived, and its every other society, which ever flourishes, must end with the lapse of years and the change of its sort of society. For about twenty years, such is now written for and against free-masonry and history of its history, ritual tendency. Besides, we suppose, from a view of which, many of the masons and themselves justified in maintaining that their order are secrets preserved in the society, and so and principles inculcated, which are not of social obligation, particularly as several of such who have been published by seconded members themselves whilst most masons, on the other hand, maintain that the true secret was never yet divulged. Thus it is, however, even masonic writers, who neither join the society, and yet call the secret signs and so a masonry accidental and unimportant.

No well informed mason will, however, that the history of his society begins with the creation, as Dr W. Preston gravely asserts, any more than a religious Catholic of the present time will believe in a double power of the pope, spiritual and temporal, proved from St Peter's having two seats, a time of Christ's capture, or from the grant, in which it was put by Boniface VIII., that "we begin" "in the beginning," and not "in the beginnings." Nor does the well informed mason tell the stories that his society originated with the mysteries, or even the Egyptians, or that it came from the Dionysian archaists, from the Phœnician society, or from the Essenes. These notions are little of the character of a constituted and ancient whole, and nothing appears to indicate its immemoriality can be considered as descending from one of them. In Lawrie's History of Freemasonry (Edinburgh, 1804), more may be found on this point. As little can it be proved that the masons sprung from the Templars, or any other order of the middle ages, or, at a later date, from the Jesuits, or indirectly from the Rosicrucians. For if these stories have been caused by the interest of the order (*historie ordinis*), purposely invented for the sake of the rites of the society, as which, however, is also concealed, under ciphers, the two latter, the (so called) higher degrees. Nor is it to be said that the free-masons originated from the common corporation of masons, for long before the age of the corporations of the separate crafts in our modern Europe, there existed corporations and societies of artificers, who united all the crafts necessary for building (and we must keep in mind that the building of the middle ages was) under the direction of one or more leaders, the architects. From the charters of the clerical and secular guilds, we are united in one great society for the construction of each great building, as the cathedrals, &c. and societies erected, in all countries of Europe, the gigantic monuments, generally termed Gothic, which excite our admiration, and, as has been remarked by Dr Henry, in his History of Great Britain, with a economy of time and expense truly surprising, to find these societies of architects everywhere. They were composed of members from Italy, Germany, the Netherlands, France, England, Scotland, and other countries (sometimes even from China, as united under very similar constitutions; for instance, at the erection of the convent of Buzand, in Persia, about 1400; of the minister of Stamboul, 1512; of 1439; that of Cologne, 930 and 1211 to 1230; the cathedral of Meissen, in the tenth century; the cathedral of Milan, the convent of Monte Cassino, and of the most remarkable buildings at the

British isles. That these societies of architects at last gave rise to one not occupied with actual building (*speculative masonry*, as it is called by some), appears, from a critical investigation of the history of free-masonry.

The first societies of antiquity with which free-masonry appears to stand in historical connexion are the corporations of architects, which, with the Romans, existed under the name of *collegia* and *corporata*. It is related that Numa established the first corporations (if we may so term them) of architects (*collegia fabrorum*), with many other societies of mechanics and artificers (*collegia artificum*), after the model of the Greek societies or colleges of artificers and priests: he also instituted for them proper meetings and certain religious rites. According to the laws of the twelve tables, the *collegia* had the right to make their own laws, and could conclude certain treaties with each other, if nothing was contained in either contrary to the public laws, which was conformable with Solon's legislation. Such corporations of all kinds, particularly the crafts connected with hydraulic, naval, and civil architecture, early became dispersed through all the provinces of the Roman state, went on continually increasing, and co-operated most powerfully in propagating the Roman customs, sciences, arts, and laws. They, as well as the useful arts, were cultivated the soil, which the sword had aided. The useful arts are, of course, among the most important gifts which a civilized race can confer on the rude tribes who may be dependent on it. When an Indian tribe first concludes a treaty with the United States, one of the points has often been a stipulation that the latter shall send a blacksmith among them. If we now remember that the Romans were pre-eminently an architectural race (like most conquering nations, who have already attained a considerable degree of civilization), and that the sciences and arts, connected with architecture, include a vast range, and are intimately connected with the other attainments of an advanced civilization, we shall easily comprehend that the colleges of architects must have been of great importance. As the *collegia* were established in those early times when states were formed after the model of a family, and the religious and political constitution confusedly mingled, they had, besides their character of a society of artificers, that of a civil and religious institution. This character was retained by the *collegia*, particularly the *collegium* of architects, to the end of the Roman empire, and transplanted into the corporations of architects of the middle ages, already mentioned, because the constant mingling of religion in politics, and science, by no means ceased in the middle ages; on the contrary, in some particulars, still closer union was effected. As the Roman *collegia* held their meetings with closed doors, nothing more natural than that they should become, in times of violent political agitation, the place of political parties and religious mysteries, secret friendship, and doctrines of all sorts. The Roman emperors of the first centuries limited the *collegia* as much as possible, but the later governments poured them so much the more. In the *corpus juris* are contained several lists of the mechanic arts, legally existing, and free from taxation, in the third and fourth centuries, among which we find those of architects, ship-builders, machine-builders, builders of ballistæ, painters, sculptors, workers in marble,asons, stone-cutters, carpenters, &c. There was no town at all important, no province ever so distant, where some of the *collegia*, just mentioned, did not exist, to the downfall of the Western and Eastern empires, with their peculiar constitutions, and having more or less of a political and a religious character.

The corporations of artificers, whose occupations were connected with architecture, were called upon, by imperial orders, to come from all parts of the empire, to assist in the building of large cities, palaces, churches, &c. Similar artificers also accompanied each Roman legion. Such corporations also existed in Britain (where the Romans, during their conquests, built a great deal), both in the legions there stationed and in the cities. The same was the case in Spain, France, on the Rhine, and on the Danube. It is true that these *collegia* vanished in Britain, with most of their works, when the Picts, Scots, and Saxons devastated the country; but, in France, Spain, Italy, and in the Greek empire, they continued to flourish, and from these countries the Christian Saxon rulers of Britain, particularly Alfred and Athelstan, induced a number of artificers and architects to come to England in order to build their castles, churches, and convents. Although these foreign artists, and the few who had survived the ravages of the barbarous tribes, were Christians, and though most of their leaders or directors were clergymen, yet the corporations which they formed had no other constitutions than those transmitted to them from the Roman colleges, which were spread over all Christian Europe, and the character of which is still to be learned from the *corpus juris Romani*. As the members of these corporations of architects of the tenth century belonged to different nations, and at the same time publicly or secretly to sects, widely differing in their tenets, and often condemned as heretical; in short, as they were very different in faith, customs, and manner of living, they could not be induced to go to England, and to remain there, without receiving from the pope and king satisfactory liberties and letters of protection, especially jurisdiction over their own bodies, and the right of settling their own wages. They then united, under written constitutions, founded upon the ancient constitution of the Roman and Greek colleges, and the provisions of the civil law. The different tenets of the members, the scientific occupation and elevated views of their leading architects and clergymen, naturally gave rise to a more liberal spirit of toleration, a purer view of religion, and stricter morals, than were common in those times of civil feud and religious persecution. The lofty notions of Vitruvius (their constant manual), in regard to the dignity of an architect, may have contributed to ennoble their character. Their religious tenets being often objects of suspicion to the orthodox, they were obliged to keep them secret. Secrecy, moreover, was the character of all the corporations of the middle ages, and, down to the most recent times, the corporations of mechanics on the continent had what they called *secrets of the craft*—certain words, or sometimes absurd ceremonies, by which they pretended to know each other. To this we must add, that the corporations of architects, in the middle ages, were descended from the times of antiquity, so that their societies had received, in the times when Rome adored all gods, and listened to all philosophical systems, impressions derived from the Greek philosophical schools, particularly the Stoic, united with some fragments of the Greek and Egyptian mysteries, and subsequently modified by notions acquired in the early times of Christianity, particularly from the Gnostics, which led to certain doctrines and sacred ceremonies, clothed, according to the spirit of the time, in symbols, and constituting their esoteric mysteries. The watchful eye of the popes induced them to keep these doctrines closely concealed, in connexion with the real secrets of their art, and its subsidiary branches, their rude chemistry, their metallurgy, and natural philosophy, and to

preserve their knowledge in forms otherwise foreign to it, if they wished to escape persecution.\* The great importance which architecture assumed in those times, is to be accounted for from the enthusiasm for splendid houses of worship, in which the religious spirit of those times displayed itself to an unparalleled degree. The history of these corporations, as here given, and their connexion with the present society of free-masons, appears from what we know of antiquity, from the history of England, and from the agreement of the constitutions, symbols, and customs of the present free-masons with those of the above corporations.† Three documents have also been preserved, which further prove that historical connexion, as well as the doctrines and customs of those corporations of the middle ages, in great perfection, and which must be considered as valuable portions of the history of that period. See *Die drei ältesten Kunsturkunden der Freimaurerbruderschaft* (2 vols., Dresden, 1819.)

Before we speak of these documents, we may mention that some writers talk of the Culdees as having formed a Christian church in England for some centuries before the Saxon conquest (in 449), and sent bishops to the most ancient councils. This church was, together with the Roman civilization, suppressed by the Picts and Saxons. The Culdees were obliged to seek refuge in the wildernesses of Wales and Scotland, in Ireland, and in the small islands between Great Britain and Ireland, chiefly in Anglesey and Mona, where they continued their apostolic institutions and usages, related to those of the Oriental church. They tried in vain to convert the rude Saxon kings, but they had not the same means as Augustin, who was sent by the pope, with forty monks, in 597, to Britain. The Culdees were now again bloodily persecuted by the adherents of the pope. In their persecution, they maintained the spirit of Christianity, and studied in solitude. They at last found access to Alfred and Athelstan. The latter gave employment to many architects, in building convents, castles, &c., and the Culdees made use of their organization, and the independence guaranteed by the king, to teach them their truly apostolic principles. Usher, Ledwich, and Grose treat of this subject. The old writers on the papal side of the question, are said to have purposely avoided making mention of the Culdees. A further cause is thus assigned for the superior morals which distinguished the architectural societies in the middle ages.

The eldest of the documents above mentioned, is the constitution confirmed, in 926, to all the cor-

porations of architects, by king Athelstan, through his brother Edwin, at York, the original of which Anglo-Saxon, is still preserved in York. The legend reminds the reader immediately of the most ancient Oriental church. Then follow a history of architecture, beginning with Adam, and repeating quotations from some rabbinical tales, respecting the building of Babel, the temple of Solomon, a relation of Hiram, limited, however, to the stories contained in the Bible; then passing on to the Greeks and Romans; mentioning particular philosophers, Euclid, and Vitruvius. Then the history of architecture, and the oldest corporations, as it is told, agreeably to the accounts of the historians, and, among other things, is continued to St Albanus, an honourable Roman knight, passed the art about A. D. 300, settled the Masonic institutions of the masons, procured their exemption, wages, and a charter from the emperor Trajan, according to which they should form a society in Britain, under the government of architects. The devastation of the country, and the destruction of edifices by the northern tribes and the later Saxons, is related, and how the pious Athelstan resolved to restore the ancient and venerable art. After this follow the sixteen most ancient laws, which agree exactly with every thing the most investigation can find in the *corpus juris* relating to the college of architects. Thus constituted, as preserved in England and Scotland, it is described, until the fourteenth century, when its societies passed over into the stationary corporations in cities. It is proved by historical documents in Scotland and England, lodges, laboring according to these constitutions, existed in an unbroken series, and often admitted, as members, some of the most influential men, who were not architects, among even kings (*accepted masons*). The society is then described, and sank more and more, as it was changed. In 1717, we find four lodges existing, in which the old symbols and customs were preserved; most of their members were masons. So far extends the first period of history. In 1717, an essential change was made by three members belonging to some of the four lodges just mentioned, Desaguliers, James Anderson, and George Payne. They changed the society into one which had nothing more to do with building, but of which "brotherly love, relief, and truth" were to be the essential characteristics. By retaining the same customs of the ancient fraternity, the new lodge retained the privileges and charters of those societies. They further thought it well to establish a centre of union and harmony in one grand lodge, the eldest mason, who, at the same time, was master of a lodge; to constitute themselves, for the purpose, one grand lodge; to renew the quarterly communications of the brethren; to hold the annual meeting and the festival; and to elect a grand-master from among them, until they should have a brother of high rank at their head. In 1721 James Anderson was charged to remodel the old constitutions, and to form thus a general book of constitutions, which alone should be valid for all the grand lodges in future to be established under the authority of the grand lodge. The constitution of York was taken by him, the basis, though he compared it with other constitutions. In 1721, his draft was accepted, with some changes, acknowledged, and printed in 1723. In 1738, a new edition was printed. In the editions of 1766, 1784, and in the latest book of constitutions of the grand lodge of old masons at the

\* It is by no means improbable that, in these barbarous ages, their secret doctrines may have degenerated, and become mixed with corrupt notions, as was the case with the Society of Templars.

† The architects, with their assistants and pupils, formed associations, called *Hutten*, or *lodges*. At an assembly held at Ratisbon, in 1450, it was agreed that a grand lodge should be formed at Strasburg, as the place of general assembly, and that the architect of that cathedral, for the time being, should be the grand-master. The society was composed of masters, companions, and apprentices, who had a secret word, with signs of recognition. In 1464 and 1468, there were general assemblies at Strasburg; but they were afterwards neglected for some time, until the emperor Maximilian I., being at that city in 1468, granted them certain privileges, by charter or diploma, which were renewed, and confirmed by subsequent emperors. These diplomas, together with the regulations and statutes, were kept in the house of the architect of the cathedral, in a chest with triple locks, of which the two oldest masons kept the keys, so that it required the presence of all before the chest could be opened. These documents were in existence until the French revolution, when they were destroyed, with many other papers, to prevent their falling into the hands of the Jacobin commissioners. Their rules inculcated the necessity of leading moral lives; submission to the masters, whom the companions served for five or seven years; attention to their religious duties; and charity to the poorer brethren, &c. Among the symbols were the square, the plumb-rule, and the compasses, which are distinguishing marks of the officers of a free-mason's lodge at this day.

† Sir Christopher Wren was the first grand-master of the ancient fraternity.

don, united in 1813 (of which the second part appeared in 1815), the traits of the ancient York instrument are always to be recognised. The following are the most important duties (*charges*) of the masons, as they appear in the edition of 1784, and, with few alterations, in the constitutions of 1815: The mason is bound to obey the laws of morality, and if he understands the principles of the society, he will neither be an atheist nor a profligate. Though the masons of ancient times were obliged to profess the religion of their country, whatever that might be, it is considered now more beneficial to bind them to that religion alone in which all men agree, and to leave to each his peculiar opinions; they are to be men of probity and honour, whatever may be their differences in name or in opinion. By this, says the constitution, masonry becomes the central point of union, and the means of establishing friendship among persons who, without it, would live in continual separation. The mason is to be a peaceable subject or citizen, and never to allow himself to be involved in riots or conspiracies against the public peace and the welfare of the nation. No private hatred or feud shall be carried to the threshold of the lodge, still less political or religious disputes, as the masons, in this capacity, are only of the above-named general religion: masons are of all nations and tongues, and decidedly against political ends, which never have been favourable to the welfare of the lodges, nor ever will be.

The second of the above mentioned documents was written under Henry VI. of England, first printed in the Gentleman's Magazine, in 1753, p. 417 et seq., and, since then, has been repeatedly reprinted.

The last of the three documents is the ancient code of admitting masons, as it is still exercised by all the masons of the ancient English system. It contains some customs of the Roman colleges, and of the most ancient Christian monks and ascetics. From this ritual, that of the new English grand lodge, contained in Browne's Master Key (London, 1802), differs in some important particulars, though they agree in spirit.

The first lodge in France, after the English system, was established in Paris, in 1725; in Germany at Hamburg, in 1735; in America, 1730. The more the order was extended, the less intimate became the connexion of the lodges; secessions took place; new systems were established; rivalry often occurred; to the three first degrees, of apprentice, companion, and master, additional ones were added; in fact, it would be difficult at present to give a general character of masons, so numerous are their degrees, and so various their characters. They have, in many places, done much good, by assisting the poor, establishing schools, &c. In some countries, they have excited the suspicions of the government, and have been prohibited and persecuted, as in Spain. Pope Clement XII. excommunicated them. As we have already said, the society has been sometimes used for bad purposes. These, however, are disavowed, by the members, to be foreign from its spirit. According to some masons, the society requires a moral renovation. During the time of Napoleon, there often existed lodges in the different regiments. The activity of the masonic societies, in the French revolution; the use of their forms by the Carbonari; their titles and ceremonies, which have too often been made mere instruments of ostentation, we have not room to describe. Of late, the society has attracted peculiar interest in the United States of America, in consequence of the abduction of a certain William Morgan, attributed to some of its members. The opponents of masonry ascribe this act to the funda-

mental principles of the society, and therefore consider its existence as inconsistent with the security of the community. The subject has given rise to a violent contest. A brief statement of the facts of the Morgan case will be found in a note below.\* We refer the reader, for further information on the subject of Free Masonry to Preston's *Illustrations of Masonry* (8th edition, London, 1812); Lawrie's

\* William Morgan was a native of Virginia, but, for some time previous to the autumn of 1826, had been an inhabitant of the western part of the state of New York. As early as the month of August of that year, it became generally known that he was engaged in preparing for the press a work by which the obligations and secret proceedings of freemasonry were to be divulged. Some members of the fraternity in and about Batavia, where Morgan then resided, were alarmed, and eventually became much excited, on account of the contemplated publication. Remonstrances and inducements to dissuade him from such a course of conduct, were resorted to by his brother masons, but in vain. At length a conspiracy was formed, including in its origin, or at its subsequent stages, no inconsiderable number of persons, for the purpose of separating Morgan from those who had engaged him to undertake, and were encouraging him to go on with the development of the secrets of the masonic order. Given up to an unaccountable infatuation, they commenced the execution of this ill-advised project, by taking him, on the 10th or 11th of September, 1826, from Batavia, under the pretence of a charge for *petit larceny*, to Canandaigua. The criminal charge was abandoned, and a civil suit instituted against him. A judgment for a small amount was recovered, and he was committed, by virtue of an execution issued thereon, to the jail of Ontario county. On the evening of the 12th of September he was discharged by the interference of some of the conspirators, and, as he passed out of the door of the jail, was seized by them, taken a small distance, and then forcibly put into a carriage. He was carried, in the course of that night, on to the Ridge road, about two miles beyond the village of Rochester. During the next day and night, he was taken to Lewiston, a distance of seventy or eighty miles, and from thence to Fort Niagara, at the mouth of the Niagara river. Soon after his abduction, it was ascertained, to a reasonable degree of certainty, that he had been taken to Fort Niagara: but for some time an almost impenetrable obscurity seemed to shroud the events subsequent to his arrival at that place. The disclosures which were at length made before grand juries, and on the various trials of those who were indicted for carrying him off, have, in a great measure, removed the veil which hid these events, and established, in a satisfactory manner, that his life was in a few days brought to a tragical end. He was secured in the magazine of that fort, which was at that time unoccupied by any of the forces of the United States. Soon after he was brought to that place, those who had him in charge were much embarrassed to devise what to do with him. Consultations were held on the subject, and some of the party proposed to take his life, which they alleged he had forfeited by violating the obligations he had voluntarily taken on himself when he became connected with the masonic fraternity, or in the subsequent stages of his advancement to its higher distinctions; but others protested against such a violent and wicked course. When all the circumstances are considered, and the evidence given on this point is well weighed, they seem to be sufficient to bring any candid mind to the conclusion that this proposition was finally adopted and executed; but it is not fully known who adopted it, or by whose hands it was executed. The number of those directly concerned in the final catastrophe is believed to be small; it is also believed that those who first formed the conspiracy to carry him off, and those who subsequently became connected with it by lending their aid in carrying him to Fort Niagara, did not intend or anticipate the termination to which this affair was brought. Indeed, it is reasonable to conclude that the design upon his life was suggested by the embarrassment which those felt who were called on to make a further disposition of him after his arrival at Fort Niagara. This outrage upon the liberty of a fellow-citizen, and contempt of the laws of the land, from the protection of which this citizen had been violently taken, roused the indignation of the community in the midst of which the offence was committed. They demanded their fellow-citizen: he was not produced, nor could he be found. They anxiously sought to know his fate, but they long sought in vain. The public excitement increased in intensity, and spread over a wider region of country. Those who partook of it largely did not stop to discriminate. The single circumstance that an individual had a high standing in the masonic order, was sufficient evidence, to their minds, of his participation in the crime. Finally, the whole fraternity were regarded as in some manner implicated in the transaction. It is believed by some, and perhaps alleged by more, to have been the natural consequence of the discipline of the masonic institution. A current of feeling so strong and so deep was soon turned to political purposes. An anti-masonic party was immediately formed: it predominates in several of the counties in the western part of New York, and has converts in every part of the state, and in many other parts of the Union. This party is numerous, active, well organized, and everywhere seeking political ascendancy, not only in the several states, but in the general government of the country.

*History of Freemasonry* (Edinburgh, 1804); Thory's *Histoire du Grand-Orient de France* (Paris, 1812); and his *Acta Latomorum* (2 vols., Paris, 1815); *Sarsena, oder der vollkommene Baumeister* (4th edition); *Macbenue*, by Lindener (3d edition, 1819); *Freimauer-Encyklopädie*, by Lenning (Leipsic, 1822, 3 vols.); *Die drei ältesten Kunsturkunden der Freimaurerbruderschaft* (2 vols., Dresden, 2d edition, 1819).

MASORA; a collection of remarks, critical, grammatical, and exegetical, on the books of the Old Testament, by the Jewish doctors of the third and succeeding centuries. After they had long been transmitted orally (hence the name, signifying *tradition*), they were formed into this collection, at the beginning of the sixth century, in Tiberias, where there was a celebrated Jewish school, and, from time to time, additions were made. It is divided into the great and little: the former contains the whole collection, in separate books; the latter is an extract from the observations, which were written in the margins of the biblical manuscripts. It is important for the criticism of the Old Testament, on account of its indications of the various readings; and it contains many valuable explanations of difficult passages. It is to be regretted that the authors and collectors (the Masorites) spent their time in the most laborious and useless trifling,—counted the verbs and words, and even the consonants, in the Old Testament; found the middle word and letter of each book, and marked the verses which contain all the consonants of the Hebrew alphabet, &c. The Masora was gradually brought into a state of the greatest confusion by successive additions, and the errors of transcribers: but, in the beginning of the sixteenth century it was once more reduced to order by Rabbi Jacob Ben Chajim, for Daniel Bomberg, a printer in Venice (*Biblia rabbinica Hebr.*, Venice, 1518, 1521, 1525—28, folio); and, a century after, John Buxtorf the elder completed the work of his predecessor (Bale, 1618, folio).

MASQUE, or MASK; a theatrical drama, much in favour in the courts of princes, during the sixteenth and seventeenth centuries, in the latter particularly in England. They are the most brilliant and imaginative among the entertainments of our English ancestors, and are traced, with much probability, to the religious processions of the church of Rome, in which various scriptural characters were represented with some occasional tinge of burlesque solemnity. The masque, or, as we should rather call it, in its infancy, the *masquerade*, in order to distinguish it from the species of drama into which it ultimately ripened, early became a prevalent fashion among the princes and nobles of Europe. The court of Henry VIII., before the tyrant's sanguinary licentiousness had deluged it with blood, presented many of these gorgeous spectacles. According to Holinshed's chronicle, the first masque performed in England was in 1510, in the first year of Henry's reign. In 1530, a masque was performed at Whitehall, "consisting of music, dancing, and a banquet, with a display of grotesque personages and fantastic dresses." Shakspeare, Beaumont, and Fletcher have frequently introduced masques into their plays. The English masques bear some resemblance to operas, as they are in dialogue, performed on a stage, ornamented with machinery, dances and decorations, and have always music, vocal and instrumental. The parts in the masques of the sixteenth and seventeenth centuries were usually represented by the first personages of the kingdom: if at court, the king, queen, and princes of the blood often performed in them. James I. carried to its height the glory of the masque. It had hitherto consisted of music, dancing,

gaming, a banquet, and a display of grotesque personages and fantastic dresses: but a new assumed a higher character, and became "suited to musical verse." Previously, "their court was," says Warton, "seems to have been to serve by the ridiculous and exaggerated oddity of its acts, and by the singularity and splendour of its scenes. Everything was out of nature and propriety. Frequently the mask was attended with a vision of some gorgeous machinery, resembling the vision of a modern pantomime; for instance, in the great hall of the palace, the usual place of performance, a vast mountain, covered with tall towers, arose from whose opening caverns issued herons, swans, shepherds, knights, damsels, and gnomes, who regaled with spices and wine, danced a morris dance. They were again received in a mountain, which, with a symphony of reeds and recorders, closed its caverns, and, tumbling to pieces, was replaced by a ship in full sail, or a castle besieged." (*History of English Poetry*, vol. ii.) The glittering chaos was reduced to order by the pen of Ben Jonson: not that he was the first who used poetry with music, dancing and scenery, but he was more largely employed than any other poet of his time in this branch of the drama. In his masques along with much that is frigid, overworn, and fantastic, may also be found much fine poetry. As to masques; though they make a great show in the world, were probably not a little defective in reality. Sir Dudley Carleton, an eye-witness, writes to Winwood as follows: "At night, we had the most maske in the banquetting-house, or rather the park. There was a great engine at the lower end of a room, which had motion, and in it were the shapes of sea-horses, and other terrible fishes, which were ridden by Moors. The indecorum was, that there was all fish and no water. At the further end was a great shell, in form of a skilling, where were the seats, on which sat the queen and her ladies. Their apparel was rich, but too light and convenient for such great ones. Instead of warts, their faces and arms, up to the elbows, were painted black, which was disguise sufficient, for they were never to be known; but it became them nothing so well as their red and white; and you could scarce see a more ugly sight than a troop of painted Moors." (*Winwood's Memorials*, II. 44.) Milton's *Comus* is the most beautiful of the productions which bear the name of masque. This exquisite specimen of art, thought, beautiful imagery, and splendid conception, is said, by Gifford, to be defective as a masque, and, by D'Israeli, not to be a masque at all, "being, probably, to the deficiency of masques and machinery; but Warton says, with truth, 'The elegant graces of its exquisite poetry disclaimed neither, and, whether *Comus* be or be not, dedicated to a drama, I am of opinion that our author here is superior only to his own *Paradise Lost*.'" *Paradise* banished the Muses, and the masques in their train.

MASS; properly speaking, the prayers and ceremonies which accompany the consecration of the eucharist. The word is used generally for all the part of the Catholic service in which the eucharist is offered. The Latin word is *missa*, which, even in early times, designated the public worship of the Christians, celebrated under the direction of a *leitourgos* (see *Liturgy*), generally the bishop himself, with the assistance of several priests of the altar (the elders, deacons, and others), in presence of the whole community. According to the example given in the Acts of the Apostles (ch. xxi. 41—42), and other passages, the service consisted of prayers, singing (chiefly psalms, and

ing of portions of the Bible, preaching, and the celebration of the Lord's Supper. The people not only understood what was done, but also sung, responded, prayed, and received bread and wine in the Lord's supper. Very early, however, through the so called *disciplina arcani* (see the Catholic part of the article *Lord's Supper*), it became customary, and, according to many, universal, during the first three centuries, to divide the divine service into two chief parts, by separating the rest of the service from the celebration of the eucharist. Only the faithful, who lived actually in communion with the church, were allowed to be present at the latter: at the former, also, the *catechumens* (q. v.), the penitents, and even unbelievers; but these classes were dismissed before the celebration of the eucharist was begun, by the words *Catechumeni, exite, missa est* (i. e. *concio, is meeting*), or *Si quis catechumenorum remanserit, vent foras*. Thus they were dismissed (*dismissio, missio, missa*), from which circumstance, in the sequel, the whole service received its name; hence, again, the division of *missa catechumenorum*, and *missa fidelium*. In the article *Lord's Supper*, the reader will find the Protestant and Catholic views respecting the eucharist, the sacrifice of mass, the holy mysteries of the mass, and the decrees of the Council of Trent respecting this, the most essential point of Roman Catholic service. It remains, therefore, to give here an account of the celebration of the mass only.

When the number of the faithful increased, and communities of Christians rose, not merely in the cities, but also in the villages, the celebration of divine service was intrusted also to priests, who at first officiated only before the whole community, and only days appointed for the purpose; at a later period, so, on ordinary days, and even alone, for their own benefit, with the assistance of one altar-servant only. Mass originated, with the high or solemn mass, also the low or private mass, performed by the priest, assisted by one altar-servant only. The Protestants consider this, even according to the Catholic doctrine of the mass itself, a great abuse; and many Catholic authors have concurred with them, while others maintain that it is indispensable, as it could be impossible otherwise to consecrate the host for the sick, &c.; and, besides, say they, the hermits in the deserts must have celebrated private mass. This, of course, is arguing on the ground that the mass, in the times of the early anchorites, was already developed. If the mass is of such supernatural efficacy as a great part of the Catholics consider it; if it is an actual and repeated sacrifice of Christ for our sins,—private masses may also be admissible, though in form of the celebration, founded on the supposition of the presence of the people, may be inconsistent with them. The celebration of the eucharist or mass separate from the preaching, became more and more common, and the actual participation of the people in it gradually lessened. The responses, &c., were made by a servant of the altar, and the priest alone took the sacred elements,—changes to which the people accustomed themselves the more readily the knowledge of the ancient languages, in which the masses were performed (in the Oriental church: Greek, and in the Latin church the Latin), became more and more limited. The choir of priests and servants, including, at a later period, the singers and musicians, took the place of the people, and the sole difference of the solemn and the private mass now to consist in this circumstance only, the people being ceased to take any part in the mass, and the priest alone being delivered separate from this ceremony. The state of things has remained to this day, at least by far the greater number of Catholic countries.

The mass, then, at present consists of four or three chief parts: 1. the introduction, which forms its chief part, is called the *evangelium*, and formerly constituted, with the sermon, the mass of the catechumens; 2. the *offertorium*, or sacrifice; 3. the consecration, or transubstantiation; 4. the communion. These four chief parts, of which the latter three are considered the most essential, are composed of several small parts, each having its proper denomination; they are prayers, songs, shorter and longer passages of the Holy Scriptures, and a number of ceremonies, which, as the essential point of the mass is the sacrifice of the Lord, consist partly of symbolical ceremonies, commemorative of important circumstances in the Saviour's life, or signs of devotion and homage paid to the presence of the Lord in the host. The order of these ceremonies, and of the whole celebration of the mass, is given in the missal, or mass-book. The masses are modified according to many circumstances. Thus certain parts are changed according to the saint in honour of whom the mass is celebrated, or the seasons of the year connected with different events in the Saviour's life, or the purpose for which the mass is said, as the *missa pro defunctis* (mass for the dead), or that intended for the invocation of the Holy Ghost, and others. Deviations from the established rite gave rise to the *missa bifaciata, trifaciata, multifaciata*, formed by uniting two, three, and more masses under one canon. *Missa præsanctificatorum* is that in which the host has been consecrated one or several days beforehand, which is more common in the Greek church than in the Latin. *Missa sicca, or dry mass*, is that which was celebrated without wine; for instance, on board of vessels, in order to prevent the spilling of the blood. It is no longer in use. The *mass of the day* is such as is proper to the season, or to the feast which is celebrated. *Votive mass* is an extraordinary mass, besides that of the day, rehearsed on some extraordinary occasion. *High mass* is celebrated by a deacon and sub-deacon, and sung by the choristers. Besides these, there are different masses according to the different rites: the *Greek mass*, the *Latin mass*, the *Roman and Gregorian mass*, *Gallican*, *Gothic mass*, &c.

One of the greatest objections of the Protestants against the Catholic religion is the doctrine of the mass. They are offended with the doctrine that the sacrament of the Lord's supper is made in the mass, a sacrifice continually repeated for the reconciliation of sins, this appearing to them as the application of Jewish and heathenish ideas of sacrifice to the Lord's supper, while the Bible declares that Christ has offered himself by his death on the cross, once for all, for the atonement of sins, and the Lord's supper is no sacrifice to God, but the offering of God's grace to men. To this the Catholics reply that, according to Scripture and tradition, the eucharist is a sacrifice; that the body and blood of Christ are actually present in the eucharist (see *Lord's Supper*), and that "they do not offer a sacrifice different from that of the cross; that it is Jesus Christ himself, who offers himself through the hands of the priests; that he therefore is the principal priest or pontiff and victim, as he was likewise on the cross. Can, we," continues the Catholic *Dictionnaire de Théologie* (Toulouse, 1817), from which the foregoing passage is also taken—"can we testify our gratitude to God better than by offering to him the most precious of all the gifts which he has made to us—his only Son, whom he deigned to grant us, and who gave himself as a victim for our redemption? We then say, with David, 'For all things come of thee, and of thine own have we given thee.' (1 Chron. xxix. 14.) We therefore have full ground to hope that God, touched by this oblation, will grant us new grace," &c.

Intimately connected with the dogma that the mass is a sacrifice is the dogma of the masses for the dead, which is equally offensive to the Protestant. As the Catholic church maintains that the believers who depart from this world without having sufficiently atoned by suffering for their sins, are obliged to suffer in the other world a temporary punishment, it also believes that the sacrifice of the mass, that is, of Jesus Christ, may be made efficacious for the remission of this punishment. Catholics admit that the abuses which have been connected with the mass are enormous; but, say many of them, they have been abolished by the council of Trent. Protestants, however, cannot find that these abuses have been eradicated, though they may have diminished. If in Catholic countries—perhaps without exception—masses for the dead can be procured for a certain fee, so that the persons for whom they are said are either entirely released from purgatory, or many years of their pain remitted, this special application of the great offering of Jesus seems to them to deviate most essentially from the true meaning of the scriptures. In Italy, for instance, it was very common to find the power of releasing from purgatory a certain number of souls for a certain number of years, attributed to a number of masses, said at particular altars; and the cheapness of the price for which such great benefit could be procured for the souls of the departed was not unfrequently extolled.

The dispute relative to the mass is by no means restricted to the two parties, the Protestants and Catholics. Not a few of the Catholics are desirous of essential changes, particularly the disuse of a language which is not understood by the people, and of many masses connected with legends, evidently and acknowledgedly fictitious. Thus Mr von Reichlin Meldegg, professor of ecclesiastical history and dean of the (Catholic) theological department at the university of Freiburg, has lately advocated these and other changes, for which, of course, he has been violently attacked by the Roman party. (See a pamphlet entitled *Wider römische Verkettzungs-sucht. Gutachten eines aufrichtigen Canonisten* (Against the Disposition of Rome to proscribe for Heresies. Opinion of a sincere Canonist), Leipsic, 1831.)—The advocates of the use of a language, in the mass, which is not understood by the people, maintain that the liturgy of the mass was not always foreign to the people; that it was translated into Ethiopian, Armenian, Coptic, Russian, Slavonic, Illyrian, &c., but that it has not been changed as the languages went on changing. "So that the Oriental Christians," they say, "understand the liturgy in use among them no better than the European nations the Latin liturgy."\* (See *Dict. de Théol.*, vol. v. p. 291.) Gregory I., or the Great (he died about 604), first settled the ceremonies and usages of the mass.

MASSA-CARRARA; a duchy of Italy, bounded principally by Tuscany and the duchy of Modena, celebrated for the production of the beautiful white Carrara marble, much used in sculpture. It is dependent on the duchy of Modena.

MASSACHUSETTS; one of the United States of America, bounded north by Vermont and New Hampshire, east by the Atlantic Ocean, south by the Atlantic, Rhode Island, and Connecticut, and west by New York; lat.  $41^{\circ} 15'$  to  $42^{\circ} 54' N.$ ; lon.  $69^{\circ} 54'$  to  $73^{\circ} 30' W.$ ; length, from east to west, 180 miles; breadth from north to south, ninety-six; area, 7800 square miles; population, in 1790, 388,727; 1800, 422,845; 1810, 472,040; 1820, 523,287; 1830,

610,014, viz. white males, 294,100; white females, 308,559; free blacks, 7006. The state is divided into fourteen counties, and 308 towns. The principal rivers are the Connecticut, which is navigable to steam-boats of small draught, the Housatonic, Concord, Blackstone, Miller's, Chocoma, Deerfield, Westfield, and Hoosatic. It has many abundant falls, which afford valuable water, appropriated to manufacturing operations. The mountains are a part of the Green mountain range, which extends from north to south through the western part of the state. The most elevated part of this ridge are Saddle mountain, near its western angle of the state, and Talcott's to its western border. Mount Tom, and Mount Vernon, near the Connecticut river, are remarkable elevations, which afford, from their summits, a fine prospect of the surrounding country. A great ridge passes through the state near to north. The greatest elevation of this ridge is Mount Washington, a town of Princeton. The state abounds in mountains, which are usually called ponds. The largest of these are the Assawampset and Long ponds in Middleborough, Podunk, and Quabbin ponds in Northampton, and the Nauset ponds, in Ashburnham. The ponds named are situated more than 1100 feet above the level of the ocean; and several other ponds, in the western part of the state, have a still higher elevation. The soil, for the most part, is of a rich nature, and much of it is well, and some of it is highly, cultivated. In the south-eastern corner the soil is sandy, and not very productive. In the eastern and middle counties, it is in general rich, though not luxuriant. The same may be said of the western parts, with the exception of some tracts, which are mountainous and rocky. The state is in general hilly, but, in the eastern part, the hills are of moderate elevation. The soil is well adapted to the growth of grain and fruit trees. Nearly all the fruits of temperate climates are cultivated with success, and also Indian corn, &c., and other kinds of grain. The mountains of Berkshire afford an abundance of iron ore, which is found in Worcester and Plymouth counties, and is extensively worked. Anthracite coal is found in Worcester. There is a lead mine in Northampton, which a subterranean passage of 1000 feet in length has been opened, chiefly through sand rock. The cheapness of lead from the mines of Missouri in Illinois has suspended the works upon the marble and limestone are found in various varieties in West Stockbridge, Lenox, and Lenoxdale. The middle and eastern parts of the state abound in quarries of granite of the best description for building stone. Quarries of soap-stone are found in Middlefield. The occupations of the inhabitants are agriculture, commerce, navigation, and manufacturing. Agriculture is pursued almost exclusively by owners of small farms, who labor by their own hands. The commerce of the state extends to all parts of the world. The shipping of the state is more numerous than that of any other in the north, and, in the extent of its foreign commerce, is second only to New York. The value of imports into the state of Massachusetts in the year ending September 30, 1829, was 12,520,744 dollars, of which 12,500,000 dollars in value, were imported in American ships. The value of exports from the state, in the same year, was 8,254,937 dollars. The amount of shipping entered at the ports of the state from foreign ports in the same year, was 177,550 tons, and the amount departed from the same ports was 181,151 tons. The amount of shipping entered at, and departed from, the port of Boston. The amount of shipping owned in the state on the last day of the

\* The Catholics in Silesia have lately petitioned to have the mass said to them in the German language.

ember, 1828, employed in the foreign and coasting trade, and in the fisheries, was 424,507 tons. The fisheries are chiefly of three kinds, viz. the whale fishery, which is carried on in distant seas, by ships fitted out chiefly at Nantucket and New Bedford; the cod fishery, which is carried on partly on the north-eastern coasts of the United States, and those of Newfoundland and Labrador; and the mackerel fishery, which is carried on chiefly along the coast. A large number of vessels and men are employed in these fisheries, and the produce is very great. The manufactures of cotton and woolen cloths are carried on chiefly by large and opulent companies, with machinery which is moved by water power. The capital of the state, and of all the New England states, is Boston. It has 1,392 inhabitants. The towns next in size, are Salem and New Bedford. They are rich towns, extensively engaged in foreign commerce, the former particularly in the India trade, and the latter in the whale fishery. Nantucket is a town also largely engaged in the whale fishery. The other chief commercial and fishing towns, are Newburyport, Marblehead, and Plymouth. The chief manufacturing towns are Lowell, Taunton, Springfield, and Waltham. There are many other handsome and flourishing inland towns, among which are Worcester, Northampton, and Pittsfield. The executive government of the state is vested in a governor, lieutenant governor, and council, who are chosen annually. The legislature consists of a senate, of forty members, chosen annually, and a house of representatives, of ten or more members from each town (with the exception of a few of the smaller towns), consisting, all, of 500 or 600 members, when the towns exercise their full privilege of choosing members. The judiciary consists of a supreme judicial court of four judges, and a court of common pleas of the same number of judges, who hold their appointments during good behaviour. Both courts are held, at stated periods, in each county. The university at Cambridge is the most liberally endowed literary institution in the United States, and has given to the country the greatest number of literary men. It has a president, eight professors, and six tutors and other teachers, besides four professors of the medical school, five of the theological school, and two of the law school. It has a library of 36,000 volumes of choice books. There are two other colleges in the state, viz. Amherst college, near Northampton, and Williams college, at Williamstown, each of which has a president, three or four professors, and two tutors. There is a richly endowed and flourishing theological seminary at Andover. It has four professors, who are supported by the income derived from permanent estates, and has commodious buildings for the residence of the professors and students, and for other purposes. There are in the state forty-three incorporated academies, part for male, and part for female pupils. There are several well conducted private schools of considerable celebrity. The most distinguished of these is the Round Hill school, at Northampton, which has been highly successful, from the enlightened views and varied accomplishments of its proprietor, and the liberal provision which he has made for the best instruction in the various departments. The means of common education are provided at the public expense throughout the state. Public schools for instructing all children whose parents choose to send them, are supported in all towns. In the large towns these schools are of a high character. They are not regarded as charity schools, but as public institutions, where the rudiments of learning are acquired from the same sources as the children of the rich and of the poor. Many

public improvements of various kinds have been made, chiefly by companies incorporated by the state legislature. A great number of turnpike roads, bridges, canals, rail-roads, &c., have been made by such companies, and the means of communication in the state have been thereby greatly improved. For the history of Massachusetts, see *New England*.

**MASSACHUSETTS BAY**; a large bay, situated east of the central part of Massachusetts, and bounded on the north by Cape Ann, and on the south by Cape Cod. For the former province of this name see *New England*.

**MASSAGETÆ**; a collective name given by the ancients to the unknown tribes of Northern Asia, who dwelt to the east and south of the Caspian sea, as far as the frontiers of the Persian monarchy. This region is at present the residence of the Turkestans and Karakalpaks. The name often occurs in the Scythian and Persian histories; in the latter, particularly in the campaigns of Cyrus. The Alans were a tribe of the Massagete.

**MASSALIANS**. See *Messaliens*.

**MASSANIELLO**, properly **THOMAS ANIELLO**, the celebrated Neapolitan insurgent, was born at Amalfi, and gained a livelihood in Naples as a fisherman, and a dealer in fish and fruit. Although very poor, he had a proud and enterprising spirit. His love of freedom, and the boldness with which he expressed himself respecting the oppression which the kingdom of Naples had long endured from Spain, procured him a large faction among the common people, who admired his boldness. As he was destitute neither of eloquence nor courage, nothing but opportunity was wanting for him to appear as the head of the populace. Such an opportunity offered in 1647. Massaniello had brought a basket of fruit to the city, for which the collectors demanded the tax. He refused, and, they using force, he threw himself on the earth, and implored the people to aid him against their violence. An insurgent multitude immediately assembled, at the head of which he advanced to the tax-office, with the cry—"Long live the king, but down with the bad government." Thence the insurgents repaired to the castle of the viceroy, the duke of Arcos, and demanded that he should receive Massaniello as a colleague. In vain did the cardinal Filomarino, archbishop of Naples, seek to appease their fury; in vain did John of Austria, a natural son of Philip IV., appear in the harbour with twenty-two galleys; the insurrection only increased the more, and the nobility became the object of its rage. Massaniello, who had become governor of the city, caused sixty of the principal palaces to be reduced to ashes, without the least thing being saved. All marks of the royal government disappeared. Every body was suspected by Massaniello, and death followed immediately his slightest apprehension. Seven days elapsed amid these horrors, and men began to talk of capitulation. It was agreed that the taxes on fruit should be abolished, and the ancient liberties restored. The assent of the king of Spain was promised within a certain time. Massaniello, on this assurance, laid down his arms, and returned, without demanding any recompense or distinction, to his former station. But the great party, which he still possessed, making him appear dangerous to the viceroy, who was no ways disposed to fulfil his promises, this ruler resolved to get rid of him. He invited Massaniello to his own house, and probably mingled poison with his wine. This did not, indeed, kill him, but made him delirious, to which his passion for heating liquors may also have contributed. In this state the unfortunate man ran through the streets of Naples, shooting his best friends, and committing the

greatest excesses. The people, who now regarded their deliverer as a new oppressor, and were excited against him by his enemies, poured forth in crowds against him, shouted applause to the viceroy, and demanded Massaniello's death. He fled for safety to a Carmelite convent; but four conspirators, formerly his friends, shot him dead, with several balls, July 16, 1647. His body was shamefully maltreated by the populace. But the true sentiments of the viceroy were soon manifested; and the people, fearing a renewal of the former oppression, again became turbulent. The martyr of liberty was now remembered; Massaniello's murderers became victims to the popular rage, his body was buried with the highest marks of respect, and even, for some time, held as sacred. Naples remained still convulsed, but nothing further was effected by the people.

MASSENA, ANDRÉ, duke of Rivoli and prince of Esslingen, marshal of France, &c., was born in 1758, at Nice, and rose from a common soldier to the rank of commander. At the commencement of the French revolution, he was an inferior officer in the Sardinian troops; but, in 1792, when the warriors of the new republic had ascended mount Cenis, he joined their ranks, soon distinguished himself by his sagacity and courage, and was made a commissioned officer, and, in 1793, general of brigade. Here he learned, without a master, the science of war, in the skirmishes. In April, 1794, he was appointed general of division, and took command of the right wing of the Italian army. He was the constant companion in arms of Bonaparte, who, after the successful battle of Roveredo (1796), against Beaulieu, called him the favourite child of victory. The commander-in-chief sent him to Vienna to conclude the negotiations for peace, and, in 1796, to Paris, to procure the ratification of the treaty. While Bonaparte was in Egypt, Masséna and Moreau were the hope of France. In 1799, Masséna displayed his ability as commander-in-chief in Switzerland. After having opened the war with success, he was forced to fall back to the Albis, on account of the ill fortune of Jourdan on the Danube. Here he took a strong position, watching his opportunity, and, by the battle of Zurich (September 25), prevented the junction of Korsakoff and Suwaroff, who had already ascended mount St Gothard. This battle, the first that the Russians had lost in the open field for a century, decided the separation of Russia from Austria, and saved France. After Masséna had reconquered the Helvetian and Rhetian Alps, he was sent to Italy to check the victorious career of the Austrians. He hastened, with the small force which could be assembled, to the support of Genoa, his defence of which is among his most remarkable achievements. Ten days before the battle of Marengo, when all his resources were exhausted, Masséna obtained an honourable capitulation. The consul Bonaparte, who now returned to Paris, gave him the chief command of the army. Peace soon followed. Masséna was chosen member of the *corps législatif*, by the department of the Seine, and, in 1804, was created marshal of the empire. In 1805, he received the chief command in Italy, where he lost the battle of Caldiero. When the archduke Charles was compelled, by the ill success of the German arms at Ulm, to retire to Inner Austria, Masséna pursued him, but was unable to gain any advantage over him. After the peace of Presburg, Masséna was sent by Napoleon to take possession of the kingdom of Naples for Joseph, and captured Gaeta. After the battle of Eylau, in 1807, Napoleon summoned him to Poland, to take the command of the right wing of the French army. After the peace of Tilsit, war having broken out in Spain, Masséna took the field

with the title of duke of Rivoli. He was recalled to Germany. He was sent to the battle of Eckmühl, Ratisbon, Ebersdorf, and Bayram. At Esslingen, his constant valour saved the French army from total destruction. Napoleon rewarded him with the dignity of *marquis*. After the peace he hastened to pass over Portugal from the hands of the British, who retired before him, and took a command at Torres Vedras, for the defence of Portugal. Provisions made it impossible for him to hold out longer. Masséna was obliged to retire. Napoleon recalled him to France in 1812, left him without a command, and he commanded at Toulon, declared to be *in*, and was created commander of the *mar*. At the landing of Napoleon, in 1815, at Toulon was by no means *deserted*. When the emperor was re-established, he was made peer and commander of the *mar* guard at Paris, and contributed much to the restoration of tranquillity in the city, during the period which preceded the return of the emperor. He lived afterwards in retirement, and he died, hastened by chagrin at the conduct of the emperor. He died April 4, 1817.

MASSILLON, JEAN BAPTISTE, one of the most est pulpit orators of France, was born at St. Hières, in Provence, entered, as he was called, the congregation of the oratory, and became soon favourite by his pleasing manners, and soon excited envy. He was accused of immorality, and attempts were made to exclude him from the congregation, and it is said that he retired, to live in the abbey of St Fons. The apostrophe of his funeral sermon on the archbishop's death was received, induced the process of *la Tour*, to call him to Paris. He was obliged to obey, and, against his inclination, to *la Tour*, where his genius soon showed itself in a power and peculiarity. According to one account, a pastoral letter of the cardinal, which Massillon drew up in the name of a *la Tour*, attracted the attention of the cardinal, a *la Tour*, whose order he returned to the *la Tour*, which he met with in Paris, and he was almost without example. The *la Tour* of the *la Tour* Massillon spoke with that power, which can be resisted only by the force of a *la Tour*, he had preached the first time at *la Tour*, XIV., who was famous for the impetuosity of his pliments, addressed him with the words, "I have often been disappointed of them, but having heard you, I was more content with myself." His delivery contributed to the effect of his eloquence. With great attention, even negligence, he produced a greater effect than others with studied art. The *la Tour* once exclaimed, after hearing one of his sermons, "There is an orator, we are lost." On account of his amiable temper and manners, he was chosen to reconcile cardinal *la Tour* with the Jesuits; but he found that it was much easier to convert sinners than to reconcile themselves. He regretted appointed him, in 1717, to the *la Tour*, which he could not have accepted, but he had of his paid the expensive command of *la Tour* the year following, he was chosen to preach before Louis XV., then near his end, and gave a series of sermons, so famous for the *la Tour* of *la Tour*, which are monuments of his eloquence. They are remarkable for the political truths which they contain, and for the fact that the monarch is made for the people, and

appointed him, in conformity with the order of God ; that not the prince, but the laws, should rule, of which the monarch is but the minister and guardian. In 1719, Massillon was chosen a member of the academy. Cardinal Dubois procured him the prebend of Servigny. His last discourse in Paris was the funeral sermon on the duchess of Orleans. From that time, he never left his diocese, where his virtues, particularly his charity, had procured him the reverence of all. He died in 1742. His sermons are distinguished for simplicity, knowledge of the human heart, an artless flow of eloquence, natural and lively imagery, richness of ideas, perspicuity and warmth. They awaken virtuous feeling, and not controversial dispute. The nephew of this distinguished man published a complete edition of his uncle's works (1745 & seq. ; reprinted at Paris, in 1762, in 13 vols., 8vo ; and at Lyons, Leroy, and Lusand, in 15 vols., 12mo).

MASSINGER, PHILIP, a distinguished English dramatist, in the beginning of the seventeenth century, was the son of a retainer of the earl of Pembroke, and was born at Salisbury, in 1585. He studied at Oxford, but quitted the university without taking a degree, in consequence, perhaps, of his having become a Roman Catholic. Little is known of his personal history, yet he appears to have been intimately connected with the wits and poets of his time, in conjunction with some of whom, as Fletcher, Middleton, Rowley, and Dekker, he composed some of his dramas. He died in 1639. As a dramatist, Massinger is more natural in his character, and poetical in his diction, than Jonson or Cartwright, and some critics rank him next to Shakespeare. In tragedy, however, he is rather eloquent and forcible than pathetic ; and in richness and variety of humour, his comedy can by no means vie with that of his great master. His plays were published collectively, by R. J. M. Mason and Mr T. Davies, in 1779, 4 vols., 8vo ; but the best edition is that of Mr W. Gifford, with notes and a life of Massinger (4 vols., 8vo, 1805).

MAST. See *Ship*.

MASTER AND SERVANT. In legal acceptance, a servant is one who owes his services to another for a limited period, but not for life, or who, in other words, is not a slave. Servants consist of two classes, namely, those who receive wages, and apprentices. The contract for service, in the respective cases, is quite different : in each, the servant is bound to render service, but in one the master is bound to pay the stipulated wages ; in the other, to give instruction. The master is answerable for the acts of his servant, done by authority of the master. If the servant does an injury to another, directly consequent upon the employment about which he is set to the master, the latter, as well as the servant, is answerable in damages to the party injured, whether the injury arise from want of honesty, skill, or care : the master is not answerable for any mischievous, fraudulent, or negligent act of one who is his servant, if it is not done in the employment or by the authority of the master. Thus where a servant wilfully drove his master's carriage against another, and injured it, as held, after much deliberation, that the master was not answerable, for it was stepping aside from employment about which the servant had been employed and was not authorized by the master. Where a servant employs another, the master is answerable for the one so employed by his authority. The contract for hire gives the master or employer no authority whatever for the corporal punishment of his servant or person employed. If he is negligent, in any respect in fault, the remedy is on the contract. (As to the other description of servants above mentioned, see article *Apprenticeship*.) The terms

of apprenticeship entitle the master to the services of the apprentice for the time limited in the indentures of apprenticeship, and impose upon the master the duty of providing for and instructing the apprentice. The master has the right of moderately correcting the apprentice ; but, in case of ill treatment of the apprentice by the master, or neglect to instruct him in the trade or business proposed to be taught, the law ought to provide some immediate remedy, in case of the stipulations in the articles of apprenticeship being insufficient to meet the case ; and such provisions are introduced into many codes of laws, though other codes are deficient in this respect, and the apprentice is condemned to suffer years of bondage and cruelty, and arrives at manhood without instruction, or the habits likely to render him a useful or happy member of the community. On the other hand, the apprentice may be perverse, vicious, idle, and ungovernable ; and the laws of some states make provision that, in such case, the master may be discharged from his obligations. As to the liability of the master for the acts of the apprentice, they are the same as in respect to other servants.

MASTER IN CHANCERY. The masters in chancery are assistants to the lord chancellor and master of the rolls ; of these, there are some ordinary and others extraordinary : the masters in ordinary are twelve in number, some of whom sit in court every day during the term, and have referred to them interlocutory orders for stating accounts, and computing damages, and the like ; and they also administer oaths, take affidavits, and acknowledgments of deeds and recognisances : the masters extraordinary are appointed to act in the country, beyond ten miles' distance from London.

MASTER OF ARTS. In the German universities, the title of *magister artium* is an academical honour, conferred by the philosophical faculty, after a previous examination in the general sciences, particularly philosophy, philology, mathematics, physics, and history. The word *magister*, connected with a qualifying phrase, was used among the Romans as a title of honour ; as, for instance, *magister equitum* (see the next article), but its present meaning must be traced to the time of the establishment of the oldest universities. Regularly organized faculties were not then known, as they now exist in the universities of the continent. The whole circle of academic activity was limited to the seven liberal arts (see *Art*) : the teachers were called *artists* ; the body of teachers, the *faculty of artists* ; and they who received public honours on the completion of their course of studies, for their diligence and knowledge, and had already received the degree of *baccalaureus*, were called *magistri artium* (masters of the liberal arts)—a title with which that of doctor of philosophy was afterwards joined. As the origin of this dignity is more ancient than that of doctor, it is still placed before it in most of the German universities. The precise period of its introduction is not known ; but even in the twelfth and thirteenth centuries, the honour was so highly esteemed in France, that the most distinguished men were eager to obtain it. Since that time its dignity has been greatly diminished. This title is to be distinguished from the *magister legens*, that is, one who has obtained the right, by public disputations, to deliver lectures. In the English and American universities, the title of master of arts is intermediate between those of bachelor of arts and doctor.

MASTER OF THE HORSE (*magister equitum*) : the commander of the cavalry among the Romans. He was among the high extraordinary magistrates, and was appointed by the dictator immediately after his own election. He was next to the dictator in

rank, in the army, and had almost the same insignia with him. He was also permitted to mount his horse in the city.

**MASTER OF THE ORDNANCE;** a great officer, who has the chief command of the king's ordnance and artillery.

**MASTER OF THE ROLLS;** a patent officer for life, who has the custody of the rolls of parliament, and patents which pass the great seal, and of the records of chancery, &c. In the absence of the chancellor, he sits as judge in the court of chancery; at other times, he hears causes in the rolls chapel, and makes orders; he has a writ of summons to parliament.

**MASTER-SINGERS.** Between the slavery of the Eastern castes, which bind men immutably to the occupations of their fathers, and the perfect freedom of pursuit with us in the West, stand, as it were, the corporations of the middle ages. The lawlessness of the times compelled men of the same occupation to unite in societies for their mutual protection; and, being so united, their disgust at the wild disorder of the period led them to subject themselves to rules even of a minute and pedantic strictness. These habits of constraint extended their influence beyond the useful arts to the fine arts, and even to poetry itself. In the thirteenth century, poetry was a favourite occupation at courts and among the knights; but, with the beginning of the fourteenth century, this peaceable disposition ceased almost entirely, and incessant feuds almost everywhere ensued. Industry and the arts, however, grew up behind the walls of the cities (q. v.), and the corporations of citizens were established. During the long evenings of winter, the worthy burghers of the German cities assembled to read the poems of the minstrels. Some of the hearers were naturally led to try their own skill in verse; others followed; and the spirit of the age soon imbodied these votaries of the muse in corporations, or, at least, societies after the fashion of corporations. Like the other corporations, they laid claim to a very early origin. It is well settled that the emperor Charles IV. gave them a charter and a coat of arms. They generally called twelve poets, mostly of the time of the war on the Wartburg (q. v.) their *masters*; hence their name *master-singers*. They preferred, however, the more modest name of *friends of the master-song*. They met at certain days, and criticised each other's productions, in which external correctness seems to have appeared to them the chief object; few, indeed, had an idea of the difference between poetical and prosaic ideas or expressions. Their attempts in the lyric style were limited to spiritual songs; in the epic, to rhymed versions of the scriptural narratives. They were also fond of the didactic style. The rules by which the members of the societies were to be guided, as to the metre, &c., of their compositions, were written on a table, and called *Tabulatur*, for the sake of enforcing a strict observance of purity in language and prosody: the chief faults to be avoided were collected; they were thirty-two in number, and distinguished by particular names. He who invented a new metre, invented also a new tune; the names of which were the drollest, and sometimes the most senseless imaginable. Besides their stated meetings, they held public meetings, generally on Sundays, and festivals in the afternoon, in churches. In Nuremberg, where the master-singers flourished particularly, such meetings were opened with free-singing, in which any body might sing, though not belonging to the corporation. In this, the choice of the subjects was left comparatively uncontrolled; then followed the chief singing, when only those who belonged to the corporation were allowed to sing, and only on scrip-

tural subjects. The judges were called *Meister*, and sat behind a curtain. There were four: one watched whether the song was according to the text of the Bible, which lay open before him; the second, whether the prosody was correct; the third criticised the rhymes; the fourth, the tune. Every fault was marked, and he who had been warned the prize—a chain with medals. Whoever was a chain was allowed to take apprentices, a large number of whom was a great honour. None was ever taken from apprentices. After the term of his poetical apprenticeship, the young poet was admitted to the corporation, and declared a *Meister*, after having sung, for some time, with approval. These strange societies originated towards the end of the fourteenth century at Meissen, Saxe, Leipsig, and lasted, in several free cities of the empire, until the seventeenth, in Nuremberg to the eighteenth century, where, probably, the name of Hans Sachs (q. v.), the famous shoemaker and poet, kept them longer in existence. Some of the most famous master-singers were Henry of Meissen, the *Frauenlob* (that is, *women-praiser*), doctor of the law at Meins; master Regenbogen (Rainbow), a master Hadlaub and Muscibut.

**MASTIC;** a resinous substance obtained by incisions made in the branches of the  *Pistacia terebinthifera*, a small tree, or rather shrub, growing in the Levant and other countries bordering on the Mediterranean. This tree belongs to the natural order *terebinthaceae*. It attains the height of about twenty feet; the leaves are alternate and pinnate; the flowers are small, inconspicuous, disposed in axillary racemes, and are succeeded by an elongated drupe, containing an osseous nut. It forms one of the most important products of Syria, and has been cultivated in this and some of the neighbouring islands from remote antiquity. Hence it has exerted a great influence on the resinous products. It is consumed in vast quantities throughout the Turkish empire, and is there used as a masticatory by most of all denominations for the purpose of cleaning the teeth and imparting an agreeable odour to the breath. It was formerly in great repute as a medicine throughout Europe, but at the present time is very little used.

**MASTIFF** (*canis*, fam. *villosus*). This variety of the canine race is distinguished by a very head, dependent lips and ears, and the strength of his form. Like most of the larger kinds of dogs, although extremely vigilant over any thing committed to his charge, he is by no means dangerous, and will not abuse the power with which he is invested, nor call it into action, unless provoked to do so. As early as the time of the Roman emperors, mastiffs were held in high estimation at Rome for their strength and courage, especially those from Britain, where an officer was appointed, for the purpose of breeding them, and transmitting to the emperor, such as he thought capable of sustaining the combat in the amphitheatre. Marwood, in his work on the forest-laws, says this variety of the dog derives its name from the Saxon *maest theow*, or the dog of the enen. See Dog.

**MASTODON;** an extinct genus of the order *pachydermata*, or thick-skinned animals, which is improperly confounded with the mammoth, a fossil elephant. It is found only in a few localities, several nearly entire skeletons having been discovered in the United States. Single bones have been early discovered, but it was not until 1846 that a considerable portion of two skeletons was obtained by Mr Peale, near Newburgh, New York. Others have since been dug up in different parts of the country. There is one with the upper jaw

supplied in the Philadelphia museum, another at Baltimore, and another belonging to the New York lyceum. The mastodon in Philadelphia measures eighteen feet in length, and eleven feet five inches in height. The tusks are ten feet seven inches long. It seems to have been provided with a trunk, and in its food and manner of living to have much resembled the elephant. There are no traces within the period of tradition or history of the existence of these animals as a living genus. When and how they perished, if ascertained at all, must be revealed by geological data. See Godman's *American Natural History*, vol. 2d.

**MASTOLOGY** (from *μαστος*, breast); that branch of zoology which treats of the mammiferous animals.

**MASTRICHT**, or **MÆSTRICHT** (*Trajectum ad Mosam*); a strong place in the kingdom of the Netherlands, on the left bank of the Meuse, capital of the province of Limburg; fifteen miles north of Liege, and forty-six east of Brussels; lon.  $5^{\circ} 41' E.$ ; lat.  $50^{\circ} 51' N.$ ; population, 18,410. It is one of the most ancient towns of the Netherlands, and belonged formerly to the duchy of Lorraine. It contains ten Catholic and Protestant churches, and several literary and charitable institutions. It is tolerably well built, surrounded by walls and ditches, and is one of the strongest places in the Netherlands. Near it are large stone quarries, in which are subterraneous passages of great extent, where the farmers frequently store hay, corn, and other articles. It has hitherto carried on a brisk trade through its port on the Meuse, and regular packet-boats ran to Liege and other places on the river. (For the effects of the Belgian revolution on this navigation, see *Netherlands*.) **Mastricht** has been rendered famous by the numerous sieges which it has sustained. In 1673 and 1748, it was taken by the French, who bombarded it without success in 1793, and again captured it in 1794.

**MATADOR** (Spanish, *one who kills*). This word is used in some games with cards. In ombre and whist, it signifies one of the three principal cards, which are always the two black aces, the deuce in hearts and clubs, and the seven in hearts and clubs. Its application is probably taken from the Spanish language (q. v.), in which the man who gives the deadly blow to the bull is called *el matador*. Others give the name from a band of volunteers, who were established by the inhabitants of Barcelona, when they fought against Philip V., and whose duty was to punish with death those who murmured against the government.

**MATANZAS**; a seaport on the coast of Cuba, leagues from the coast of Florida, and twenty miles from Havana; lon.  $81^{\circ} 36' W.$ ; lat.  $23^{\circ} 2' N.$ ; population, 11,341, or, including the garrison and soldiers, 14,340; 1941 free blacks, 3067 slaves. It is situated on a bay of the same name, which affords one of the largest, safest, and most convenient harbours in America, having a good castle for its defence. It has considerable commerce, exporting sugar, molasses, and coffee. The situation is healthy.

**MATAPAN CAPE** (anciently *Tenarum*). This cape and Malea, or cape St Angelo are the two southern capes of the Morea, the former in lat.  $23^{\circ} 20' N.$ ; lon.  $22^{\circ} 29' 38' E.$ ; the latter in lat.  $36^{\circ} 25' N.$ ; lon.  $23^{\circ} 12' 8' E.$

**MATERIA MEDICA**, are the materials which physicians attempt to cure or alleviate the various diseases of the human body, and comprehend a great variety of substances taken from the mineral, animal, and vegetable kingdoms—such as silver, copper, bismuth, mercury, lead, iron, antimony, tin, arsenic, and zinc, from amongst the

metallic bodies; sulphur, lime, soda, nitre, magnesia, borax, and several salts from amongst the minerals; and nearly two hundred substances belonging to the animal and vegetable kingdoms. All these articles are susceptible of an infinite number of combinations, and upon the skill and promptitude with which these are made and applied, hinges the whole system of the practice of physic. In early times, the articles of the materia medica were still more numerous and complex than at present; but as many substances were then employed from fanciful and superstitious motives, modern physicians have discarded these, and adopted a few others, much more valuable and certain in their effects. Thus in ancient times, neither antimony, nor Peruvian bark, nor jalap, nor ipecacuan, nor sarsaparilla, were known to exist; but the progress of chemistry, and the discovery of America, have put us in possession of these simples, which have proved of the greatest value to mankind. Antimony, when formed into James's powder, and bark, in all its combinations, have preserved many thousands of lives annually from fevers. Jalap, next to senna leaves, is the most efficacious of purgatives, and ipecacuan is by far the best and safest emetic, which has been yet discovered. To chemistry also mankind are indebted for many valuable additions, such as the preparations of mercury, and the knowledge of the efficacy of acid gases in the destruction of the powers of contagion. The spirit of commerce, too, has added its share to the stock of valuable drugs. Egypt sends us senna, borax, and opium; Russia, rhubarb; from India we derive cinnamon, cloves, cajuput, ginger, gamboge, &c.; while from South America and the West Indies we import many of the most active vegetables employed in physic. Unfortunately, however, the wealthy inhabitants of Great Britain are too fond of taking drugs, and unwilling, generally, to employ abstinence and abstemiousness in the cure of their maladies; so that they are very frequently sick or ailing, and seldom give themselves that fair chance of living to an advanced age, which the salubrity of their climate would otherwise entitle them to expect. If it were more the fashion to fast, and use the warm bath, fewer persons would experience disease. See *Medicine*.

**MATERIAL** and **MORAL**; two terms used in military language, and derived from the French. The former means everything belonging to an army except the men and horses; the latter means the spirit of the soldiery, as to cheerfulness, courage, and devotion to their cause. Thus it is said: Though the *material* of the army was in a wretched condition, yet in respect to its *moral* it was superior to the enemy.

**MATERIALISM**, in philosophy; that doctrine which considers matter or corporeal substance the primitive cause of things. He who adopts this doctrine is called a *materialist*. In respect to psychology, in particular, materialism means the doctrine that the soul is a material substance. Materialism is opposed to the doctrine of the spiritual nature of the soul, or immaterialism. Both may be either empirical or transcendental. Materialism is of the first sort, if it founds all its positions and reasonings on experience derived from the sensual world, and therefore strives to explain the internal phenomena from the external; it is transcendental, if it looks beyond experience. Materialism differs according as it considers matter merely, or matter in an organized shape, as the original existence, and in the first case sometimes adopts an ethereal matter, an invisible fluid, sometimes the light, water, &c., as the primitive substance. It also differs according to the hypotheses by which it explains the origin of things.

In regard to the soul, the materialist maintains that matter produces in itself spiritual changes, or that the soul is a consequence of the whole bodily organization, by which matter is refined and ennobled into mind. Among the advocates of this doctrine we may mention Priestley. This theory, however, does not explain how matter can think, and how physical motion can produce mental changes, which we do not observe in so many organic beings; how, in particular, a notion of its own activity can originate. Numerous auxiliary hypotheses, therefore, have been devised, as that of the vibration of nerves by Hartley. In decided opposition, however, to materialism, is our consciousness of the identity and liberty of man, which would be annihilated by it, because matter is governed by the necessity of nature, and free will therefore excluded. Materialism is a very ancient view of nature, and the predominant one in the most ancient Greek philosophy, poetry, and mythology, surrounded, however, by all the graces in which the poetical spirit of this imaginative people could array it.

**MATHEMATICAL GEOGRAPHY** is the application of mathematics and astronomy to the measurement of the earth. The ancients had made no inconsiderable progress in this science. This science starts from two principles: 1. that the earth is to be considered as a sphere; and, 2. that the points and circles, imagined on the heavens, correspond with points and circles on the earth. See *Earth, Pole, Equator, Tropics, Meridians, Degree, Latitude*, &c.; see, also, *Geography*.

**MATHEMATICS.** If we call everything, which we can represent to our mind as composed of homogeneous parts, a magnitude, mathematics, according to the common definition, is the science of determining magnitudes, i. e. of measuring or calculating. Every magnitude appears as a collection of homogeneous parts, and may be considered in this sole respect; but it also appears under a particular form or extension in space, which originates from the composition of the homogeneous parts, and to which belong the notions of situation, proportion of parts, &c. Not only all objects of the bodily world, but also time, powers, motion, light, tones, &c., may be represented and treated as mathematical magnitudes. The science of mathematics has to do only with these two properties of magnitudes, the quantity of the homogeneous parts, which gives the numerical magnitude, and the form, which gives the magnitude of extension. This is one way, and the most common, of representing the subject: there are others more philosophical, but less adapted to the limited space which can be allowed to so vast a subject, in a work like the present. In investigating these two properties of magnitudes, the peculiar strictness of the proofs of mathematics gives to its conclusions and all its processes a certainty, clearness, and general application, which satisfies the mind, and elevates and enlarges the sphere of its activity.\* (See *Me-*

*thod, Mathematical.*) According to a magnitude considered merely in the respect above mentioned or in connexion with other circumstances, mathematics are divided into *pure* and *mixed*. *Pure* mathematics are again divided into *arithmetic* (q. v.), which considers the numerical quantity of magnitudes, and *geometry* (q. v.), which treats of magnitudes and their relations to space. In the *mixed* mathematics, the common mode of *arithmetic* is combined with *algebra* (q. v.), and *geometry* is employed. To the applied mathematics may be applied the application of arithmetic to *potencies*, *numbers*, and similar calculations; of *geometry* to *surveying* (q. v.), *levelling*, &c.; of *pure mathematics* to *powers* and *effects*, the *gravity*, the *elasticity*, the *dry*, *liquid*, and *aeriform* bodies as a *fluid* in equilibrium or in motion, in one word, as a *relation* to the *mechanic sciences*, (see *Mechanics, Hydrodynamics*, &c.); to the *rays of light* and *optical sciences* (see *Optics, Dioptrics, Prism*, &c.); to the *position*, *magnitude*, *motion*, &c. of heavenly bodies in the *astronomical sciences* (*Astronomy*), with which the *measurement* and *calculation of time* (see *Chronology*); and the *art of navigation* (see *Dial*) are closely connected. The name of applied mathematics has sometimes been so extended as to embrace the application of the science to *architecture*, *navigation*, the *surveying*, *geography*, *natural philosophy*, &c. but as a connexion it may more conveniently be considered as forming a part of the respective sciences. It is to be regretted that there is as yet no very satisfactory work, treating of the history of the science, so noble in itself, and so vast in its application: even Kastner and Montucla have not done what is desired. The establishment of mathematics on a scientific basis probably took place among the *Indians* and *Egyptians*. The first origin of the science we find among the *Greeks*. A great teachers of Europe in ancient times were *Thales*, and more particularly *Pythagoras*. *Eudoxus*, investigated mathematics with a scientific spirit, and extended its domain. In *Egypt* geometry, in those ages, was more *practical* and *utilized* than *arithmetic*. The science was understood by the latter something above that which we understand by it. In fact, we have not a clear idea of the ancient *arithmetic*. The numerical calculation was limited and without sufficient ground for which might be found their imperfect way of writing numbers, if there be no other reason. Euclid's famous *Elements* is a work of unrivalled excellence, considering the time of origin, the ingenious discoveries of *Archimedes*, deep investigation of *Apollonius of Perga*, and the geometry of the ancients to a large extent, have been the admiration of all subsequent times. Then it has been made to bear more on *science* and has become more connected with *arithmetic*. Among the Greek mathematicians are *Pythagoras*, *Erastosthenes*, *Conon*, *Nicomedes*, *Hipparchus*, *Ptolemy*, *Diophantus*, *Thales*, *Proclus*, *Euclid*, *Pappus*, and others. It is remarkable that the Romans showed little disposition for mathematics, but the Arabians, who learned mathematics almost all their science, from the *Greeks*, owe themselves much with it. *Algebra* and *trigonometry* owe them important improvements. Through the Arabians, mathematics found entrance into *Spain*, where, under *Alphonso of Castile*, a *school* was displayed for the cultivation of this science. At this, it found a fertile soil in *Italy*: and it was not long before a monk would sometimes follow out a problem without, however, adding to its territory. The science reserved for later ages. Mathematics even now

\* As a branch of intellectual culture, mathematics has great excellencies and great defects. Its certainty, the precision of its signs never conveying more nor less than the meaning intended, its completeness in itself, and independence of all other branches, distinguish it from every other science, and nothing accustoms the young mind more to precision and exactness of thought and expression than the study of mathematics. But, on the other hand, these very excellencies render it liable to give a partial direction to the mind, to withdraw it from, and unfit it for pursuits of a different character. Hence so many great mathematicians have appeared to be wholly unfitted for other studies. On the whole, however, its advantages are so great that it can never be dispensed with in a liberal education. Nothing expands and elevates the mind more than the acquisition of a mathematical truth, a law which is obeyed throughout the universe. The study of the conic sections affords a fine illustration of this influence; and there are few instances in which there will be much danger of the pupil being unduly absorbed in the study.

Gmünden, Puerbach, Regiomontanus, Pacciolo, Tartaglia, Cardanus, Macrolycus, Vieta, Ludolphus de Ceulen, Peter Nunes, Justus Byrge, and others. To his period, however, all mathematical operations of any extent required a weary length of detail; when, in the seventeenth century, Napier, by the introduction of logarithms, immensely facilitated the process of calculation; and Newton and Leibnitz, by their infinitesimal calculus, opened the way into regions, to which, before them, no mathematician attempted to penetrate. From this time, the science obtained wonderful extension and influence, by the labours of such minds as Galilei, Torricelli, Pascal, Descartes, Hospital, Cassini, Huyghens, Harriot, Wallis, Barrow, Halley, James and John Bernoulli, and others. Thus it became possible for Manfredi, Nicoli, Nic. and J. Bernoulli, Euler, Maclaurin, Taylor, Bradley, Clairaut, D'Alembert, Lambert, Tobias Mayer, Kastner, Hindenburg (the inventor of the combinatorial analysis) Lagrange, Laplace, Legendre, Gauss, Bessel, and the later mathematicians in the eighteenth, and in our century, to make great advances, and to give satisfactory conclusions, not only respecting our earth, but also the heavenly bodies, the phenomena and powers of nature, and their useful application to the wants of life, to establish firmly so many notions, previously vague, and to correct so many errors. (See the articles on these mathematicians, and the works mentioned in the articles on the various branches of mathematics.) The number of mathematical manuals increases daily, without, however, much surpassing the best of the earlier ones in perspicuity, novelty, and method, or rendering them unnecessary to the thorough student.

MATHER, INCREASE, D. D., one of the early scholars of Harvard college, was born at Dorchester, Massachusetts, June 21, 1639, and graduated at Harvard, in 1656. He was ordained a minister of the gospel in 1661; but had preached before with great success at the North church in Boston. In 1685, he was called to preside over Harvard college, which he continued to do until 1701. His piety, zeal, and general abilities were of great value to the institution. He distinguished himself as a very skillful and efficient political servant of the commonwealth. When king Charles II. signified his wish that the charter of Massachusetts should be signed into his hands, in 1683, doctor Mather declined against a compliance. In 1688, he was sent to England, as agent of the province, to proredress of grievances. He held conferences with king James on the situation of the province, when William and Mary ascended the throne, and his suit with them in audiences and by memorandum.

In 1692, he returned to Boston, with a new commission from the crown, which some of his old friends resented; but the general court accepted it, with thanks to the reverend agent, for the industry and ability with which he conducted his negotiations with the government of the province. He died at Boston, August 23, 1723, in the eighty-fifth year of age, having been a preacher sixty-six years. He is said to have commonly spent sixteen hours a day in his study, and his sermons and other publications were proportionably numerous. During the craft delusion, which he laboured to mitigate, he wrote a book to prove that the devil might appear in the shape of an innocent man, "by means of a number of persons, convicted of witchcraft, and the execution of the sentence of death." By the biographers, he is styled the father of New England clergy. An octavo volume entitled *Tables of the Life of Doctor Increase Mather*, contains a catalogue of eighty-five of his publications, including "the learned and useful prefaces, which

the publishers of many books obtained from him, as a beautiful porch unto them, and which, collected, would make a considerable volume."

MATHER, CORRON, D. D., the eldest son of Increase, rivalled or surpassed his father in learning, influence, and the variety and multitude of his productions. It is recorded in his diary, that, in one year, he preached seventy-two sermons, kept sixty fasts and twenty vigils, and wrote fourteen books. His publications amount to 382, some of them being of huge dimensions. His reading was prodigious; his research exceedingly diversified and curious. He was born in Boston, Feb. 12, 1663, and graduated at Harvard college in 1678. In 1684, he was ordained minister of the North church in Boston, as colleague of his father. He died in 1728, aged sixty-five years, with the reputation of having been the greatest scholar and author that America had then produced. His piety and benevolence were almost commensurate with his learning. Credulity, pedantry, quaintness, eccentricity, are blended, in most of his works, with marvellous erudition, and instructive details of history and opinion. He was a fellow of the royal society of London. His largest and most celebrated work is his *Magnalia Christi Americana*, or the Ecclesiastical History of New England, from 1625 to 1693, in seven books, folio. His Life is extant in an octavo volume, written by his son and successor, Samuel Mather, D. D., also a learned divine and author.

MATHEWS, CHARLES. See *Matheus*.

MATHIAS, THOMAS JAMES, a distinguished scholar, was educated at Eton, and at Trinity college, Cambridge, where he took the degree of B. A. in 1774, and, in 1775 and 1776, gained some academical prizes. His first publication was odes, chiefly from the Norse tongue (4to, 1781). This was followed by a pamphlet on the Evidence relating to Rowley's Poems (1783). For several years after the publication of the last of these works, he did not again come forward as an author. He was elected fellow of his college, but, after taking the degree of M. A., was called away from his fellowship, to be clerk to the treasurer of the queen. In time, he rose to be vice-treasurer—a place he held for many years—and afterwards, on the queen's death, he had a pension assigned him. In 1794 came out, anonymously, the first part of the Pursuits of Literature, attributed to Mr Mathias. The poetry does not often rise above mediocrity: the notes, however, prove great learning, with keen criticisms on public men and opinions. Three more parts were subsequently published, and a volume was added containing translations of the notes. Some of the persons assailed were so highly indignant, that it would scarcely have been safe for any man at that time to have avowed himself the author. In 1794, Mr Mathias gave to the press the Imperial Epistle from Kien Long to George III., and, in the following year, the Political Dramatist of the House of Commons—a satire on Mr Sheridan. In 1796, appeared his Letter to the Marquis of Buckingham; in 1797, a Pair of Epistles to Doctor Randolph and the Earl of Jersey, occasioned by the loss of some letters which the princess of Wales had addressed to her mother, and, in 1798, the Shade of Alexander Pope on the Banks of the Thames—a satirical poem, with notes. These works were all published without his name. Mr Mathias, in 1814, removed from England to Naples, where he resided until his death, which took place in August, 1835. He there made excellent Italian versions of the Lycidas of Milton, and the Sappho of Mason, and has published, in a uniform and elegant manner, the following valuable works:—*Componimenti Lyrici di più illustri Poeti d'Italia* (3 vols.); *Aggiunta ai Componimenti* (3 vols.); *Commentarij intorno all'*

*Istoria della Poesia Italiana, per Crescimbini* (3 vols.); *Tiraboschi Storia della Poesia Italiana* (3 vols.); *Canzoni e Prosa Toscane* (1 vol.); *Canzoni Toscani* (1 vol.); and *Della Ragion Poetica di Gravina* (1 vol.). He also edited (in 2 vols., 4to) the Works of Thomas Gray, with his Life and Additions, published at the expense of the university of Cambridge.

MATILDA, marchioness of Tuscany, famous for her connexion with Gregory VII., was a daughter of Boniface, marquis of Tuscany. She was born in 1046, and married Godfrey the Hump-backed, son of the duke of Lorraine, but always lived separate from him, being unable to exchange the mild climate of Italy for a northern sky. Being left a widow in her thirtieth year, she engaged devotedly on the side of Gregory VII. and Urban II., against the emperor Henry IV., her cousin. She was almost the inseparable companion of Gregory, always ready to assist him in every thing that he needed. This close connexion gave rise to many unfavourable suggestions, which were, however, groundless, although it is certain that their friendship was founded not only on policy, but also on mutual inclination and esteem. Matilda had been accustomed by her mother, to see in the pope a saint, while, at the same time, she revered the saint as a father. Gregory had, therefore, found much opportunity to influence the formation of her character. Her mind, moreover, was susceptible of a very high tension, and had been disciplined to manly firmness. There are, therefore, grounds enough for explaining how she should be able to dare and do so much for Gregory. The donation of all her goods and possessions to the Roman church (in 1077 or 1079, for the original records are lost), was, probably, but the least sacrifice. The sharing with him every danger that she could not avert, and her exhortations to him to encounter that which was unavoidable with steadfastness and courage, show her energy and resignation. She alone stood by him against the emperor in 1081, sustaining him with her treasures, while Rome was besieged; and, even after the death of Gregory, she prosecuted open war against the emperor. She died at Polirone, in 1115, in the Benedictine convent built by herself. Her death gave rise to new feuds between the emperor and pope, Pascal III., on account of the donation above-mentioned. These feuds, finally, resulted in the cession to the pope of a portion of the estates of Matilda. They consisted of Tuscany, Mantua, Parma, Reggio, Piacenza, Ferrara, Modena, a part of Umbria, the duchy of Spoleto, Verona, and almost all that constitutes the present patrimony of the church, from Viterbo to Oviedo, together with a part of the Mark of Ancona. See *Popes*, and *Gregory VII.*

MATSYS, QUINTIN; a painter, who was originally a blacksmith, born at Antwerp, in 1460. Different accounts are given of the occasion of his quitting the forge for the pencil; but most of his biographers agree that it was in consequence of becoming enamoured of the daughter of a painter, whose hand was to be obtained only by a master of the same profession. He chiefly painted portraits and half figures in common life, but sometimes undertook great works, of which a descent from the cross, in the cathedral of Antwerp, is a favourable specimen. His picture of the two misers, at Windsor, is also much admired. He died in 1529.

MATTER; that which occupies space, or that which the human mind considers as the substratum of bodies occupying space. As matter is perceived by us only in as far as it affects us, we must consider it as something effective in space, which, by its exten-

sion and motion, operates according to laws. From early times, the most various views have been maintained of the essence of matter and the mode of its operation on the mind. In the ancient times powers, not unlike the soul, were ascribed to exist in matter, by means of which it operates on man. Leucippus and Democritus considered it to consist of empty space and atoms, maintaining all living nature by the influence of etheric matter. In later times, Descartes made a total division between the material and the spiritual, or immaterial, and conceived extension to be the essential property of matter. According to him, matter is simple, but composed of parts, which are not indivisible atoms, but, in idea, are still divisible and have still extension. Newton, who did not enter into metaphysical investigations on the subject, states that he considers matter as an aggregate of the smallest parts, which again are matter, extended, and, by an unknown power, are ever connected with each other; whereas it follows, as he also belongs to the atomists. The dualism of Descartes involved the metaphysical, as well as the union of the spiritual with the material, a great difficulties, and thus caused different metaphysical systems. One of the most remarkable is the *theory* (q. v.), which absolutely denies the existence of matter, and declares all our notions of material things to be but ideas or images, which the Lord implants in the soul of man; whereas, without founding the opinion, that we see all things as we are, and that we are authorised to deny the existence of all things except God and the spiritus sanctus, he considers the effect of matter on our mind as an influence of God. Spinoza and Hume were not far from the ideal theory. The former supposed a single substance, whose properties are infinite power, thought and extension, and explained all spiritual and material phenomena as states of the one power of thought and extension. Hume, who admitted other substances, nor subjects, nor any independent beings, considers all things, spiritual and material, as a series of passing phenomena. Leibniz, who did not find it difficult it was to explain the influence of matter on the mind by dualism, idealism, or materialism, proposed the doctrine of *monads* (q. v.). From his doctrine further the opinion of Boscorich, that matter consists merely of physical points, which attract and repel each other, and said that matter is a mere mass of repulsion, which has a relation to certain mathematical points in space. Notwithstanding the many systems which have existed, matter is still the great mystery of mankind. It will always be asked, if matter is matter, are essentially different, how could they possibly influence each other? and, on the other hand, we cannot reason away the many phenomena which indicate such a difference. In philosophy, matter is also opposed to form. Material is that which refers to matter, as impenetrability, motion, extension, divisibility, and is opposed to spiritual.

MATTHEW (called also *Levi*), an apostle, son of Alphaeus; previous to his calling, an officer of the Roman customs, and according to tradition, a native of Nazareth. The accounts of his life are imperfect and uncertain. Tradition represents him as having suffered martyrdom at Antioch. His Gospel has been supposed, by some, to have been originally written in Hebrew, or in the language of converted Jews, about A. D. 40. In the latter case, we have now only a Greek translation, the original having been lost. His Gospel is according to the chronological order of the events in his report of the teachings of our Lord. It appears to give them not properly as delivered, but to arrange and group them

to the subject. The genuineness of the two first chapters has been called in question.

MATTHEW OF WESTMINSTER, an ancient English chronicler, was a Benedictine monk of the abbey of Westminster, who lived in the fourteenth century. He compiled a chronicle, commencing from the creation, and extending to the year 1307, which he entitled *Flores Historiarum*, whence he had the name of *Florilegus*. This work chiefly relates to English history, and is very freely transcribed from Matthew Paris. It was published in London, 1567, and at Frankfort, 1601.

MATTHEWS, CHARLES, a celebrated comedian, was born, in London, June 23, 1776, and at the age of fourteen was bound apprentice to his father, James Matthews, a bookseller in the Strand, who died in 1804. By reading plays he imbibed a strong partiality for them, and his first performance was in a private play. At length, he resolved to make the stage his profession, and performed at Richmond and Canterbury. His father, from religious motives, wasaverse to his son's playing, and, being informed that he was at a certain town for that purpose, went there with the determination of hissing him off the stage; but, on his return, he told his friend, that, though he saw his name in large letters in the play-bills, and was resolved to check his career, yet the people so laughed at his performance, that he could not help laughing himself; and they so applauded that he was obliged to do the same. In 1803, he was engaged at the Theatre Royal, Haymarket, where he appeared in *Jabal*, in the *Jew*, and *Lingo*, in the agreeable *Surprise*, *Buskin*, *Old Wiggins*, *Sir Fretful Plagiary*, and other similar characters, with so much applause that he soon came to be considered one of the best mimics that ever appeared on the stage, and, in 1804, was engaged at Drury-lane. When that house was burned down, in 1809, the company performed at the Lyceum theatre, and Matthews took the parts in which Bannister had hitherto appeared. His success in *Somno*, in the *Sleep-walker*, at the Haymarket theatre, ensured him an engagement at Covent-garden theatre, where, however, he remained only three seasons. In 1817, he played his celebrated character of *Multiple*, in the *Actor* of all sorts, thirty nights, to full houses, in the London, and afterwards with equal success, in the provincial theatres.

Feeling conscious that he possessed within himself, individually, the power of attracting and entertaining the public, he now joined with Mr Arnold, of the ceum, in the establishment of a monodramatic entertainment, called "Matthews at Home;" Mr Arnold finding the house, and Matthews furnishing the amusement. Never, perhaps, did a project of this nature so decidedly succeed; night after night, one season after season, the theatre was thronged with the beauty, rank, fashion, and talents of the metropolis. Nor was this to be wondered at. Whatever merits Matthews possessed as an actor on the stage, his qualities of description, imitation, and illustration, off the stage, far transcended them; in the he shared the talents and success of many, in the way he stood alone and unrivalled. His was not the mimicry of voice or manner; he possessed a peculiar power of copying the minds of the persons he imitated; and his greatest efforts were produced by gleaning conversations between men which had never taken place, but in which he depicted with a master hand their minds, characters, and dispositions. This power, added to a copious store of anecdotes, the quickest possible perception of the ridiculous, an unequalled talent for singing comic songs of a species which he himself originated, in which talking is combined with singing, and his gentle-

manly manners, naturally rendered him a popular member of private society. It was not surprising, therefore, that when the public were permitted to participate in the gratification which had been confined to his personal friends, they should eagerly avail themselves of the opportunity of witnessing an exhibition combining all the strength of his various and varied resources.

The names of his various entertainments were as follows:—

1818. Mail Coach Adventures.	1821. Earth, Air, Fire, and Water.
1819. Trip to Paris.	
1820. Country Cousins.	1822. Youthful Days.

After five years' success with these entertainments, Mr Matthews went to America, and arrived on the 6th of September, 1822, at New York, where he was extremely well received by the public. Being libelled in the Philadelphia Gazette, he brought an action, and was awarded 3000 crowns damages. He returned to England in July, 1823; and on the 25th of March following, produced his "Trip to America." This, and his "Jonathan in England," acted the same year in Mr Arnold's regular season, became the subject of much ill-natured remark here and across the Atlantic. Mr Matthews published an exculpatory letter in the "European Magazine."

When Terry's intellect began to fail, Yates (who owed his introduction to the stage to Matthews) applied to him; and the consequence was, the name of Matthews, instead of Terry, appeared as joint-manager of the Adelphi theatre. They entered into a partnership, the term of which expired just five days after Matthews's death. By the agreement, when either of them acted, he received ten pounds. There Matthews subsequently gave his entertainments, there he (in the dramatic season) performed; his first appearance being on the 29th of September, 1828, in "Wanted a Partner," and "My Absent Son." Latterly, a coolness arose between him and Mr Yates, and he declined acting there at all.

We continue the list of his entertainments:—

1824. Trip to America.	1830. Comic Annual.
1825. Memorandum Book.	1831. Comic Annual, Vol. 2.
1826. Invitations.	1832. Comic Annual, Vol. 3.
1827. (At Drury Lane.)	1833. Comic Annual, Vol. 4.
1828. Home Circuit.	1834. Youthful Days, and Home Circuit.
1829. Spring Meeting (with Yates).	

It was affirmed that Mr Matthews would not dare to cross the Atlantic again, after his vivid sketches of our American brethren; but he formed a juster estimate of his powers and their good sense; and in 1834, he paid America a second visit, and for the first time gave his "At Home" in the United States. He subsequently acted his round of theatrical characters; and was, as before, received with the greatest applause.

Circumstances, however, induced him to shorten his stay in America, and he returned to England. He became ill on the voyage, which was very stormy and dangerous; and when he reached Liverpool his weakness was such that he was unable to quit the town for some weeks. He then removed to the house of a friend, near Daventry, where he seemed to rally; but it was deemed advisable as speedily as possible to remove him to the West of England, where, in spite of the mildness of the air, and unremitting attention, symptoms of a fatal disorder exhibited themselves; and after several weeks of protracted suffering, on the 28th of June, 1835, being his fifty-ninth birthday, he expired; the immediate cause of his death being water in the chest.

As an actor, the rapidity with which Matthews seized upon all prominent and eccentric points of character, and the felicity with which he portrayed them, were wonderful. His field of observation was

human nature in all its endless variety, and no man ever observed it to greater advantage. The designs for all his "At Homes" were given by himself, though written by others; hence came, perhaps, in a great measure, the spirit of his performance, as in this respect Matthews might be compared to a great musician playing his own music. He was the satirist and rebuker—a gentle and an amusing one—of the vices, the follies, and the extravagances of the day. He did not distort his character, but his incidents. He chose those circumstances under which the peculiarities of his characters could be best displayed—a privilege which every novelist and dramatist has claimed from time immemorial; and within these bounds he was always true to nature. The finish of his sketches was as surprising as their vigour, and his extreme versatility more extraordinary than both. No man since Garrick ever went through such a range of character, whilst his occasional touches of exquisite tenderness and pathos mingled with his rich comic humour in strange yet harmonious combination. Matthews was the only actor of our day who could suffuse the eye with tears of emotion, and convulse the features with laughter at one and the same moment. Nothing could exceed the correctness of his ear; he spoke all the dialects of Ireland, Scotland, and Wales with a fidelity perfectly miraculous. He would discriminate between the pronunciation of the different Ridings of Yorkshire, and speak French with the Parisian accent, the patois of the South, or the guttural tone of the Flemish.

In person, Matthews was about five feet eleven inches in height; his countenance was pleasing on the stage, though a singular twist was always perceptible about the mouth, and seemed the latent token of his irresistible drollery.

**MATTHIAS CORVINUS**, king of Hungary, second son of the gallant Hunniades, a man of great ability, who, by his wars against the Turks, excited the interest of Europe, and in Hungary, was esteemed the first of her kings. The enemies of his father kept him imprisoned in Bohemia, but, in 1458, at the age of sixteen years, he was called to the throne of Hungary. Several Hungarian magnates opposed the election, and invited Frederic III. to accept the crown. The Turks, profiting by these dissensions, invaded and laid waste Hungary; but Corvinus, having compelled Frederic III. to resign to him the crown of St Stephen, hastened to meet the Turks, and drove them from the country. Between 1468 and 1478, he conquered Silesia, Moravia, and Lusatia; he was also victorious over the Poles, and took part of Austria, including Vienna, from Frederic III. These wars obliged him to lay heavy taxes on his subjects, and he governed arbitrarily, but must be allowed to have been a man of extraordinary powers. During the whole of his disturbed reign, he not only encouraged science, but cultivated it himself. It is much to be regretted, that the great library, which he collected at Buda, was destroyed by the Turks, twenty years after his death. At Buda, he reposed from the toils of war, and collected scholars around him. In 1488, at a diet at Buda, he established laws against duels, for the better administration of justice, &c. He died in 1490, at Vienna, when occupied with preparations for a new war against the Turks. He left only a natural son, Johannes Corvinus, who was not able to obtain the crown. The candidates for it were numerous. The Hungarians elected king Wladislaus VII. of Bohemia.

**MATTHIAS, JOHN VAN HARTEN**. See *Anglo-baptists*.

**MATURIN, CHARLES**; an ingenious but eccentric clergyman of the established church, curate of St

Peter's, Dublin, and author of several popular romances, many of which, especially in the family of Montorio, evince great powers of imagination, and a richness of language, but exhibit a most extraordinary degree of carelessness in the application of facts. Besides the one just mentioned, the pieces are the Milesian Chief; Fatal Revenge; Wreck of the Island, &c. Bertram, a tragedy, performed at the theatre, with Kean as the representative of the principal character, was the first production which, in singular success, brought him into notice as a writer. This effort is said to have produced him £2000, and a subsequent dramatic attempt (*Manfred*), he was so fortunate, and, having anticipated his success, without contemplating the possibility of a failure, contracted embarrassments, from which he was not entirely free till his death, in October, 1825. He published, in 1821, a poem, in blank verse, entitled *Universe*, which brought him more profit than reputation; and, in 1824, appeared six of his *Catholic Sermons*, preached at St Peter's, during the last of that year. These exhibit him as a well-read scholar and an acute reasoner, and are, perhaps, the best foundation on which to rest his claims to the notice of posterity. He was remarkably frugal in his delivery, and attracted by his eloquence unattended congregations.

**MAUBEUGE**; a French fortress, on the frontier department Du Nord. The *Sambre* traverses the beuge, and becomes navigable here, and is joined by a half east-south-east of Valenciennes. Maubeuge has considerable commerce in wine, &c. &c.; manufactures,—arms, muskets, &c.; contains 6044 inhabitants. It dates its origin from the foundation of a chapter of canons, in 1015, by Aldegonde. It was the capital of the French province of Hainault. Louis XIV. took it in 1691, and the peace of Nimeguen, in 1678, restored it to France. The Prussians took it in 1815.

**MAUBEUZE**. See *Maubuse*.

**MAUBREUIL, MARQUIS DE**. Connected with the history of this personage, there are some circumstances, which have not yet been explained, but which seem to reflect no great credit on the person, who is denominated, in politics, the principal of intimacy. He was born in Brittany, of a noble family, about the year 1780, entered into the imperial army, in which he made several campaigns, and was frequently taken into the service of the king of Naples, who appointed him his equerry. He was employed in Spain, as a captain of French light-horse, and his bravery gained for him the legion of honour. He, however, refused to become a contractor; but the military being taken some of the contracts entered into with him, fell into embarrassments, and his property was seized by his creditors. His enemies say that, in 1815, he exulted beyond measure at the downfall of the French government, and rode through the streets, shouting to the passengers the star of the legion of honour, which he had tied to his horse's tail. If this was probably the cause of his being employed in conjunction with a M. Dasles, on a very important mission, by the provisional government. The noble purpose of this mission, for which he was authorized to call in the assistance of the army and the civil authorities, was to recover the jewels, which were said to have been carried off by the family of Napoleon. The missionary companion took the route of Fontenay-le-Comte, which place the emperor had just sent out to, and they stopped the ex-queen of the Netherlands, of Jerome Bonaparte, who was travelling with many with a passport from the king. They found eleven chests, containing valuable jewellery, &c.

princess, and sent a part of them to Versailles, and a part of them to the king's commissioner at Paris. The chests were claimed by the princess; and, on their being opened a large quantity of diamonds, and a sum of 82,000 francs, were found to have been stolen from them. Maubreuil and Dasies were accused of the theft. Dasies was afterwards tried and acquitted, but Maubreuil was not allowed to escape so easily. One of the tribunals declared itself incompetent to try him, and he remained in prison till the 18th of March, two days before the arrival of Napoleon at Paris, when the minister at war set him at liberty. A few days after this he was arrested by the imperial government, but was soon discharged. He is said to have gone under an assumed name, to Brussels, and there he was arrested and conducted to Ghent, on suspicion of intending to assassinate Louis XVIII. It does not appear that a iota of proof existed against him. Driven to despair, perhaps, by the persecution which he endured, he opened his veins in prison, but was saved from death. He was next put into the custody of a party of gendarmes, and conducted to Aix-la-Chapelle, to be delivered to the Prussians. He escaped on the road; and it is a singular fact, that he went back to Paris at the same time that Louis arrived from Ghent, and remained unmolested in the French capital for nearly twelve months. In June, 1816, however, the police seized him, on a charge of having intrigued against the royal government, and formed the project of carrying off the French princes from St Cloud. This accusation, too, seems to have been calumnious, for it was dropped; but, in April, 1817, he was once more prosecuted for the theft of the money and diamonds. One of the subordinate courts having again refused to take cognizance of the cause, he was sent before the royal court. His patience was at length exhausted: he addressed the judges in strong terms, and disclosed an important secret, that he had not been employed to recover the crown jewels, but to assassinate Napoleon,—a mission which he accepted, he told them, only for the purpose of saving the emperor. From his prison he repeated this avowal, in a very severe letter to the ambassadors of the allied powers. The cause was now referred to the tribunal of Douai, and from thence to that of Douay. The latter tribunal is said to have been on the point of pronouncing sentence, when Maubreuil escaped from his dungeon for the fourth time. After he had made his escape, the tribunal sentenced him to five years' imprisonment, and a fine of 500 francs. He then went to Brussels, and then passed over to Britain, where he published a vindication of himself. In 1825, he returned to France, and was again imprisoned until 1827, when, having been released, he made an attack on Talleyrand, whom he beat severely. On his trial for this offence, he accused the prince of having been the cause of all his sufferings, by employing him to assassinate Napoleon. Maubreuil was condemned to five years' imprisonment. Talleyrand has never thought proper to clear up the mystery, and the matter still remains explained. Bourrienne, in his memoirs of Napoleon, has some remarks relating to the circumstances of this transaction.

**MAUMEE**, or **MIAMI OF THE LAKES**; a river it rises in the north-east part of Indiana, and flows through the north-west part of Ohio, into Lake Erie. It is formed by the confluence of St Joseph's, Mary's, and Great and Little Auglaize. It is navigable only eighteen miles, on account of rapids. At this distance, its breadth is from 150 to 200 rods.

**MAUNDAY-THURSDAY** is the Thursday in

the Passion week; called *Maunday*, or *Mandate Thursday*, from the command which our Saviour gave his apostles to commemorate him in the Lord's supper, which he this day instituted; or from the new commandment that he gave them, to love one another, after he had washed their feet, in token of his love to them. It was instituted by pope Leo, in 692.

**MAUPERTUIS**, **PIERRE LOUIS MOREAU DE**, a celebrated French mathematician and philosopher, was born at St Malo, in 1698, and studied at the college of La Marche, in Paris, where he discovered a strong predilection for the mathematics. At the age of twenty, he entered the army, in which he served four years. In 1723, he was received into the academy of sciences, and soon after visited England and Switzerland, where he became a pupil and admirer of Newton, and formed a lasting friendship with the celebrated John Bernoulli (q. v.) and his family. On his return to Paris, he applied himself to his favourite studies, with greater ardour than ever, and, in 1736, formed one of the scientific party appointed to measure a degree of the meridian at the polar circle. In 1740, he received an invitation from the king of Prussia to settle at Berlin. On his return to Paris, in 1742, he was chosen director of the academy of sciences, and, the following year, received into the French academy. He returned to Berlin in 1744, and, in 1746, was declared president of the academy of sciences at Berlin, and, soon after, received the order of merit. His unhappy restlessness of temper was a source of continued disquiet to him, and a controversy with König, which subjected him to the satire of Voltaire, completed his uneasiness. At this time, his health, injured by his northern expedition, and incessant application, began to give way, and he sought relief by repeated visits to his native country. His disorder, however, seems to have uniformly revived with his return to Berlin; and he at length died, on his return from one of these excursions, at the house of his friend Bernoulli, at Basil, in 1759, in the sixty-first year of his age. His works, collected in four 8vo volumes, were published at Lyons, in 1756, and reprinted in 1768. Among them are Discourse on the different Figures of the Stars; Reflections on the Origin of Languages; Animal Physics; System of Nature; On the Progress of the Sciences; Elements of Geography; Expedition to the Polar Circle; On the Comet of 1742; Dissertation upon Languages; Academical Discourses; Upon the Laws of Motion; Upon the Laws of Rest; Operations for determining the Figure of the Earth, &c.

**MAURA, SANTA.** See *Leucadia*.

**MAUREPAS**, **JEAN FREDERIC PHELIPPEAUX**, COUNT DE, born in 1701, was, at the early age of twenty-four years, minister of the French marine. At his suggestion, cardinal Fleury named Amelot minister of foreign affairs, and the latter undertook nothing important without the concurrence of Maurepas, who finally administered the foreign department himself. He was hasty in his decisions, without system or foresight, but quick in conception, amiable, flexible, artful, and penetrating. He made up in dexterity what was wanting in reflection, and was one of the most agreeable of ministers. An epigram on madame de Pompadour, of which he was accused of being the author, led to his banishment from the court. Louis XIV. recalled him in 1774, and placed him at the head of his ministry. Removed from public affairs for the space of thirty years, Maurepas had lost whatever requisite he had ever possessed for the administration of government. With the imprudence of his youth was now united the feebleness of age. He retained the confidence of the king till his death, Nov. 21, 1781; but he was desti-

tute of the vigour necessary to avert the troubles which soon after shook the kingdom. France was, however, indebted to him for some improvements in the marine. The Memoirs of Maurepas, composed by Sallé, his secretary, and edited by Soulavie, are amusing, but carelessly written. See *Louis XVI.*

**MAURI, and MAURITANIA.** See *Moors.*

**MAURICE**; count of Saxony, commonly known as marshal Saxe. See *Saxe.*

**MAURICE, Duke**, and, after 1548, elector of Saxony (of the Albertine line), born in 1521, displayed, from his early years, great talents, united with a restless, active, and ardent spirit. In 1541, the death of his father, Henry the Pious, placed him at the head of the government, at the moment when the religious disputes had divided the German princes. Although a favourer of Protestantism, he refused to join the Smalcaldic league of Protestant princes, for the defence of the new doctrines, either out of attachment to Ferdinand, king of Hungary and Bohemia, against whose brother Charles V. (q. v.) the league was organized, or because he foresaw that it could not stand. In 1546, he concluded a secret treaty with the emperor, and was obliged to execute the ban of the empire against John Frederic, elector of Saxony (of the Ernestine line), and take possession of his territories. In 1548, the emperor conferred on him the electoral dignity of Saxony, and the greater part of the hereditary estates of the late elector. Charles now thought the moment was come to execute his project of annihilating the rights and privileges of the German princes, and rendering himself absolute master of Germany; and, although he artfully maintained a show of protecting the Catholics, laboured only for his own selfish interests. Maurice was not slow to penetrate the crafty policy of the ambitious monarch. Convinced that a forcible resistance would become necessary, he made his preparations, in 1550, under the pretence of executing the decree of the diet against Magdeburg, concluded a secret treaty with Henry II. of France, and some of the German princes (1551), and behaved so warily, that he had nearly succeeded in making Charles, who lay sick with the gout at Innspruck, his prisoner (1552). In justification of this unexpected act of hostility, Maurice alleged the detention of his father-in-law by the emperor, contrary to solemn promises. The emperor upon this, set free the prince whom he held captive, and proposed terms of accommodation by his brother Ferdinand. The result of this negotiation was the famous treaty of Passau (q. v.), July 31, 1552. Maurice, who had thus recovered the favour of the Protestants, now thought proper to give the emperor likewise, a proof of his attachment, by serving against the Turks. Nothing, however, was effected, and he soon after returned to Saxony. July 9, 1553, he defeated Albert, margrave of Brandenburg-Kulmbach, who refused to accede to the treaty of Passau, at Sievershausen, and died of a wound received in that battle, two days after. Maurice possessed the talents of a great prince and general, with a prudence that enabled him to take advantage of circumstances. Notwithstanding the shortness of his reign, Saxony is indebted to him for many useful institutions.

**MAURICE OF NASSAU**, prince of Orange, the youngest son by a second marriage, of William I., prince of Orange, born at Dillenburg, 1567, was studying at Leyden, in 1584, when his father was assassinated. The provinces of Holland and Zealand, and, soon after, Utrecht, immediately elected the young prince stadtholder, and his talents, as a general, surpassed all expectations. In 1590, he took Breda by surprise, and delivered Guelderland, Overijssel, Friesland, and Groningen from the Spaniards.

With the chief command, by land and sea, of all the forces of the United Provinces, he was appointed stadtholdership of Guelderland and Overijssel, and Friesland and Groningen being confided to his cousin William, count of Nassau. Previous to the treaty of twelve years, concluded in 1609, about forty towns and several fortresses, had fallen into his hands. He defeated the Spaniards in three naval battles. Besides the naval victories which were gained by the vice-admirals of the republic, on the coast of Spain and Flanders. Thus became the object of general affection and respect to his countrymen, his patriotic spirit now aimed at the sovereign to effect his purposes, he took advantage of the religious quarrels of the Arminians and Gomarists, the Remonstrants and Counter-Remonstrants, to Arminians.) He supported the Gomarists in acts of violence (see *Barnveldt*), but, not abandoning all his efforts, he was compelled to abandon the project. He died at the Hague, April 23, 1625, was succeeded by his brother Frederic Henry. The life of this stadtholder was an almost unbroken series of battles, sieges, and victories. War he carried as a master, and conducted like a hero. His court was considered as the best school of the time. The generals educated under him have contributed to extend his fame. Like *Masaniello*, he possessed the rare art of conducting a novel pitching a camp; like *Vauban*, the genius of attack and defence; like *Engene*, the skill to support the most numerous armies in the most unproductive and exhausted country; like *Vauban*, in good fortune to obtain more from the enemy than he had a right to expect; like *Coudé*, that *coup d'œil* which determines the issue of the battle like Charles XII., the power of rendering his troops insensible to cold, hunger, and suffering; the *Volonne*, that of sparing human life. In the opinion of Folard, Maurice was the greatest soldier general that had existed since the time of the Romans. He had learned the art of war from the ancients and extended it by the results of his own and others' experience.

**MAURITIUS.** See *France, list of.*

**MAUROKORDATOS.** See *Maurocordato.*

**MAUROMICHALIS.** See *Maurocordato.*

**MAURUS, RABANUS**, a German scholar, of the age of Charlemagne, who did much to promote the improvement of his nation, was a native of Fulda, received his education in the Benedictine monastery at Fulda, and subsequently went to Tours, to complete his studies under Alcuin. After his return in 801, he became superintendent of the monastery at Fulda, from which proceeded many distinguished scholars. After many adventures, which were of light, in the dark ages, always had to suffer, he was consecrated, in 822, abbot of Fulda, and during the twenty years that he held this office, the beneficial influence of his literary school, and of his truly Christian church discipline, continued to increase. Dissatisfied with the turbulence of the times, he was desirous of finishing his life as a hermit. King Louis the German obliged him, in 842, to accept the archbishopric of Mayence. In the same year he died in 846. His Latin writings, of a theological character, appeared at Cologne in 1476 in folio. In the diffusion and formation of the German language he was very active, and is credited as to introduce preaching in German. He also compiled a Latin and German glossary of the Bible, preserved in several manuscripts—a valuable monument of the old German language, which has been printed in Schiller's *Theatrum* and in *Commentarii de Reb. Franc.*

**MAURY, JEAN SEVERIN**, born at Toulon,

Provence, in 1746, of obscure parentage, took holy orders, and soon received several benefices. His eulogy on Fénelon, and his talents as a preacher, attracted the public notice, and, previous to the breaking out of the revolution, had procured for him the place of a court-preacher, the priory of Lyons, the dignity of abbot of Frénaide, and a seat in the French academy. He showed his gratitude for this patronage of government, by exercising his courage and his eloquence in defence of the throne. In 1789, he abbé Maury was chosen deputy of the clergy of Peronne to the States-General, and became a formidable antagonist to the opposition by his eloquence, his extensive and profound knowledge, and, particularly, by his presence of mind, and his imperturbable firmness. The union of the three estates in a national assembly met with the most vigorous resistance from him, and, after it was determined upon, he quitted the assembly and Versailles, but afterwards returned, and took an active part in that body. He defended the necessity of the royal veto, and opposed the conversion of the church property into national domains. When the latter subject was discussed for the third time, November 9, 1789, Maury produced a violent excitement in the assembly by his speech, and, on leaving the house, was saluted by the crowd with the cry, *A la lanterne l'abbé Maury*. *Eh bien*, replied he coolly, *le voilà, l'abbé Maury; quand vous le mettriez à la lanterne, y verriez-vous plus clair?* This reply produced a general laugh, and the abbé was saved. On the dissolution of the assembly, in 1792, he retired to Rome, and received a bishopric in *partibus* from the pope, who sent him to Frankfort as apostolic nuncio at the coronation of Francis II. He was soon after (1794) created bishop of Montefiascone and Corneto, and cardinal. During the revolutionary storm, Maury remained at Rome, devoted to the duties of his charge and to study. His pastoral letters contained expressions of his abhorrence of the cruelties committed in France, and of his adherence to the Bourbons. Thus far he had displayed a consistency of character, as even his declared enemies acknowledged. But when Napoleon usurped the imperial dignity, in 1804, Maury considered the cause of the Bourbons as hopeless, and thought it an act of prudence on his part to submit to the government, which was recognised by the French nation, and by nearly all the powers of Europe. He might justify this measure by his previous adherence to monarchical principles, and might hope to be useful in extending the royal prerogatives in France, which had been much limited by the concordate of 1801. Perhaps, also, his ambition was flattered with the prospect of thus reaching the highest spiritual dignity in Catholic Christendom. However this may be, he wrote in terms of the highest admiration to Napoleon, and proffered his allegiance as a French subject. In 1804, he accompanied the pope to Paris, and was present at the coronation of the emperor. In 1806, he was created archbishop of Paris, and was thenceforward the most devoted servant of his master. All his pastoral letters, and his discourses, recommended the most unconditional obedience to the decrees of Napoleon, and his addresses to the emperor abounded in the most abject terms of adulation. In 1814, he was obliged to leave the archiepiscopal palace in Paris, and the capital would no longer recognise him as archbishop, since he had no papal brief to produce. He hastened to Rome, but there was thrown into the castle of St Angelo, for having accepted the archbishopric without the consent of the holy see. After subjecting himself to various humiliations, he was again acknowledged as cardinal, but died at Rome, in 1817, without recovering his archbishopric, or his former consideration.

MAUSOLEUM (*μαυσωλειον*), from Mausolus, a king of Caria, to whom a sumptuous sepulchre was raised by his wife Artemisia. King Mausolus is said to have expired in the year 353 B. C.; and his wife was so disconsolate at the event, that she drank up his ashes, and perpetuated his memory by the erection of this magnificent monument which became so famous as to be esteemed the seventh wonder of the world, and to give a generic name to all superb sepulchres. (See an essay of count Caylus, in the 26th volume of the *Mem. de l'Académie des Belles Lettres*; and Aulaisio, *De Mausolei Architectura*, in Sallengre, *Thes.* III.) Other famous mausoleums are the mausoleum of Augustus, built by him in the sixth consulate, on the Campus Martius, between the Via Flaminia and the Tiber. The ruins are still seen near the church of St Roque, and one of the obelisks which stood before this superb building was found in the reign of pope Sixtus V., and placed before the church of St Maria Maggiore. This mausoleum contained the ashes of Augustus, Marcellus, Agrippa, Germanicus, and of some later emperors. The *Mausoleum Hadriani* is now the castle of St Angelo.

MAXEN; a village in the circle of Meissen, kingdom of Saxony, famous for the surrender of the Prussian general Fink, with 12,000 men, to the Austrian general Daun, Nov. 21, 1759, in the seven years' war.

MAXIMIANUS, HERCULUS; the colleague of Diocletian. See *Diocletian*.

MAXIMILIAN I., emperor of Germany, son and successor of Frederic III., born in 1459, married, in 1477, Mary of Burgundy, heiress of duke Charles the Bold, the son of which marriage (the archduke Philip) was the father of Charles V. and Ferdinand I. Maximilian was elected king of the Romans, in 1486, and ascended the imperial throne in 1493, under very unfavourable circumstances. Germany, under the reign of his predecessor, had become distracted and feeble. Maximilian's marriage had, indeed, brought the territories of Charles to the house of Austria, but he had been unable to maintain them against Louis XI. (q. v.), who had stripped him of Artois, Flanders, and the duchy of Burgundy, while Charles VIII. obtained the hand of Anne of Brittany, whom Maximilian had married by proxy. In 1494, the latter was married, a second time, to Bianca Sforza of Milan. Maximilian was enterprising, politic, brave, and of a noble and generous temper; yet his best plans often failed through his excessive ardour and his want of perseverance, and the miserable administration of his finances often deprived him of the fruits of his most fortunate enterprises. In 1493, he defeated the Turks, who had invaded the empire, and, during the remainder of his life, he was able to repel them from his hereditary territories; but he could not prevent the separation of Switzerland from the German empire, in 1498 and 1499. His plans for limiting the power of Louis XII. in Italy, and compelling him to renounce his claims on Milan, involved him in perpetual wars, without securing to him the possession of Milan. Not less unsuccessful was the league of Cambray against Venice, which he concluded (1508) with the pope, Spain, France, Mantua, and Modena. (See *League*.) Maximilian afterwards took the field against France, and, for the purpose of raising money, ceded Verona to the Venetian republic for 200,000 ducats. His measures in the domestic affairs of the German empire which, for 300 years, had been the theatre of barbarism and anarchy, were more creditable. What his predecessors had so long vainly attempted, Maximilian successfully accomplished. In 1495, he had put an end to internal troubles and violence, by the perpetual peace of the empire, decreed by the diet of Worms.

(See *Germany, History of*.) To supply the defects of the German laws and prevent the gross abuses of justice, he adopted, at the same diet, the Roman and canon laws, as subsidiary authorities, in the decision of differences, and instituted the imperial chamber (see *Chamber, Imperial*), as the supreme tribunal of the empire. He put a stop to the monstrous abuses of the Westphalian *Fengerichte*, although he was unable entirely to abolish those secret tribunals. (See *Feme*.) The institution of the German circles, which were intended to secure internal peace and safety, originated from him, as did many other useful institutions for the improvement of the government, and the promotion of science and art. Maximilian was himself a poet, and was the author of a circumstantial but romantic account of his own life, first published in 1775, under the title *Der weiss Künig*, by M. Treitschwein (his private secretary), with *Food-cuts by Hanns Burgmair*. He was, for a long time, considered the author of the *Theuerdank* (q. v.), of which he is the hero; but his secretary Pfinning is now known to have been the writer. Maximilian died in 1519, and was succeeded by Charles V.

**MAXIMILIAN II.**, German emperor, son of Ferdinand I., born at Vienna in 1527, was chosen king of the Romans in 1562, and succeeded his father in the imperial dignity in 1564. He was a pattern of a wise, prudent, and good prince. Although he did not join the Lutherans, yet he favoured some of their opinions, and granted to his subjects, in his hereditary dominions, a greater religious freedom than they had previously enjoyed. His toleration was extended to all his territories, and led him to promote the religious peace of 1566. Soliman II., the Turkish sultan, made war upon him, in support of the claims of John Sigismund, prince of Transylvania, to Hungary, but the death of the sultan put an end to the war in 1567, his successor, Selim, having agreed to a truce of eight years. The latter renewed the war in 1576, in which year Maximilian died. He left two daughters and six sons, the eldest of whom (Rodolph) succeeded him, not only as emperor, but also in the Austrian hereditary estates. See *Austria*.

**MAXIMILIAN THE GREAT**; elector of Bavaria. See *Bavaria*.

**MAXIMILIAN I.**, JOSEPH, late king of Bavaria, was born May 27, 1756, in Schwetzingen, a village not far from Mannheim. His father was the palatine Frederic, Austrian field-marshal. In 1777, Maximilian was made colonel of a French regiment in Strasburg. In 1795, his brother Charles died, and he became duke of Deuxponts. In 1799, when the Sulzbach palatine line became extinct by the death of the elector Charles Theodore, the succession passed to the line of Deuxponts. Thus Maximilian became elector. By the peace of Presburg (1805), he became king. (See *Bavaria*.) In 1818, he gave a constitution to his kingdom, after having improved it in many respects. He died October 13, 1825. Maximilian, who, when young, little expected to rule over Bavaria, retained always the frankness of a soldier. He had a good heart, and was beloved by his subjects. Education, agriculture, the finances, and the administration in general were improved under his reign. His daughter Augusta Amalia, born June 21, 1788, is the widow of the duke of Leuchtenberg, (Eugene Beauharnais); his daughter Charlotte Augusta, born February 8, 1792, was married, in 1816, to Francis I., emperor of Austria. Maximilian was succeeded by his son Louis I., born August 25, 1786.

**MAXIMINUS**, CAIUS JULIUS VERUS, the son of a peasant of Thrace, was originally a shepherd, and, by heading his countrymen against the frequent attacks of the neighbouring barbarians and robbers, incurred himself to the labours and to the fatigues of

a camp. He entered the Roman army, where he gradually rose to the first offices. In the reign of Alexander Severus, slain in a war with the Persians, excited by Maximin, he caused him to be proclaimed emperor, A. D. 235, and immediately made his son his colleague. The popular enthusiasm had gained when general of the armies was out when he ascended the throne. He reigned with acts of barbarity, and no less than 60,000 lost their lives on the false suspicion of having conspired against the emperor's life. Sentenced to wild beasts; others expired by having been nailed on crosses; while others were cut to the bellies of animals just killed. The persecutions peculiarly the objects of his cruelty, as a more conscious than others of his own rage: an expedition in Germany, he cut down to the laid waste about 450 miles, with the sword. Such a monster of tyranny as had never seen a people of Rome. The Gordians were previous emperors; but their pacific virtues were unable to resist the fury of Maximin. After the Roman senate invested twenty of their number with the imperial dignity, and intrusted to their care of the republic. These measures so irritated Maximin, that at the first moment he howled like a wild beast, and almost drove to self by knocking his head against the wall of a palace. When his fury was a little subsided, he marched to Rome, resolved on slaughtering the soldiers ashamed of accompanying a man whose cruelty had procured him the names of *Amoclopes*, and *Phalaris*, assassinated him before the walls of Aquileia, A. D. 238. He was then in the sixty-fifth year of his age. The news of his death was received with the greatest joy in Rome; public thanksgivings were offered at the hecatombs flamed on the altars. Maximin was represented by historians as of a giant stature; he was eight feet high, and the bones of his hand served as rings to adorn the fingers of his hand. His voracity was as remarkable as his courage; he ate forty pounds of flesh a day, and drank copiously of wine. His strength was proportionate to his gigantic shape: he could draw a sword with a blow of his fist he often broke with a horse's mouth, and cleft young trees with his hand.

**MAXIMUM** (the greatest): in general, the greatest number above which no aggregation or multitude exists or is allowed to exist. Thus in the case of the French revolution, all the numbers of life had a price set upon them, above which they were not allowed to be sold: this was called the maximum. This regulation was soon seen to be a principle of agriculture and trade, that it was absurd, both in mathematics, where an extensive application could be made of the notion of greatest and smallest numbers (of minimum), by the greatest or smallest value of a variable quantity is understood that value which is greater or smaller than any preceding or following one in the series of the values of the quantity; never near either may be taken to the greatest or least value. The question of the conditions of maximum and minimum, the determination of which belongs to the differential and in some cases difficult cases to the integral calculus, is of the highest importance. In order to illustrate the subject by an example, let it be required to divide a number, for instance, in such a manner that the product of the parts shall be a maximum: the method of maxima and minima shows that the number must be divided into two equal parts, for 4 times 4 are equal to 16, 3 times 5 are only 15, twice 6 only 12, &c. according to our above definition, 16 is the maximum in the series of numbers successively obtained.

the treatises on the differential calculus, and Tommasini's treatise *De Maximis et Minimis ad Institutiones geometricas accommodatis Specimen*, Pisa, 1774.

MAXIMUS TYRIUS, a celebrated philosopher of the second century, was a native of Tyre in Phœnicia, whence he took his name. It is generally supposed that he flourished under Antoninus. He appears to have adopted the principles of the Platonic school, with an inclination to scepticism. He left twenty-one Dissertations on various philosophical topics, all extant, and written with extreme eloquence. They were published in Greek, by Stephens, in 1557, and in Greek and Latin, by Heinsius, in 1607.

MAY, the fifth month in the year, has thirty-one days (in Latin, *Maius*, from which May has been generally derived; the names of the other months being also of Latin origin). Several etymologists maintain, however, that the German *May*, or *Mai*, is derived from the Latin, but that *May* and *Maius* both belong to one original root. As early as in the Salic laws, this month is called *Meo*, and it would appear that the idea of youthful beauty and loveliness, so naturally connected by northern nations with the month of May, gave rise to its name. In the Saxon, *Maj*, in Dutch, *Mooy*, is beautiful, agreeable; in Swedish, *Mio*, in Icelandic, *Mior*, small, pretty, agreeable; in ancient Swedish, *Mô*, a virgin connected with *maid*, (*maiden*). In Lower Brittany, *me* signifies green, flourishing, and *Maer*, a field; in German, *Matte*; in Lorraine, *Io Mai* and, in ancient French *Mets*, *Mês*, signify a garden. Whether all these must be referred to one Teutonic root, and whether this, again, is connected with the Indian *Maya* (see *Magic*), the goddess of nature, cannot be investigated here.

MAY, CAPE; on the coast of New Jersey, at the mouth of the Delaware bay, on its northern coast, eighteen miles N. E. of cape Henlopen on the eastern shore. Lon. 74° 52' W.; lat. 38° 57' N. MAY FLY. See *Ephemerides*.

MAY, THOMAS, a poet and historian, the eldest of Sir Thomas May, was born about 1595. He died at Cambridge, and was afterwards admitted a member of Gray's Inn; but never seems to have followed the law as a profession. His father having left nearly all the family estate, he enjoyed but a small inheritance. May was much noticed by Charles I., and the wits of his early courts. He was the author of three tragedies and two comedies, also several poetical translations, as Virgil's *Georgics*, with annotations; Lucan's *Pharsalia*; to the latter of which he supplied a continuation of his own, both in Latin hexameters and in English. Of his original works, the principal are *Reign of Henry II.*, and the *obituary* of Edward III., each in seven books. According to lord Clarendon, disgust at being denied all pension, induced him, on the breaking out of civil war, to enter into the service of parliament, which he was appointed secretary; and his well-known *History of the Parliament of England*, which on November 3, 1640, became extremely obnoxious to the royal party, who vilified both the work and his production, without measure. He afterwards made an abstract of this history, under the title of a *Breviary of the History of the Parliament of England* (1650, 8vo), and died a few months after publication, aged fifty-five, 1650. He was buried in Westminster abbey, by the order of parliament, and also erected a monument to his memory. This was removed at the restoration, and his body disinterred, and thrown with many others, into a pit, dug for that purpose, in St Margaret's churchyard.

MAYENCE. See *Mentz*.

MAYER, JOHN TOBIAS, a celebrated astronomer, at Marbach in Wurtemberg, February 17, 1723,

passed his early years in poverty at Esslingen. By his private industry, without attending any academy, he made himself a mathematician, and became known by several original essays in this department, such as *Allgemeine Methode zur Auflösung Geometrischer Probleme* (Esslingen, 1741); after which, he went to Nuremberg, and entered the establishment of Humann, where he distinguished himself by his improvement of maps. At the same time, he did not neglect to improve himself in other branches of study: he acquired, for instance, an elegant Latin style, which, in his circumstances, did him much honour. These various merits procured him an invitation to Göttingen, as professor of mathematics, in 1750, and the royal society of sciences of that place chose him a member. About this time, astronomers were employed on the theory of the moon, to assist in finding the longitude at sea. Mayer overcame all difficulties, and prepared the excellent lunar tables, by which the situation of the moon may at any time be ascertained to a minute, for which tables, after his death at Göttingen, February 20, 1762, his heirs received £3000 sterling, as a part of the reward proposed by the British parliament for a method of finding the longitude at sea. These tables have immortalized him. To the same department belong his *Theoria Lunæ juxta Systema Newtonianum* (London, 1767, 4to) and *Tabula Motuum Solis et Lunæ* (London, 1770, 4to). He also rendered other services to astronomy, especially by his improvement of instruments for measuring angles, and the introduction of the multiplication circle (which was afterwards made more perfect by Borda, so as to be adapted to the most delicate operations of astronomy), by the theory of refraction and eclipses, by catalogues of the fixed stars, &c. The manuscripts left by him are preserved in the observatory at Göttingen. A part only of them have appeared, *Opera inedita*, ed. Lichtenberg (Göttingen, 1774, fol.).

MAYER, or MAYR, SIMON, a distinguished German composer, born near Ingolstadt, in 1764, resided a long time in Italy. He was liberally educated, but his inclination for music seduced him from the sciences, and, at the age of twenty-five years, he went to Bergamo, where count Pessenti assisted him, and enabled him to study at Venice, under the chapel-master Bertoni. The death of his patron obliged him to connect himself with the theatre, and in 1802 the place of chapel-master in Bergamo was given him. He composed a great number of serious and comic operas, oratorios, cantatas, &c. His principal operas are *Lodoiska*; *Misterj Eleusini*; *La Ginevra di Scozia*; *Medea in Corinto*; *La Rosa bianca e la Rosa rossa*; and *Adelasio ed Aleramo*.

MAYHEW, JONATHAN, D. D., son of a distinguished clergyman and successful missionary among the Indians, was born at Martha's Vineyard, in the year 1720, and educated at Harvard college, of which he received the honours in 1744. In youth he manifested talents, and great proficiency in his studies: he was ordained the minister of the West church in Boston, June 17, 1747. In this station he continued during the rest of his life. He died suddenly July 9, 1766, in the forty-sixth year of his age. He published a number of sermons and some controversial tracts, by which he gained as high a reputation as was possessed by any American writer or clergyman of his time. His style is nervous and chaste; he displayed on every occasion critical and extensive learning, and singular independence of spirit. Most of his writings passed through several editions in England. The university of Aberdeen sent him a diploma of doctor of divinity. He entered frequently into politics, and was termed a whig of the first magnitude, or rather a principled republican.

The transaction in Doctor Mayhew's life which attracted most attention to him was his controversy with the reverend Mr Aphorpe, respecting the proceedings of the British society for the propagation of the gospel in foreign parts. He condemned their proceedings in a masterly pamphlet, and contended that the society were either deceived by the representations of the persons whom they employed, or governed more by a regard to Episcopacy than to charity. Several members of the society in America wrote replies, and even doctor Secker, archbishop of Canterbury, embarked in the dispute, in favour of the society. Doctor Mayhew rejoined with much cogency, vivacity, and wit.

MAYNE, JOHN, a Scottish poet, was a native of Dumfries, which place he left in early life for Glasgow, where he passed through a regular term of service with the celebrated printers, Messrs Foulis. He afterwards removed to London, and was, for a long series of years, the printer and a co-proprietor of the *Star* daily newspaper. He died on the 14th of March, 1836, at an advanced age. His principal poems are "Glasgow," a panegyric on that city, which has gone through several editions; and "The Siller Gun," a poem descriptive of an ancient festivity held at Dumfries, in which there is a shooting match for a small silver gun. This latter poem has also gone through several editions, the latest and best being that of London, 1836. Mr Mayne was also author of several beautiful lyrics, among which may be mentioned "Logan Braes" and "Helen of Kirkconnell Lea."

MAYPU, BATTLE OF, sealed the independence of Chile. It was fought April 5, 1817, Osorio commanding the royalists, and San Martin and Las Heras the patriots. Of the five thousand men commanded by Osorio, two thousand fell on the field, and two thousand five hundred were made prisoners; and the victory not only gave liberty to Chile, but enabled the Chileans to send a liberating expedition against Peru. See *Chile, Peru, San Martin*.—Stevenson's *South America*, vol. iii., p. 183.

MAZARIN, JULIUS, first minister of Louis XIV., and cardinal, was born of a noble family, at Piscini, in Abruzzo (according to Flassan, at Rome), in 1602. He studied law at the Spanish university of Alcalá de Henares, after leaving which, he entered the military service of the pope. He was a captain in a corps in the Valteline, when he was commissioned by general Torquato Conti to negotiate the truce at Rivalta, Sept. 16, 1630, between the French, Spanish, and imperial generals. The nuncio Bagni represented him as a distinguished man to Louis XIII. and cardinal Richelieu. When the war broke out respecting the succession of the duchy of Mantua, Mazarin, as papal minister, repaired to Louis XIII. at Lyons, and had a long conference with cardinal Richelieu. Having failed in his attempts to effect a peace, he returned to Italy. The French stationed before Casal were on the point of renewing hostilities, when Mazarin effected a truce of six weeks between them and the Spanish forces. On the expiration of the truce, he proposed to the French to consent to a peace, which they refused, except on the hardest conditions. He induced the Spanish general, however, to agree to them, and returned on horseback, at full speed, between the two armies, who were already engaged, waving his hat, and exclaiming "Peace! peace!" while the bullets were whizzing round his head. The action was suspended and peace established. By this negotiation, Mazarin gained the friendship of Richelieu, and, in 1641, Louis XIII. induced Urban VIII. to create him cardinal, immediately whereupon he was appointed a member of the council of state. Richelieu,

on his death-bed, recommended him a stranger to the king, that, in his will, Louis nominated him a member of the council of regency. After the death of Louis XIII., in 1643, queen Anne of Austria, regent, gave him the post of first minister. Mazarin was, at that time, generally reputed to be over the queen, and, from this instance, was here attempted to derive the origin of the maxim, "The king is dead, long live the queen!" He at first conducted with much success, but, notwithstanding this moderation, which was not long, a powerful party was formed against him, he was hated as a foreigner, and his proud, haughty pronouncement, were made subjects of ridicule. The people, moreover, groaned under the weight of taxes. These circumstances resulted in a revolution (See *Fronde*). The queen was obliged to fly to Germain with the king, and the minister, who a parliament regarded as a disturber of the public tranquillity. Spain took part in the commotion, the archduke, governor of the Netherlands, assembled troops. This obliged the queen, who was neither able nor desirous to wage war, to have recourse to a compromise with the parliament. The parliament retained the liberty of carrying on, of which it had been attempted to deprive it, the court kept its minister, whom parliament people had attempted to overthrow. But on the 10th of Condé, to whom the state was indebted for a reconciliation, showed little moderation to the party. Mazarin was ridiculed by him, he was treated with disdain, and the government asked Mazarin, forced to be ungrateful, therefore presented the queen to give orders for the arrest of his son, his brother, the prince of Conti, and the duke of Longueville. But, in 1651, the parliament issued an edict, banishing Mazarin from the kingdom, he obliged the court to release the prince. He entered Paris as if in triumph, while the court fled, first to Liege and then to Cologne. He was from thence did this minister rule the court of France. In February, 1652, the king was seized at age, recalled Mazarin, who, as a foreigner, came to France "less like a minister than as a conqueror." He was accompanied by a small army of 1000 men, which he kept on foot, at his own expense, but with the public money, which he appropriated to his own use. On the first information of his return, Gaston d'Orleans, brother of Louis XIII., who had demanded the removal of the cardinal, arrived from Paris, and the parliament refused to receive him, banished Mazarin, and set a price on his head. At the same time, the prince of Condé, a leader of the Spaniards, put himself in motion against the king, whose army was commanded by Turenne, who he left the Spaniards. Several indecisive battles were fought: the war ceased and was renewed at Sedan. The cardinal found it necessary again to flee to court, and repaired to Sedan, in 1652, after which the king again took possession of Paris. To secure entire tranquillity, Louis had issued a proclamation in which he dismissed his minister, while he sought his services, and lamented his banishment. In quiet having returned, the king invited him to his father, the people like a master. The queen, the ambassadors, and the parliament, listened to him. The disturbances in the provinces were soon entirely quelled, and Condé, who had been a Spanish Netherlands, was declared guilty of treason. Mazarin now prosecuted the war against the king with redoubled zeal, and, for that end, formed an alliance in 1656, with Cromwell. By this means, he secured for France an honourable peace. He signed himself, in 1659, with the Spanish minister, the

sale of Peasants. This peace of the Pyrenees followed by the marriage of the king with the infant. Both negotiations did great honour to Mazarin's policy. He was now more powerful than ever: he appeared with regal pomp, being regularly attended by a company of musketeer guards, in addition to his body-guard. The queen mother, on the contrary, lost her influence. During this time of peace, nothing was done by Mazarin for the administration of justice, for trade, naval power, and finances. Neither were his eight years of unlimited union marked by a single honourable institution. The *collège des quatre nations* was first established by his testament. The finances he administered as the steward of an involved master. He accumulated above 200,000,000 livres, in doing which, he made use of means unworthy of an honourable minister.

According to Flissan, he had an income of 0,000 livres, and a property of twenty-two millions, equivalent to about double the sum of the money in time. This disquieted him, when he perceived it was approaching. Colbert therefore advised him to make the king a present of all his treasures, who would infallibly return them to him. The king accepted the present, and the cardinal had already begun to feel uneasy, when the king returned it to him after the lapse of three days. Mazarin died on the 9th, 1661. He left as his heir the marquis de Lamoignon, who married his niece Hortensia Mancini, assumed the title of duke of Mazarin. He had, besides, a nephew, the duke of Nevers, and four nephews, who were married to the prince of Conti, the constable Colonna, the duke Mercœur, the duke of Bouillon. Charles II. (Stuart), in the time of his embarrassments, had sued for one of his daughters; his affairs having improved, Mazarin offered her to him, but now received a negative answer.

Mazarin and Richelieu have often been compared together: "Mazarin," says Hénault, "was as mild as Richelieu was vehement. One of his greatest merits was his accurate knowledge of men. His policy was characterized rather by finesse and forbearance than by force. The last he made it a rule to use only when other means were inadequate; and understanding gave him the courage which circumstances required. Bold at Casal, quiet and reserved at Cologne, enterprising, as when he accomplished the arrest of the princes, but insensible to the ridicule of his enemies and the boastings of his successes.—he heard the murmurs of the people as he passed the shore he would have heard the ragings of a storm. In Richelieu there was something more comprehensive, less constrained; in Mazarin, more adroitness, more caution, and less passion. The one was hated; the other was detested; but both ruled the state." Mazarin flattered enemies whom Richelieu would have ordered to be beheaded. His talents were not sufficiently proud to conceal his ambition, cupidity, timidity, jealousy, and meanness. His greatest merit was in diplomacy. For this he possessed all necessary finesse, pliancy, and knowledge of human nature, and exhibited them in the peace of the Pyrenees and that of the Pyrenees. He added to France, and perhaps anticipated that some day might give laws to Spain. The appearance of the cardinal was very prepossessing: with the finest countenance, he united a most agreeable tone in conversation, which won him to please. He allured men with promises, but his heart was cold, equally destitute of friendship.

His heart was cold, equally destitute of friendship. His composure was to be attributed to no passion, and no one could elicit from him a secret. Towards private persons, he forgot his promises, but public treaties he con-

scientiously observed, in order to restore the influence of France, which Richelieu had neglected. Mazarin's letters respecting the negotiations of the peace of the Pyrenees have been several times printed. (See Aubrey's *Hist. du Card. Mazarin* (Amsterdam, 1751, 4 vols.); and *Parallèle du Card. de Richelieu et du Card. Mazarin*, by Richard (Amsterdam, 1716); also Reta's *Memoirs*.)

MAZEPPA, JOHN; hetman of the Cossacks, born in Podolia, of one of the many poor noble Polish families, who were obliged to seek for employments in the houses of the more wealthy. He was page to John Casimir, who was fond of pleasure, but at the same time, a lover of the arts and of literature. Mazeppa had therefore an opportunity of acquiring various useful accomplishments. An intrigue was the foundation of his future elevation. A Polish nobleman, having surprised Mazeppa with his wife, bound him, naked, in revenge, upon a wild horse, and committed him to his fate. The horse was from the Ukraine, and directed his course thither. Some poor peasants found him, half dead, and took care of him. He remained among them, and their warlike, roving life suited his disposition. He made himself conspicuous and beloved by his dexterity, bodily strength, and courage. His knowledge and sagacity procured him the posts of secretary, and adjutant to the hetman Samoilowits, and, in 1687, he was elected in his place. He gained the confidence of Peter the Great, who loaded him with honours, and he was finally made prince of the Ukraine. His restless spirit now made him resolve to throw off the yoke of subordination. He joined with Charles XII., who had just given a king to Poland, and aimed, by his assistance, to withdraw himself from his allegiance to the czar, and to unite the Ukraine, under certain conditions, to the crown of Poland. These and other intrigues of Mazeppa against Peter were at last revealed to the latter by Kotchubey, general of the Cossacks, and Isra, governor of Poltawa. Peter put no confidence in these charges, but sent both the accusers to Mazeppa himself for punishment. He had the audacity to cause them to be executed. At length the eyes of Peter were opened: many partisans of Mazeppa were arrested and executed, and he himself was hung in effigy. He then went over, with a few adherents, to Charles XII., and took an active part in the unfortunate campaign in the Ukraine. After the defeat at Poltawa, Mazeppa fled to Bender, where he died in 1709. Lord Byron has made Mazeppa the hero of a poem.

MAZZOLA, or MAZZUOLI, FRANCESCO (called *Il Parmegiano*), one of the most distinguished painters of the Lombard school, born at Parma, in 1503, was the son of Filippo Mazzola, a painter, surnamed *Dall' Erbetto*. In his sixteenth year, he executed a Baptism of Christ, which displays his remarkable talents. Correggio's presence in Parma, in 1521, gave him an opportunity of becoming acquainted with the style of that master. In 1522, Mazzola painted, among other works, a Madonna, with the holy Children, a St Jerome, and a St Bernardin of Feltri, a celebrated oil painting, which is preserved in the monastery Della Nunsinata, but which has suffered from time and unskilful hands. In Rome, which the young artist visited in 1523, with the hope of attracting the notice of the pope Clement, the works of Raphael made a deep impression upon him, the influence of which is perceptible in his subsequent paintings, in which he aimed at a union of Correggio's grace with Raphael's expression. On the capture of Rome, in 1527, he suffered great losses, and, after that event, went to Bologna. Among his most celebrated paintings, executed in that city, are

his St Roch, the *Madonna della Rosa*, now at Dresden, and St Margaret. He soon returned to Parma, and there executed the Cupid making a Bow, and painted several works for the church Della Steccata. But his health was feeble, and he was imprisoned by the overseers of that building, who had advanced him the money for works which he neglected to finish. Being set at liberty, on condition of completing them, he fled to Casalmaggiore, where he died, in 1540. His works are not numerous, much of his time having been wasted in the search after the philosopher's stone. With a thorough knowledge of his art, Mazzucchi united great correctness of drawing. Algarotti and Mengs accuse him of being sometimes guilty of affectation in his attempts at grace, and Fiorillo objects to his too great use of curved lines, and to his involving the limbs. His fire, grace, correct drawing, boldness of touch, and ease of composition, are undeniable.

MAZZUCHELLI, GIAMMARIA, count, a nobleman of Brescia, who flourished in the early part of the eighteenth century, was the author of *Notizie istoriche e critiche intorno alla Vita, alle Invenzioni ed agli Scritti di Archimede Siracusano*; *La Vita di Pietro Aretino*. He also commenced a large and valuable biographical work, *Gli Scrittori d'Italia*, of which he only finished the two first letters of the alphabet, leaving a large collection of materials for the subsequent parts. Mazzucchi died in 1765. During his life, was published his *Museum Mazzucchellianum, seu Numismata Virorum Doctrina præstantium* (1761, folio.)

MEACO, or KIO; a city of Japan, in Niphon, 160 miles south-west Jeddo; lon. 153° 30' E.; lat. 35° 24' N. It was once the metropolis of the whole empire: it is still the ecclesiastical capital, the residence of the dairi, or spiritual sovereign, and is the centre of the literature and science of the empire, the imperial almanac being published here, and most of the books that circulate through Japan. It is situated near the middle of the south coast, in a fertile and spacious plain, surrounded by high mountains, for the most part covered with stately temples, monasteries, burying-places, and pleasure-houses. Three rivers unite their streams in the centre of the city, whence the place is divided into upper and lower towns. This twofold city appears to have been about twenty miles in length, and nine or ten in breadth, when in its full splendour, besides its large suburbs, and imperial palace, which is a city by itself, and divided from the rest. The streets are generally narrow, but straight. Population, near 500,000, exclusive of several thousands that compose the dairi's court, and the bonzes and nuns, who amount to above 52,000. Its temples are numerous, and some of them very magnificent. Meaco, though much decayed, in consequence of the civil wars, is the grand storehouse of the manufactures of Japan, and of foreign and home merchandise, and the principal seat of its commerce. See *Japan*.

MEAD, RICHARD, a celebrated English physician, was the son of a dissenting minister, and born at Stepney, near London, in 1673. He studied at the universities of Utrecht and Leyden, and became an intimate with his fellow-pupil Boerhaave. He afterwards travelled in Italy. He returned to England in 1696, and became very distinguished in his profession. In 1702, he published *Mechanical Account of Poisons*, which he, long after, re-published in an improved form. On the alarm occasioned by the plague at Marseilles, in 1719, he published a Discourse concerning Pestilential Contagion, which passed through many editions. He interested himself much in the introduction of inoculation for the small-pox and assisted in the preliminary experiments made on condemned criminals. In 1727,

he was appointed physician to King George I. Among his later writings are his *notes De lues Solis ac Lunæ, in Corpora humana et lues in orisandis* (1746); *De Morbis Bilio* (1748), and *Monita Medica* (1750). He died in 1754.

MEADOW LARK (*sturnus vulgaris*, La alauda magna, Wils.) This well-known as a common species is found in pasture fields and meadows, especially the latter, from which circumstance its name is derived. The meadow lark is a small bird never seen in woods, except where there is open ground, and, instead of underwood, the ground is covered with grass. After the building season is over, the birds collect in flocks. When they sing, they generally on the highest part of the tree or shrub, they pour forth a clear but melancholy note. Their nests are generally built in or below a thatch of grass, and are composed of dry grass. They are four or five in number, white, marked with green and several blotches of reddish-brown, the larger end. Their food consists of various grub-worms, beetles, &c. The meadow lark is ten inches and a half in length. The chest, back, and belly, are of a bright yellow, ornamented with a long crescent of a deep velvety black, as in the part of the throat.

MEAL-TUB PLOT. See *Papal Plot*.

MEAN; the middle between two extremes. We say, the "mean motion of a planet," as the distance," &c., to signify a motion, or distance, as much exceeds the least motion or distance as it exceeded by the greatest. The mean, or average proportion, is the second of any three proportions in an arithmetical proportion, the mean is a half of the extremes; in a geometrical, the mean is the square root of the product of the extremes. The time is the mean or average of apparent time, Time, and Equation of Time.

MEASLES (*rubeola*, from *rubeo*, red) is a contagious disease, which appears to have been known to the ancient physicians. The first of its appearance in Europe is uncertain. It is introduced by the touch of infected persons or things. It is sometimes epidemic. Persons of all ages are subject to its attacks; but it is more common to children. It rarely affects an individual a second time. The symptoms are hoarseness, cough, and a small eruption about the fourth day, an eruption of small red spots (hence the name *measles*: German, *Mauren*, and which, after three days, end in scabs. The fever is more or less of fever, attended with the usual small affections. The measles, even when violent, are often of a putrid tendency, although such a disposition sometimes prevails. In the case of the measles, the best treatment is abstinence from food and the use of mild, mucilaginous, sweetened drinks. Bleeding is only proper in the inflammation of the brain. Some writers have treated the measles as a general inflammation of the skin; but this is a mistake. It is of the disease, and not the disease itself.

MEASURES. The general principle of simplicity and uniformity are the result of progress in civilization, is strikingly exemplified in the measures of measures. Formerly, every province, and every place of importance, had its own measures, which proved a most perplexing hindrance to commercial intercourse. In modern times, attempts at uniformity have been made. The most naturally suggested themselves, and declare the measures of one place or province to be universal measure (as has been done in France, where, by an act of parliament, in June 1793, the standard London measures and weights were declared to be the standards for weights and measures throughout the realm, and in France, &c.

the Berlin weights and measures were made the rule for the whole kingdom), or to establish new measures, founded upon unalterable principles, upon the laws of nature, as has been done in France. The latter is obviously the most rational and most just, because it is arbitrary to make a whole country follow the measures of the capital, or of a province, if these measures themselves have nothing in particular to recommend them. In the article *France*, division *Decimal Measures*, is given a brief account of that admirable system, the philosophical character of which brings it more and more into use among the learned of the European continent. (For more information respecting it, see Delambre's *Base du Système métrique*; *Géodésie*, by Puissant; and *Manuel des Poids et Mesures*, by Tarbe.) The British yard is terminated by oscillations of a pendulum at London. This is still an arbitrary standard, as the oscillations vary in different parallels of latitude. It is not, indeed, so arbitrary as the taking the foot of Louis XIV. for a measure, yet it is not so philosophical as the French. In the United States of America the British system of measures and weights has been followed.

Measures are either of

1. length;
2. surface;
3. solidity or capacity;
4. force, or gravity, or what is commonly called weight;
5. angles;
6. time;

their respective standards are, in Britain, a yard, an acre, or the  $\frac{1}{16}$  of an acre, a cubic yard, a gallon, a pound weight, degree, minute. The British act lately alluded to, for establishing uniform measures throughout the realm, and called the *act of uniformity*, took effect Jan. 1, 1826. The system thus established called the *imperial* system. Its rationale is as follows: Take a pendulum which will vibrate seconds at London, on a level of the sea, in a vacuum; divide that part thereof which lies between the centre of suspension and the centre of oscillation into 393 equal parts; then will 10,000 of those parts be an imperial inch, twelve whereof make a foot, and 756 whereof make a yard. The standard yard is that distance between the centres of the two brass studs in the gold studs in the straight brass rod, in the custody of the clerk of the house of commons, whereon the words and figures 'Standard 1760' are engraved, which is declared to be a genuine standard of the measure of length called a yard; and, as the expansibility of the metal would cause some variation in the length of the rod in different degrees of temperature, the act determines that brass rod in question shall be of the temperature 62° (Fahrenheit). The measure is to be denominated the *imperial standard yard*, and to be the standard whereby all other measures of lineal division shall be computed. Thus the foot, the pole, the furlong, and the mile, shall bear proportion to the imperial standard yard as have hitherto borne to the yard measure in actual use." The act also makes provision for the correction of the standard yard, in case of loss, destruction, or defacement, by a reference to an able natural standard, which is to be that prism which the yard bears to the length of a pendulum vibrating seconds of time in the latitude of London, in a vacuum at the level of the sea; which rod to be as thirty-six inches (the yard) to 33 (the pendulum); thus a sure means is established to supply the loss which might by possibility be sustained. Take a cube of one such inch of distilled water, at 62° of temperature, by Fahrenheit's thermometer; let this be weighed by any weight, and that weight be divided into 252458 equal parts,

then will 1000 of such parts be a troy grain; and 7000 of those grains will be a pound avoirdupois, the operation having been performed in air. Ten pounds, such as those mentioned, of distilled water, at 62° of temperature, will be a gallon, which gallon will contain 277 cubic inches, and  $\frac{1}{16}$  parts of another cubic inch. The standard pound is determined to be that standard pound troy weight, made in the year 1758, in the custody of the clerk of the house of commons; such weight is to be denominated the *imperial standard troy pound*, and is to be "the only standard measure of weight from which all other weights shall be derived, computed, and ascertained; and one twelfth part of the said troy pound is to be an ounce, and one twentieth part of such ounce a pennyweight, and one twenty-fourth part of such pennyweight a grain; so that 5760 such grains shall be a pound troy, and 7000 such grains a pound avoirdupois, and one sixteenth part of the said pound avoirdupois an ounce avoirdupois, and one sixteenth part of such ounce a drachm." If the standard pound shall be lost, destroyed, or defaced, the act directs that it shall be recovered by reference to the weight of a cubic inch of water; it having been ascertained that a cubic inch of distilled water, weighed in air by brass weights, at the temperature of 62° (Fahrenheit), and the barometer at thirty inches, is equal to 252.458 grains; and, as the standard troy pound contains 5760 such grains, it is therefore established that the original standard pound may be at any time recovered, by making another weight to bear the proportion just mentioned to a cubic inch of water. The standard gallon is determined by the act to be such measure as shall contain ten pounds avoirdupois of distilled water, weighed in air, at the temperature of 62° (Fahrenheit), and the barometer at thirty inches; and such measure is declared to be the *imperial standard gallon*, and the unit and only standard measure of capacity to be used, as well for wine, beer, ale, spirits, and all sorts of liquids, as for dry goods not measured by heaped measure; and all other measures are to be taken in parts or multiples of the said imperial standard gallon, the quart being the fourth part of such gallon, and the pint one eighth part, two such gallons making a peck, eight such gallons a bushel, and eight such bushels a quarter of corn, or other dry goods, not measured by heaped measure. The standard for heaped measure, for such things as are commonly sold by heaped measure, such as coal, culm, lime, fish, potatoes, fruit, &c., is to be "the aforesaid bushel, containing eighty pounds avoirdupois of water, as aforesaid, the same being made round with a plane and even bottom, and being nineteen and a half inches from outside to outside;" and goods thus sold by heaped measure are to be heaped "in the form of a cone, such cone to be of the height of at least six inches, the outside of the bushel to be the extremity of the base of such cone." Three such bushels are to be a sack, and twelve such sacks a chaldron.

*Stricken Measure.* The last-mentioned goods may be sold either by the heaped measure, or by the standard weight, as before-mentioned; but for every other kind of goods not usually sold by heaped measure, which may be sold or agreed for by measure, the same standard measure is to be used, but the goods are not to be heaped, but stricken with a round stick, or roller, straight, and of the same diameter from end to end. Copies and models of the standard of length, weight, and measure, are to be made and verified under the direction of the treasury, and every county to be supplied with them for reference whenever required. Existing weights and measures may be used, being marked so as to show the pro-

portion they have to the standard measures and weights; tables of equalisation of the weights are to be made by the treasury; tables, also, for the customs and excise, by which the duties will be altered so as to make them equal to what they are at present, in consequence of the alterations in the weights and measures.

The measures now in use in Britain are as follows:—

### 1. MEASURE OF LENGTH.

12 inches	= 1 foot
3 feet	= 1 yard
5½ yards	= 1 rod, or pole
40 poles	= 1 furlong
8 furlongs	= 1 mile
69⅓ miles	= 1 degree of a great circle of the earth.

An inch is the smallest lineal measure to which a name is given, but subdivisions are used for many purposes. Among mechanics, the inch is commonly divided into eighths. By the officers of the revenue, and by scientific persons, it is divided into tenths, hundredths, &c. Formerly, it was made to consist of twelve parts, called *lines*; but these have properly fallen into disuse.

### PARTICULAR MEASURES OF LENGTH.

1 nail	= 2½ inches	} used for measuring cloth of all kinds.
1 quarter	= 4 nails	
1 yard	= 4 quarters	
1 ell	= 5 quarters	
1 hand	= 4 inches	} used for the height of horses.
1 fathom	= 6 feet, used in measuring depths.	
1 link	= { 792-100 inches	} used in land measure, to facilitate computation of the content, 10 square chains being equal to an acre.
1 chain	= 100 links	

### 2. MEASURE OF SURFACE.

144 square inches	= 1 square foot
9 square feet	= 1 square yard
36¼ square yards	= 1 perch or rod
40 perches	= 1 rood
4 roods, or 160 perches	= 1 acre
640 acres	= 1 square mile

### 3. MEASURES OF SOLIDITY AND CAPACITY.

#### DIVISION I.—SOLIDITY.

728 cubic inches	= 1 cubic foot
27 cubic feet	= 1 cubic yard

#### DIVISION II.

Imperial measure of capacity for all liquids, and for all dry goods, except such as are comprised in the third division:—

4 gills	= 1 pint	= 34½ cubic in., nearly
2 pints	= 1 quart	= 69 " " "
4 quarts	= 1 gallon	= 277½ " " "
8 gallons	= 1 peck	= 354½ " " "
8 gallons	= 1 bushel	= 2218½ " " "
8 bushels	= 1 quarter	= 10½ cubic feet, nearly
5 qrs.	= 1 load	= 51½ " " "

The four last denominations are used for dry goods only. For liquids, several denominations have been heretofore adopted, viz, for beer, the firkin, of nine gallons, the kilderkin, of eighteen, the barrel, of thirty-six, the hogshead, of fifty-four, and the butt, of 108 gallons. These will probably continue to be used in practice. For wine and spirits, there are the anker, runlet, tierce, hogshead, puncheon, pipe, butt, and tun; but these may be considered rather as the names of the casks in which such commodities are imported, than as expressing any definite number of gallons. It is the practice to gauge all such vessels, and to charge them according to their actual content.

#### DIVISION III.

Imperial measure of capacity, for coals, culm, lime,

fish, potatoes, fruit, and other goods commonly sold by heaped measure:—

2 gallons	= 1 peck	= 7½ cubic inches, nearly
8 gallons	= 1 bushel	= 30 " " "
3 bushels	= 1 sack	= 4½ " " "
12 sacks	= 1 chaldron	= 264 " " "

For measures of weights, see *Weights*.

### ANGULAR MEASURE.

#### OR, DIVISIONS OF THE CIRCLE.

60 seconds	= 1 minute
60 minutes	= 1 degree
30 degrees	= 1 sign
90 degrees	= 1 quadrant
360 degrees, or 12 signs	= 1 circumference

Formerly, the subdivisions were called *minutes*; thus the second was divided into sixty, the third into sixty-fourths, &c. At present, the second is more generally divided decimally into tenths, hundredths, &c. The degree is frequently divided.

### 6. MEASURE OF TIME.

60 seconds	= 1 minute
60 minutes	= 1 hour
24 hours	= 1 day
7 days	= 1 week
28 days	= 1 lunar month
28, 29, 30, or 31 days	= 1 calendar month
3 calendar months	= 1 year
365 days	= 1 common year
366 days	= 1 leap year.

In 400 years, ninety-seven are leap years, and 365 common. The second of time is subdivided shortly of angular measure.

We shall now give a table of *linear measures* of different countries, exhibiting the number of each answering to 100 English miles: also the length of a single measure of each sort in English feet:—

Arabia,	Miles	5280	
Bohemia,	—	7254	
Brabant,	—	7254	
Burgundy,	—	7254	
China,	Li	2000	
Denmark,	Miles	5280	
England,	{ Geographical Miles	5280	
Flanders,		5280	
France,	{ League astronomical	3600	
		Do. marine	3600
		Do. legal, of 1000 toises	3600
		Miles geog.	3600
Germany,	{ Do. long	3600	
		Do. short	3600
Hamburg,	Miles	3600	
Hanover,	—	3600	
Hesse,	—	3600	
Holland,	—	3600	
Hungary,	—	3600	
India,	Cos	3600	
Ireland,	Miles	3600	
Italy,	—	3600	
Lithuania,	—	7254	
Oldenburg,	—	3600	
Persia,	Parasang, or Farang	3600	
Poland,	{ Miles short	3600	
		Do. long	3600
Portugal,	League	3600	
Prussia,	Miles	3600	
Rome,	{ Modern miles	3600	
		Ancient do. of 6 stadia	3600
Russia,	Versa	3600	
Saxony,	Miles	3600	
Scotland,	—	3600	
Silesia,	—	3600	
Spain,	{ League common	3600	
		800 varas	3600
Sweden,	Do. legal, 1000 varas	3600	
Switzerland,	Miles	3600	
Switzerland,	—	3600	
Turkey,	{ Barre	3600	
		Miles	3600

\* There are 36 leagues in a degree. A French league is 2 leagues, or to 3.25 English miles.

## FOOT MEASURES

OF VARIOUS COUNTRIES REDUCED TO ENGLISH FEET.

Eng. Feet.	Eng. Feet.
Amsterdam, . . . 930	Madrid, . . . 915
Antwerp, . . . 940	Marseilles, . . . 814
Bamberg, . . . 972	Mentz, . . . 968
Brussels, . . . 992	Moscow, . . . 928
Calcutta, . . . 941	Munich, . . . 947
Canton, . . . 952	Nuremberg, . . . 996
Geneva, . . . 962	Padua, . . . 1'406
Legna, . . . 1'244	Palermo, . . . 747
London, . . . 955	Paris, . . . 1'066
Lyon, . . . 1'125	Rhinland, . . . 1'023
Vienna, . . . 902	Prague, . . . 987
St. Petersburg, . . . 1'127	Rome, . . . 966
St. Petersburg, . . . 1'031	Stockholm, . . . 1'073
St. Petersburg, . . . 1'045	Strasbourg, . . . 956
St. Petersburg, . . . 1'169	Trent, . . . 1'201
St. Petersburg, . . . 923	Turin, . . . 1'766
St. Petersburg, . . . 929	Tyrol, . . . 1'096
St. Petersburg, . . . 994	Venice, . . . 1'137
St. Petersburg, . . . 933	Verona, . . . 1'117
St. Petersburg, . . . 933	Vicenza, . . . 1'135
St. Petersburg, . . . 992	Vienna, . . . 1'096
St. Petersburg, . . . 1'034	Ulm, . . . 826
St. Petersburg, . . . 1'023	Urbino, . . . 1'162
St. Petersburg, . . . 944	Utrecht, . . . 741
St. Petersburg, . . . 952	Warsaw, . . . 1'169
St. Petersburg, . . . 1'119	Wesel, . . . 771
	Zurich, . . . 979

## OTHER MEASURES.

Eng. Feet.	Eng. Feet.
Amsterdam ell, . . . 2'223	French toise, . . . 6'396
English fathom, . . . 6'	Venice ell, . . . 2'089
French metre, . . . 3'196	Vienna ell, . . . 2'557

## ANCIENT MEASURES.

Assyrian foot, . . . 1'095	Roman mile of Strabo, . . . 4905'000
Assyrian foot, . . . 1'144	Pythian or Delphic stadium, . . . 676'877
Assyrian foot, . . . 1'421	The mean, or nautical, or Persian stadium, . . . 532'147
Assyrian foot, . . . 1'007	Great Alexandrian, or Egyptian stadium, . . . 710'659
Assyrian foot, . . . 1'212	
Assyrian sacred cubit, . . . 2'002	
Assyrian great cubit, . . . 12'012	
Assyrian foot, . . . 965 to 970	
Assyrian stadium, . . . 730'8	
Assyrian mile of Ptolemy, . . . 4840'5	

## JEWISH ITINERARY MEASURE.

Eng. Miles.	Paces.	Feet.
Assyrian, . . . 0	0	1'824
Assyrian, . . . 0	145	4'6
Assyrian, . . . 0	729	3'0
Assyrian, . . . 1	403	1'0
Assyrian, . . . 4	163	3'0
Assyrian, . . . 33	172	4'0

Following comparative view of the weights and measures of England and France, was published by the royal and central society of agriculture in Paris, their annuary for 1829:—

## MEASURES OF LENGTH.

English.	French.
1/16th of a yard)	2'539564 centimetres
1/32 of a yard)	3'0479449 decimetres
Imperial fathom (6 yards)	0'91438348 metre
Imperial fathom (6 yards)	1'82876696 metre
Imperial fathom (6 yards)	6'02911 metres
Imperial fathom (6 yards)	20'16437 metres
Imperial fathom (6 yards)	1609'3149 metres
French.	English.
Imetre	0'08337 inch
Decimetre	0'393708 inch
Imetre	3'937079 inches
Imetre	39'37079 inches
Imetre	3'2876592 feet
Imetre	1'093633 yard
Imetre	6'2138 miles

## SQUARE MEASURE.

English.	French.
1 square (square perch)	0'836097 metre square
1 (1210 yards square)	25'291939 metres square
1 (4840 yards square)	10'116775 acres
1 (4840 yards square)	0'404671 hectares
French.	English.
1 square	1'196033 yard square
1 square	0'098845 rood
1 square	2'473614 acres
SOLID MEASURE.	French.
1/8th of a gallon)	0'567532 litre
1/4th of a gallon)	1'135364 litre
Imperial gallon (2 gallons)	4'84345794 litres
Imperial gallon (2 gallons)	9'0869159 litres
Imperial gallon (2 gallons)	36'347664 litres
Imperial gallon (2 gallons)	1'05043 hectolitre
Imperial gallon (2 gallons)	2'907413 hectolitres
Imperial gallon (2 gallons)	12'08916 hectolitres

## French.

1 litre	1'760773 pint
1 decalitre	0'2200667 gallon
1 hectolitre	2'200667 gallons
	22'00667 gallons

## English.

## WEIGHTS.

English Troy.	French.
1 grain (1/24th of a penny-weight)	0'06477 gramme
1 pennyweight (1/20th of an ounce)	1'55456 gramme
1 ounce (1/12th of a pound troy)	31'0913 grammes
1 pound troy, imperial	0'3730956 kilogramme

## English avoirdupois.

French.	French.
1 drachm (1/16th of an ounce)	1'7712 gramme
1 ounce (1/16th of a pound)	28'3495 grammes
1 pound avoirdupois imperial	0'453448 kilogramme
1 hundred weight (112 pounds)	50'78246 kilogrammes
1 ton (20 cwt.)	1015'649 kilogrammes

## French.

French.	English.
1 gramme	15'438 grains troy
1 gramme	0'643 pennyweight
1 gramme	0'03216 ounce troy
1 kilogramme	2'68027 pounds troy
1 kilogramme	2'20548 pounds avoirdupois.

For more particular information on the subject of weights, see the article *Weights*.

**MEATH;** called also *East Meath*, in contradistinction to *West Meath*, a maritime county of Ireland, in the province of Leinster, bounded on the north by the counties of Cavan and Louth; on the east by the Irish sea; on the west by the county of West Meath; and by Dublin and Kildare counties on the south. It is the most fertile county in Ireland, the soil being a deep, rich loam, resting upon limestone, or limestone gravel. Bog is of rare occurrence, in consequence of which there is a scanty supply of fuel. The Boyne river rises in the county Kildare, but the most valuable portion of its course lies within this county; it falls into the sea below the town of Drogheda. The Nannywater has its source in the centre of the county, and after a short passage, empties itself into the sea below Nineh. The Blackwater flows out of Lough Ramor, and falls into the Boyne, at Navan. The breeds of cattle in this county are excellent, and agriculture is in a state of great forwardness. The chief towns are Trim, where the assizes are held, Navan, Kells, Slane, Duleek, Oldcastle, Dunboyne, Crossakeel, Athboy, Summerville, Longwood, Dunshaughlin, and Ratoath. The only manufactures belonging to the county are coarse woollens and stockings for domestic use, tickens, dowlas, sackcloth, and some fine linens. Timber, butter, and cheese are exported or conveyed to the metropolis, but not in any great quantities. Inland navigation might readily be extended in a region naturally so level, and the abundant produce of the soil would quickly repay the expense of its construction, by the transport of produce to the sea-side, and back carriage of fuel. Population in 1821, 159,183.

**MECENAS.** See *Mæcenas*.

**MECCA,** or **MEKKA;** a city of Arabia, capital of Hedjaz, about fifty miles from Jidda, its port, on the Red sea, 180 south of Medina; lat. 21° 18' N.; lon. 40° 15' E.; population, formerly, 100,000; according to Burckhardt, who visited it in the character of a devout Mussulman, now about 30,000, with accommodations for as many pilgrims. It was known to the Greeks by the name of *Macoraba*, and is called, by the Mussulmans, *Omm-Alcora*, or *Mother of Cities*, because it was the birth-place of Mohammed. It is situated in a dry, barren and rocky country, in a narrow valley, enclosed by mountains. The water is brackish, and the pastures distant, and every thing unfavourable for the support of a large population. It is two miles long, and one broad; the streets regular and handsome, being sanded, level

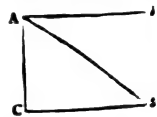
and convenient; the houses of stone, of three or four stories, built in the Persian or Indian, rather than the Turkish style, having neat fronts, ornamented externally with paintings and mouldings. Many quarters are now abandoned to ruins, and of the houses that remain, two-thirds are unoccupied. Mecca is a city of the greatest celebrity among the Mohammedans, and contains the three holiest things in the Mohammedan world,—the well *Zemzem*, the *Caaba* (or house of God), and the Black Stone. *Zemzem* is believed, by the followers of Mohammed, to be the identical spring which gushed forth in the wilderness for the relief of Hagar and Ishmael; and marvellous efficacy is ascribed to its waters, in giving health to the sick, imparting strength of memory, and purifying from the effects of sin. The *Caaba*, or *Kaaba*, is of great antiquity. (See *Kaaba*.) The Black Stone, the principal wonder of the place, is said to have been brought by the angel Gabriel, and to have been originally of a dazzling whiteness. The grand ceremony through which the pilgrims pass is that of going seven times round the *Kaaba*, kissing each time the sacred stone. It is generally supposed to be a meteoric stone. Forty eunuchs are at present maintained there, by the revenues of the temple and the gifts of the pious. Mecca is entirely supported by pilgrims from every part of the Mohammedan world; but the number is now much less than formerly, owing partly to the decay of religious zeal, and the decline of power and wealth of the Mohammedan states; and partly, also, to Mecca's being subject to the incursions of the Wahabees. The commerce, now greatly diminished, consists chiefly in the productions and manufactures of India. Notwithstanding the sacred character of the city, it has now little reputation for learning, and Burckhardt found no book shops in the place. No Christian is allowed to enter Mecca, and its territory is regarded as sacred to a certain distance round, which is indicated by marks set up. The male Meckaways are all tattooed at the age of forty days, to prove their origin in the holy city. Mecca was taken by the Wahabees, in 1804, but soon after recovered by the sheriff Galib. It was again captured in 1807, and again delivered by Mohammed Ali, pacha of Egypt, in 1818. For the ceremony which takes place on the arrival of the pilgrims, see *Arafat*.

MECHAIN, PIERRE FRANÇOIS ANDRÉ, an astronomer, born Aug. 16, 1744, at Laon, went to Paris in 1772, and was there favourably received by Lalande. His discovery and calculation of two comets, in 1781, rendered him generally known; and he was among the first to delineate the probable orbit of the newly discovered planet Uranus. In 1782, the academical prize for the best essay on the return of the comet of 1661 was awarded to him; and, when it appeared again, eight years afterwards, his calculations were proved to be correct. In the course of eighteen years, Méchain discovered fourteen comets, the orbits of which he calculated. No important celestial phenomenon escaped his notice, and his observations were recorded in the *Connaissance des Temps*, which was edited by him from 1788 to 1794. When the constituent assembly ordered the preparation of a new system of measures, based on the meridian of the earth, Méchain was one of the astronomers appointed to measure the arc of the meridian between Dunkirk and Barcelona. He received, for his part of this difficult operation, the portion of country lying between Barcelona and Rhodes, where no measurements had previously been made. Political causes also contributed to embarrass his progress; and the Spanish government not only interrupted his triangulation, but detained him for some time prisoner. He was enabled to resume his labours in 1803, with the intention of extending them to the

Balearic isles. He died at Valence, in 1804, of a yellow fever, a victim of his exertions in the cause of science. Besides his treatises on the *Connaissance des Temps*, and his memoirs on the subject comets, we find, also, the results of his observations on the *Base du Système métrique dérivée de l'arc du méridien* (Paris, 1806—10, 3 vols.).

MECHANICS (from *μηχανή*, a machine or contrivance) is the science which treats of the laws of motion. (See *Force*.) It leads, problem, a step in the construction of machines, and is a most branch of it, practical mechanics, embraces the construction and effects. Forces, acting on a body, may either produce rest or motion. In the first case, they are treated of under statics, or under dynamics (q. v.). Hydrostatics (q. v.) is hydraulics (q. v.) respectively treat of fluids at rest, or in motion.

When a body is acted on by two or more forces, which counteract each other, so that no motion is produced, the body and the forces are said to be in a state of *equilibrium*. The conditions of equilibrium form the subject of statics. 1. A body acted upon by two equal and opposite forces will remain at rest. In this case, either of the two opposite forces may be made up of several parallel forces. A body is said to be the *resultant* of those forces. 2. If two forces act, with reference to each other, obliquely, upon a body, they may be counteracted by a third only also their *resultant*. If the two forces be represented, in direction and intensity, by two adjacent sides of a parallelogram, their resultant will be represented, in direction and intensity, by the diagonal. This is called the *parallelogram of forces*. Thus, if a body, A, be acted upon by two forces, one of which would cause it to move from A to B in any given time, and the other would cause it to move from A to C in the same time: then if two



forces act upon the body at one point, it will remain in neither of the lines AB, AC, but in the line AD, which is the diagonal of the parallelogram formed by the two lines AB and AC, containing the same space as by the action of the two forces, the body will be found at D, at the end of the time that it would have been found at B or C, by the action of either of the forces singly. If the two forces which urge the body, will produce a uniform motion, the resulting motion will be in a straight line; but if one of them act by impulse, which would produce a uniform motion, and the other act constantly so as to produce an accelerated motion, the resulting motion will be a curve. Thus, if the ball of a cannon were well directed, it would never deviate from a straight line unless acted on by some external force. The force of gravity acts on the ball constantly, so as to draw it to the earth, by an uniform accelerated motion; and the result is that the ball will move in a curve, and this curve will be shown to be that of the parabola. The motion of the air being taken into account together with the circumstances, constitute the laws of the science of gunnery. 3. If several forces, acting on a body, can be represented, in direction and intensity, by several sides of a polygon, they will be counteracted by a single force, acting in the opposite direction, and with an intensity represented by the diagonal which would be necessary to complete the polygon.

All the changes which come under the denomination, are the consequence of motions produced by the action of a few great elementary forces. The consideration of the motions which take place in

the particles only of one or of several bodies, comes within the department of chemistry. Those motions which affect masses are the appropriate subject of the second part of mechanics.

All motions are found to take place in conformity with a few universal principles. Deduced from observation, and confirmed by experiment, these principles have often been placed at the beginning of treatises on mechanics, under the name of the *laws of motion*. Not expressed in this manner, the truths they declare, making an essential part of the principles of science, are necessarily introduced under some other form. Their comprehensiveness suits them to their purpose, and they are here quoted in the language of Newton.

I. "Every body perseveres in its state of rest, or of uniform motion in a right line, unless it is compelled to change that state by forces impressed thereon." This is called the law of *inertia*, and expresses the entire indifference of matter to motion or rest. The proposition that a body will never begin to move of itself needs no proof. It is a conclusion of universal observation. Wherever we observe motion, we conclude that there is a power in action to produce it. The other part of the law, that motion is, in its nature, as permanent rest, and that it is in a right line, is far from being self-evident, or even an obvious truth. Limited observation led some of the ancient astronomers to imagine that all bodies, when forced into a state of motion, naturally moved in curved lines. There is, however, abundant proof of the permanence of motion; and if friction and the resistance of the air, the two most universal obstacles to the motion of bodies near the surface of the earth, could be entirely removed, instances of permanent motion would be still more numerous. In proportion as they are removed, or as bodies are beyond their influence, we observe a tendency in motions to become more and more permanent. A marble, rolled over the grass, soon stops; on a carpet, it moves longer; on a floor, still longer; and on smooth, level ice, where the wind is not unfavourable, it continues long in motion. In a vacuum, where the resistance of air is not felt, two windmills, whose pivots are equal friction, and which are set in motion by equal forces, continue to move equally long, whatever be the position of their vanes. In the air, the motion whose vanes cut the air, will move much longer than the one whose vanes are opposed to it. A pendulum in a vacuum, having only the stiffness of the cord by which it is suspended to overcome, will vibrate for a whole day. A spinning top, in the same situation, retarded only by the friction of its point, continues spinning for hours. In all these cases, the continuance of the motion is proportioned to the diminution of friction and resistance. We hardly avoid the conclusion, that a body once set in motion, would, if left to itself, continue to move with undiminished velocity. The heavenly bodies, moving in free space, subject to no opposing influence, keep on in their path with a velocity which has remained unabated since first they were launched from the hand of the Creator. They move not, indeed, in straight lines, but in circles, as they are drawn towards each other, and towards a centre, by the universal force of gravity. (*Gravity*.) This force does not diminish their velocity, but deflects them continually from the right in which they tend to move. If this central force were suspended, they would all shoot forward in straight space, and the harmony of their motions would

cease. Some force similar to this central tendency is always in action, whenever we see bodies move in curve lines. The stone, to which a boy gives accumulated force by whirling it round in a sling, is, for a time, kept in its circle by the central force represented by the string; when let loose, it darts forward in the air, turning not to the right or left, until the atmospherical resistance destroys its motion, or the force of gravity bends it to the ground. A full tumbler of water, placed in a sling, and made to vibrate with gradually increasing oscillations, may, at last, be made to revolve in a circle about the hand, each drop tending to move out in a straight line from the centre, and therefore remaining safe in the tumbler, whose bottom is always farthest from the centre. In a corn mill, the grain is poured gradually into a hole in the centre of the upper mill-stone. The weight of the stone pulverizes the corn, while its circular motion throws it out, as fast as it is ground, into a cavity around the stone. When a vessel, partly full of water, is suspended by a cord, and made to turn rapidly round, the water, in its tendency to move out in a straight line, recedes from the centre, and is gradually heaped up against the sides of the vessel, sometimes even leaving a portion of the bottom dry. Water, moving rapidly in the stream of a river, or the tide of the sea forced violently through a narrow passage between opposite rocks, not unfrequently forms a whirlpool on the same principle. Bent out of its course by a projecting ledge, it departs, as if reluctantly, from a straight line, and heaps itself up towards the circumference of the circle in which it is compelled to move. To this cause, too, it is owing, however little we might expect such a consequence, that a river, passing through an alluvial soil, and once turned from its onward channel, continues to pursue a meandering course to the sea. Driven, by any cause, to one side, it strikes the bank with all its violence, is repelled, and rebounds with the same force to the opposite side, continually wearing the two banks, and leaving a larger space on the inner side of the bends. The force with which a body constrained to move in a circle, tends to go off in a straight line, is called the *centrifugal force*. Advantage is taken of it in many processes of the arts, and in all circular motions of machinery. The clay of the potter is placed on the centre of a swiftly revolving table, and while his hand shapes it, the centrifugal force causes it to assume the desired dimensions. A globe, or sheet of molten glass, is in a similar manner made to expand itself. The legs of a pair of tongs, suspended by a cord, and made to revolve by its twisting or untwisting, will diverge in proportion to the velocity of the revolution. The *steam governor* of Watt is constructed and acts on this principle. Weights are attached to two rods, to which circular motion is communicated by the machinery which is to be governed. If the motion be so rapid as to cause these weights to diverge from each other beyond a certain angle, they act upon a valve which partly closes, and diminishes the supply of steam. With a slower motion, the rods collapse, and the valve is opened. In consequence of the centrifugal force occasioned by the rotation of the earth, the weight of bodies at the equator is diminished the 289th part. If the earth revolved on its axis in 84 minutes, the loose parts near the equator would be projected from the surface.

Another consequence or particular of the law of inertia, is, that motion is communicated gradually. A force which communicates a certain quantity of motion in one second, will impart double the quantity in two seconds. A ship does not yield at once to

the impulse of the wind, when the sails are set; its motion increases as new portions are successively imparted. A horse does not start at once with a carriage into his utmost speed; his force is at first spent in giving motion to the inert mass. Afterwards, with far less exertion, he keeps up the motion, being required to supply that portion only which is destroyed by the obstacles of the road. The motion communicated to a body, if not destroyed by some force, is accumulated. Thus a nail is driven in by all the force of the hand, accumulated through the whole time of the descent of the hammer. The knowledge of this fact gives the means of increasing the effective force of a moving power in a very great degree. A force of fifty pounds communicated every second to a loaded wheel, will, if not diminished by friction, or other cause of waste, enable it to overcome a resistance of 500 pounds once in every ten seconds. Such a wheel is called a *fly wheel*. (q. v.)

II. "The alteration of motion is ever proportioned to the motive force impressed, and is made in the direction of the right line in which that force is impressed." This is only a statement, that a double force generates a double motion; that motion cannot increase or diminish itself, nor turn to the right or left, without cause. In consequence of this, two or more forces acting at once on a body in different directions, cause it to take a direction different from that of either force, and, if one of them is a variable or constantly acting force, to move in a curve line. This is called the *composition of forces*; the single motion impressed upon the body being considered as composed of the several motions which the forces acting separately would have produced. A boat rowed, at the rate of three miles an hour, directly from the bank of a river which runs at the rate of two miles an hour, is acted on at once by the force of the rowers and that of the current, and will be found, at the end of an hour, three miles from the bank, and two miles below the point from which it started, having moved in a diagonal line between the directions of the two forces. (See *Forces*.) The *resolution of forces* is the reverse of this. A single force is considered as resolved into two or more others. A ship, sailing on a side wind, is sent forward by a part only of its force. The other part has no effect, or that only of driving her out of her course.

III. "To every action there is always opposed an equal reaction; or the mutual actions of two bodies on each other are equal and in opposite directions." If you press a stone with your finger, the finger is equally pressed upon by the stone. A horse drawing a load, is drawn backward by its whole weight, and if he succeed in moving it, it can only be with a velocity proportioned to the excess of his strength over the reaction of the load. A magnet and piece of iron attract each other equally; and if, when in the sphere of mutual attraction, one is fixed and the other free, whichever is free will be drawn to the other. Two equal boats, drawn towards each other by a rope, act in the same manner; if both are free, they meet in the middle. When a gun is discharged, it recoils with a force equal to that with which the ball is propelled, but with a velocity as much less as its weight is greater. If, in the side of a vessel of water, hanging perpendicularly by a cord, a hole be opened, the vessel will be pushed back from the perpendicular by the reaction of the jet of water, and will remain so while it flows. A consequence of this law is, that the earth is attracted by each body on its surface as much as it attracts, and that when a stone falls towards the earth, the earth rises to meet it.

The force with which a body acts is measured by its velocity and mass conjointly, and is called a *momentum*. Thus, if two balls, of one and two pounds weight, respectively, be moving with the same velocity, the larger has twice as much of the smaller, since each pound of it acts with the same velocity as the ball of a single pound. A body of small weight may therefore be made to produce the same mechanical effect as a large one by sufficiently increasing its velocity. The mechanical of modern times is not less effectual in destruction than the mazy battering ram of the ancients.

The forces which may be employed to produce motion to machines are called *mechanical powers* or *first movers*. They are water, wind, steam, gunpowder, and the strength of man and other animals. They may be indirectly referred to three independent sources—gravity, heat, and magnetic fluid. See these several articles.

*Gravity*. A body falling from a state of rest descends sixteen feet, nearly (16.085), in one second, but, as all the motion which is communicated by gravitation remains in it, and it receives no more of motion every indefinitely small portion of time second, it is moving more rapidly at the end of the second than at any previous time, and, with its motion alone, if it continued uniform, would descend through twice 16, or 32 feet, in the next second; during this next second, as much motion is communicated as during the first, and consequently it descends through three times 16, or 48 feet, in the next second. The whole of this accumulated motion would, alone, carry it through four times 16, or 64 feet, in the third second, and the continued action of gravitation carries it once 16; so that it actually descends five times 16, or 80 feet, during the third second. In the fourth second, it would, in the case of uniform descent seven times 16 feet; in the fifth, nine times 16, &c., the series of odd numbers expressing the distances passed through in the successive seconds. By adding these numbers, we find that, at the end of one second the body will have descended four times 16 feet; at the end of the third, nine times 16; at the end of the fourth, 16 times 16, &c.; the whole distance fallen through at the end of any number of seconds being found by multiplying the square of the number of seconds by 16 feet. Such is the simple and remarkable law of the descent of bodies by the uniform accelerated velocity produced by gravitation. The velocity acquired in one second is sufficient, if continued, to carry a body through twice 16 feet; that acquired in two seconds would carry it four times 16 feet; that acquired in three seconds, through six times 16 feet, &c.; the velocities possessed at the end of any number of seconds being represented by even numbers multiplied by 16 feet. The following table exhibits, 1. the space fallen through in the successive seconds; 2. the whole space fallen through at the end of a number of seconds; and, 3. the velocity:

Time,	1	2	3	4	5	6	7	8	9	10
1. Successive Spaces,	16	32	48	64	80	96	112	128	144	160
2. Total Spaces,	16	64	144	256	400	576	784	1024	1296	1600
3. Final Velocity,	16	32	48	64	80	96	112	128	144	160

By means of this table, a traveller descending the summit of a cliff, might ascertain to how plain or torrent below, with considerable accuracy, by letting fall a stone, and observing its fall. It would only be necessary to make allowance for the resistance of the air, which, however, is not very great. (See *Proportions*.) The cause which communicates motion to a body would gradually destroy that of a body. A ball projected upwards with the usual feet per second, would, therefore, not only be retarded in its motion to the height of

body must fall to acquire that velocity. The phenomena of accelerated and retarded motion are beautifully exhibited by Atwood's machine for that purpose.

In moving down an inclined plane, a solid body is urged by a portion of the force of gravitation, which is continually smaller as the plane is nearer to horizontal position. (See *Inclined Plane*.) When the plane is horizontal, the whole weight of the body is sustained by the plane. The velocity acquired by bodies moving down any plane, is the same as they would have acquired by falling freely from the perpendicular height of the plane. If a body be allowed to fall down the inclined plane C A, the velocity it acquires when it arrives at B, having moved from C, will be the same as it would have acquired, had it fallen freely from the perpendicular line C B, from C.



It is necessary, in the construction of machines, cranes, buildings, bridges, and ships, and in many other cases, to ascertain exactly the centre of gravity of the whole and of each part; since, if the centre of gravity, in any body or system of bodies, be supported, the whole must remain firm, and in a state of rest, in every possible position. (See *Gravity, Centre of*.) The various problems arising from this necessity have been solved with great accuracy, and on fixed principles. In all regular solids, of uniform density, either bounded by straight or curve lines, the line of gravity coincides with the centre of magnitude. If a body of any shape be suspended, freely, from any one point of its surface, the straight line ending from that point to the centre of the earth will pass through the centre of gravity. This line is called the *line of direction*. The centre of gravity, therefore, sometimes be found practically, by suspending a body successively from two of its points, and observing the point where the lines of direction intersect each other. The centre of gravity of a triangle is one third the distance from the middle of the base to the vertex; that of a cone and of a pyramid, one fourth the same distance. Stability, in every body, depends upon the position of the centre of gravity in reference to the base. The nearer it is to the base, and the farther the line of direction falls from the part of the perimeter of the base, the greater is the stability. The sphere rests equally in every position, because the centre of gravity is at the same distance from every part of the surface. It is unstable in every position, as it rests on a single point of the surface; and it yields to the smallest force, as the line of gravity does not rise when the sphere revolves.

In order that the pyramid or cone may be turned, the centre of gravity must rise almost perpendicularly, and move for a great distance before it ceases to tend to fall back to its place. Hence the stability, and hence the propriety of giving to obelisks, monuments, and other buildings of great weight, a pyramidal or conical figure. Those cars are most secure which are hung low, and whose wheels far apart. Whatever raises the centre of gravity or narrows the base, allows the line of direction more easily to pass without it, and diminishes its stability. Hence we see the imprudence of rising cranes or boats which are in danger of being upset, and hence the danger of high loads on narrow roads, where the roads are not perfectly level.

The force of gravity is not often employed directly as a mechanical agent, or prime mover. Those most commonly employed to give motion to machinery are the steam, wind, heat, and the strength of animals. Water works by its weight and by the velocity which it acquires in falling, in consequence of its weight. Wind works by its volume or mass and its velocity. Both agents are variable, and both act in a straight line. Heat, as given out by combustible materials,

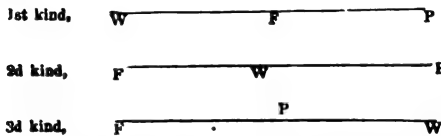
produces steam, or gas, or gives motion to air by making it lighter, and thus causing it to rise. The steam, or gas, when formed, has a tendency to expand itself, presses against the sides of the vessel which contains it, and endeavours to escape with a force proportioned to the heat and pressure to which it was exposed. When allowed to escape in only one direction, it necessarily generates motion in a straight line. Steam, as usually employed, generates motion, which is alternately in one direction and the opposite. The strength of animals is commonly made to act upon some centre of resistance, by drawing, pushing, or pressing, and produces variable motions, naturally in a straight line, but often in a curve. The motions or pressures produced by all these agents are capable of being compared with those produced by weights. They might all be referred to a common standard, the unit of which should be the force required to raise a given weight a certain number of feet in a given time.

The mechanical agents are employed to measure time, to move ships and carriages, to raise weights, to shape wood and work metals, to overcome the resistance of air, of water, and of cohesion, to draw out and form materials, and to combine them into new fabrics. To apply them to accomplish any one of these effects requires the intervention of some mechanical contrivance. Such a mechanical contrivance, whether consisting of a few or of many parts, is called a *machine*. A machine has been defined, "a system of bodies, fixed or movable, so connected together that a movement impressed on one of them shall be transmitted to the others." The object of a machine is often vaguely supposed to be to produce or augment power. It can never have this effect. The resistance of the fixed and the friction of the movable parts will always consume a part of the power of the prime mover. The real object of every machine is to increase or diminish the velocity of the moving force, to change its direction, to accumulate its action and expend it at a single effort, to distribute the force among a great number of small resistances, or to divide the force of a resistance so that it may be overcome by a series of actions, or by the continued action of the moving power. A machine may combine the action of several movers, and employ one to regulate the others, so that the final effect shall be perfectly uniform. The pendulum, the governor, and the fly-wheel are employed for this purpose.

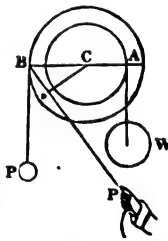
By the *mechanical powers*, are signified the simple machines, to which all machines, however complex, may be referred. They are essentially three in number, but usually considered seven: 1. The *lever*, the *wheel and axis*; 2. the *inclined plane*, the *screw*, the *wedge*; 3. the *rope* and the *pulley*.

The *Lever* is a bar, resting on a support, called a *fulcrum*, or prop, for the purpose of raising, by a power applied to one end, a weight at the other. An iron crow used by workmen to raise heavy stones, affords a good instance of a lever. The stone is the weight; the block on which the crow rests is the fulcrum; the strength of the men, the power. To gain any advantage by its use, the fulcrum must be nearer to the weight than to the power. If the distance from the power to the fulcrum be five times greater than the distance from the weight to the fulcrum, a force of one pound in the power will balance a pressure of five pounds in the weight. But in this case the end of the long arm of the lever will, as it turns on the prop, pass through a space five times greater than that of the short arm. By such a lever a man could raise 1000 pounds with the same exertion as would be required to raise 200 without a lever, but he could raise it only a fifth part so high in the same time. What he would gain therefore in power,

would be lost in time. In theory, a lever is considered inflexible and without weight. There is an equilibrium when the power and weight are inversely as their distances from the fulcrum.—*Leverage* is the distance of the power from the fulcrum. The *mechanical advantage* or *purchase* is proportional to this distance, compared with that of the weight from the fulcrum. Levers are of three kinds, according to the relative position of the power, the prop, and the weight. In the first, the prop is between the power and the weight. To it belong scissors, snuffers, pincers (in which the pivot or joint is the prop,) the handspike, the brake of a pump, &c. A hammer with its claw, is a bent lever of this kind. In the second, the weight lies between the fulcrum and the power. This includes the oar, where the boat is the weight to be moved; the door, of which the hinge is the fulcrum; the wheelbarrow, nut-crackers, bellows, and the knife attached at one end, used to chip dyewoods. In a lever of the third kind, the resistance is at one end and the fulcrum at the other. To this belong the pitchfork and spade, the one hand being the power, and the other the fulcrum, sheep-shears, with a bow at one end, giving a greater facility of motion. The bones of animals are levers of this kind, and are moved by muscles so attached as to give rapidity of motion at the expense of power. The ox-yoke is of this kind; the neck of each ox being the fulcrum with reference to the exertion of the other. The stronger of two oxen must have the short arm of the lever, that they may be able to pull together. So a load supported on a pole and borne by two men, must divide the pole unequally, if either is to be favoured.—Let *W* represent the weight, *P* the power, and *F* the Fulcrum, this diagram will show their relative positions in the three different kinds of levers.



The *Wheel and Axle* is a kind of lever, so contrived as to have a continued motion about its fulcrum, or centre of motion, where the power acts at the circumference of the wheel, whose radius may be reckoned one arm of the lever, the length of the other arm being the radius of the axle, on which the weight acts. If the power acts at the end of a handspike fixed in the rim of the wheel, then this increases the leverage of the power, by the length of the handspike. The wheel and axle consists of a wheel having a cylindric axis passing through its centre. The power is applied to the circumference of the wheel, and the weight to the circumference of the axle. In the wheel and axle, an equilibrium takes place when the power multiplied by the radius of the wheel, is equal to the weight multiplied by the radius of the axle; or  $P : W :: CA : CB$ . For the wheel and axle being nothing else but a lever so contrived as to have a continued motion about its fulcrum *C*, the arms of which may be represented by *AC* and *BC*, therefore, by the property of the lever,  $P : W :: CA : CB$ . If the power does not act at right angles to *CB*, but obliquely, draw *CD* perpendicular to the direction of the power, then, by the property of the lever,  $P : W :: CA : CD$ . It will be easily seen, that if two wheels fastened together and turning



round the same centre, be so joined, that when they turn round they will curl on either circumference strings to which weights are suspended, on a those wheels being larger than the other, the larger wheel will coil up a greater length of string than the smaller one will do in the same time and the will depend either on the radii or circumferences of the two wheels. The velocity of the weight will be in proportion to the length of string coil up in the same time; therefore, the velocity of the weight will be greater as the wheel is larger. Now, as it is seen we saw that a small weight required a great velocity to balance a large weight with a small velocity, we infer, that the rules given for levers will apply to the wheel and axle; since the velocity of an on a lever depends upon its distance from the fulcrum.

The efficacy of the wheel and axle may be increased either by enlarging the diameter of the wheel, or diminishing that of the cylinder. The *Chinese system* furnishes the means, without resorting to the alternative, of increasing the mechanical effect, in any degree. It consists of two cylinders of unequal diameters, turning upon the same axis, a weight being supported by the loop of a very in cord, one end of which unwraps from the small cylinder, while the other end is coiled upon the larger. The elevation of the weight by each revolution is equal to half the difference of the two circumferences, the mechanical advantage depending on the smallness of this difference. In the *ship's class*, movable bars or handspikes are attached to a wheel. The *capstan* is a vertical wheel and axle used on board ships to weigh the anchor.—The wheel and axle may turn on different centres, and in their circumferences connected and made to act each other, by means of a strap or belt, or by a species of cogs or teeth. This arrangement is called a *wheel and pinion*. See *Wheel-Work*.

Wheels acting on each other by teeth or bands may be easily calculated in the same way as a wheel and axle. Thus, if a wheel which is the teeth, drives another of ten teeth, it is evident, that as the larger wheel has three times as many teeth the smaller, the smaller wheel will revolve three times for once that the larger one does round; so that the velocities of the wheels will be inversely as their number of teeth. In the same way if the larger wheel drives the smaller one by a band, but by a band, their revolutions will be as their circumferences.

The larger wheel is usually called the *driver*, or *leader*, and the smaller one a *driven* pinion, driven wheel, or follower. When there is a number of wheels *A, B, C, D, E*, acting on the respective pinions *a, b, c, d, e*, as then the effect of the whole may be found thus: if the letters which represent the wheels and pinions be understood to signify the number of each,



$$\frac{\text{power} \times A \times B \times C \times D \times E}{a \times b \times c \times d \times e} = \text{weight}$$

If the velocity of the first wheel be used instead of the power applied, then this rule will give the resulting velocity instead of the weight. Thus,

If the numbers of the teeth of the wheels are 9, 10, 12, and those of the pinions 3, 4, 5, 6, 7, 8, the power applied be 14 lbs., we have

$$\frac{14 \times 9 \times 10 \times 12 \times 12}{3 \times 4 \times 5 \times 6 \times 7 \times 8} = 100 \text{ lbs.}$$

And, by the remark under the rule, if the first make 14 revolutions in the minute, the speed of the last will be 105 in the same time. The same rule will apply to the case where the wheels act on each other by ropes or straps, if the circumferences of the wheels and pinions are used for the number of teeth.

**Inclined Plane.**—When a drayman lays a plank from the street to the higher level of the floor of a storehouse, that he may be able to roll in a heavy cask, he employs the principle of the *inclined plane*; and the more gradual the inclination of the plank, the more easily will he effect his purpose. That is, the advantage gained by the inclined plane is greater, the more the length of the plane exceeds its height. A road which is not level, is an inclined plane. When a road mounts over a hill, instead of winding round its foot, a team of horses with a load of a ton weight, must exert strength sufficient to lift the load perpendicularly into the air, to a height equal to that of the top of the hill, instead of that moderate exertion which is necessary to overcome the friction of the axis of the wagon, and the slight inequalities of a level road. Hence the absurdity of constructing roads in hilly countries to pass directly over the tops of hills, instead of winding, by small circuits, along their base.

When a power acts on a body, on an inclined plane, so as to keep that body at rest; then the weight, the power, and the pressure on the plane, will be as the length, the height, and the base of the plane, when the power acts parallel to the plane; that is,

The weight  
The power  
The pressure on the plane

will be as  $\left\{ \begin{array}{l} AC \\ BC \\ AB \end{array} \right.$

The force with which a body endeavours to descend down an inclined plane, is as the height of the plane. When the power does not act parallel to the plane, then from the angle C of the plane, draw a line perpendicular to the direction of the power's action; then the weight, the power, and the pressure on the plane, will be as AC, CB, BA. When the line of direction of the power is parallel to the plane, the power is least.

If two bodies, on two inclined planes, sustain each other, by means of a string over a pulley, their weights will be inversely as the lengths of the planes.

The space which a body describes upon an inclined plane, when descending on the plane by the force of gravity, is to the space which it would fall freely in the same time, as the height is to the length of the plane; and the spaces being the same, the times will be inversely in this proportion. If the elevation were one sixteenth of the length, the body would roll down one foot in the first second, and four in two. It is on this principle that the equality in the vibrations of a pendulum may be explained. A long vibration takes no more time than a short one, because the body begins to fall, in this case down a steep plane, and acquires great velocity. In a short vibration, the beginning of its path is a very gradual descent. A short pendulum vibrates more rapidly than a long one, because it has a shorter distance to move in a path of the same steepness. A body moving down an inclined plane, moves four times as far in two seconds as in one. A pendulum, to vibrate once in two seconds, must be, therefore, four times as long as one which beats seconds. The most remarkable application of the inclined plane is in the construction of the *marine railway*, on which, by the power of a few horses, a ship of 600 tons is drawn,

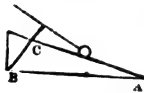
with all its cargo, out of the water, high enough to allow workmen to pass under its keel.

**The Screw.**—Imagine an inclined plane to pass round an immense building, like the tower of Babel, affording means of ascending to the top, and you have the first idea of the *screw*. It is an inclined plane, wrapped spirally round a solid cylinder. The advantage gained by it depends on the slowness of the ascent, that is, on the number of turns or *threads*, as they are called, in a given distance. It is always used in combination with a lever. It is a machine of great power, commonly employed to produce compression or to raise heavy weights. Hunter's screw is a compound of two screws, with threads of different degrees of fineness, one moving within the other, the end advancing, at each revolution, through a distance equal to the difference of the threads.

The *Wedge* is a double inclined plane, used commonly to cleave wood or stone, and sometimes to elevate a large mass, as part of a building, or ship. The effect of a wedge depends, apparently, upon friction, elasticity, and the slowness with which motion is communicated to a mass of matter. When a wedge is driven in, the particles immediately in contact with it are, for a moment, displaced, the friction against it prevents it from receding, and when the displaced particles endeavour to resume their relative position, the rift is lengthened. To the wedge may be referred various cutting tools, such as axes, knives, swords, chisels; and nails and spikes to be driven into wood, as well as pins, needles, awls, &c. The saw and the file and rasp are modifications still more remote. The colter of a plough, the blade of a spade, and other instruments to penetrate the earth, are in the shape of a wedge.

The *Rope* is considered, in theory, as destitute of weight, and perfectly smooth and flexible. In this case, as in that of the other mechanical powers, the allowances to be made in practice for weight, rigidity, friction, &c., are ascertained by experiment, and combined with the results of theory. If a rope be stretched horizontally between two fixed points, by equal weights attached to the ends, any very small weight applied to the rope between these points will bend the rope, and thus raise the weights. If we suppose the rope to have been perfectly horizontal, the weight applied acts upon those at the ends with a mechanical advantage which may be considered infinite, as it acts at right angles to the directions of the opposite actions of those weights. This is a necessary consequence of the principles of the resolution of forces. The action of one or two forces can have no effect in counteracting a third, unless they act in such a direction, that their action can be resolved into two, one of which is opposite to the direction of the third force. While the rope is horizontal, the two weights counterbalance each other, but produce no further effect, until the rope is bent into an angle. A bending of the rope must, therefore, take place, in consequence of the action of any force, however small. By bending the rope, it must raise the weights, and support them at a point above their former position, thus producing an equilibrium with them, however great they may be. This arrangement is one form of what is called the *funicular machine*. A necessary consequence of the principle on which it depends is, that when a rope or chain, of any material whatever, is stretched horizontally, its weight alone will prevent its being perfectly straight, and no force is sufficient to straighten a rope unless it hangs perpendicularly. Advantage is often taken of this power by seamen in tightening ropes, which have previously been drawn as closely as possible by the direct action of their strength.

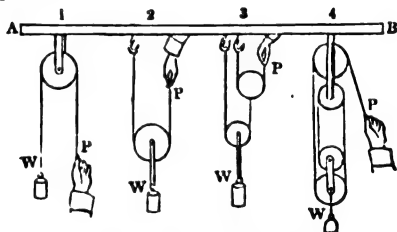
The *Pulley* is a small wheel, moving on an axis or



pin, which is fixed in a frame called a *block*. The circumference of the wheel has a groove for a rope to move in. The pulley is said to be *fixed* or *movable*, according as its block admits of motion or not. A fixed pulley gives no mechanical advantage, but it enables us to apply force more conveniently, by changing its direction. A man standing on the deck of a ship is able, by means of one fixed at the top of the mast, to raise a weight to that point by drawing downwards. In the same manner, ore is raised from mines, and water from deep wells. The wheel, in the grooved circumference of which the rope passes, gives facility to its motion by preventing the necessity of its bending suddenly round a sharp edge, and diminishes the friction by transferring it from the rope to the axis of the wheel. One or more grooved wheels, called *sheaves*, set in a block, and moving freely round an iron axis, constitute a pulley, and the combination of pulley and ropes, a *tackle*. If the rope, instead of being attached to the weight, passes through a movable pulley attached to the weight, and terminates in a hook or ring in the upper block, the tackle becomes an engine by which another advantage is gained. As, in this case, the weight is supported by two parts of a rope, each part sustaining one half, the power necessary to support one of these parts, is equal to only one half the weight supported, and, by drawing upon one end of the rope, with a power a little greater than one half of the weight, the whole weight will be raised. It is on this principle that advantage is gained by the pulley. If the weight were supported by the four parts of a rope, which passed through two fixed and two movable pulleys, each part sustaining one fourth of the weight, a power equal to one fourth part of the weight, attached to the free end of the rope, would balance the whole weight, and something more than one fourth would raise it. This advantage is purchased by the space through which the power must move, and the time occupied by the motion. To raise a weight fifty feet, by the combination last mentioned, the power must move over a space of 200 feet.

The nature of the different kinds of pulley will be better understood by the aid of the following illustration, taken from *Grier's Mechanic's Calculator*.

The accompanying engraving exhibits various forms of the pulley. A B is a beam from which they are suspended.



No. 1, is the fixed pulley in which there is no other advantage gained than that the power P and weight W move in a contrary direction. No. 2, is a movable pulley, in which the power P by moving upwards raises the pulley, to the block of which the weight W is attached; but the one end of the string being attached to the beam A B, the power must move twice as fast as the weight, and there will be a gain of power proportional. No. 3, is a combination of two movable pulleys, in which the gain of power will be four; and No. 4 is a combination of two fixed and two movable pulleys, in which the gain of power will be the same as in No. 3. If in a system of pulleys, where each pulley is embraced by a cord, attached

at one end to a fixed point, and at the other to the centre of the movable pulley next above it, and the weight is hung to the lowest pulley, the effect of the whole will be = the number of strings by itself, as many times as there are movable pulleys in the system: thus, if there be 4 movable pulleys, then  $2 \times 2 \times 2 \times 2 = 16$ ; wherefore, it is equal to one lb. it will be sustained by a power of one ounce avoirdupois.

When there are any number of movable pulleys in one block, and as many on a fixed block, the pulleys are called *Sheaves*, and the system is called a *Muffle*; and the weight is to the power moved as one is to twice the number of movable pulleys in the system.

In all the above cases of the pulley, the cords, or ropes, are supposed to act parallel to each other; when this is not the case, the relation of power and weight may be found by applying the principle of the *parallelogram of forces*; thus, draw *ab* in the direction of the power's action and of that length, taken from a scale of equal parts, which expresses the quantity of the power; next draw *bd* a perpendicular to the horizon, and from *c* draw *cd* parallel to *bc*, the direction of the string, which is fastened at *c*: then the power is to the weight, as *ba* is to *bd*; and the string on the hook at *c*, is as *ad* to *db*,—these lines being all measured on the same scale of equal parts. It may be further observed that the pulley is a species of lever of the second kind; where the point at which the string is fastened may be called the fulcrum; the axis of the pulley the place of the weight, and the place of the power the other end of the lever; or, the diameter of the pulley may be reckoned the length of the lever, the weight being in the middle.

A great many experiments made by Ranslet, have shown that, for most purposes, the best proportions for the wheel of a pulley are, 1. that its diameter should be five times its thickness; 2. that the diameter of the pin should be one-eighth of the diameter of the wheel; 3. that the wheel should have about one-twelfth of its thickness on each side for a play to the block.

Additions might be made to the list of mechanical powers, with as much propriety as to that of the enumerated ones. The course of the action, usually called the *hugger joint*, might be called a mechanical power. It is, however, not properly, a combination of levers, acting on the principle of the funicular machine.

**MECHANICS' ANIMAL.** *Mechanics of the Human Skeleton.* There is scarcely a part of the animal body, or an action which it performs, or an accident that can befall it, or a piece of premature assistance which can be given to it, that does not furnish illustration of some truth of natural philosophy; but we shall here only touch upon a few particulars as will make the understanding of the whole easy.

The *cranium*, or *skull*, is an instance of the solid form, answering the purpose of giving strength to the brain, in its nature, is so tender, or susceptible of injury, that slight local pressure disturbs its equilibrium. Hence a solid covering, like the skull, was supplied with those parts made stronger and thicker that are most exposed to injury. An archæologist who is constructed to resist one kind of force only and acting in one direction, namely, gravity; and therefore its strength increases proportionally towards the bottom, where the weight and horizontal thrust of the whole are to be resisted; but, as the skull, the brain

city of the substance is many times more than sufficient to resist gravity, and therefore aids the form to resist forces of other kinds, operating in all directions. When we reflect on the strength displayed by the arched film of an egg-shell, we need not wonder at the severity of blows which the cranium can withstand.

Through early childhood, the cranium remains, to a certain degree, yielding and elastic; and the falls and blows so frequent during the lessons of walking, &c., are borne with impunity. The mature skull consists of two layers or tables, with a soft diploe between them, the outer table being very tough, with its parts dovetailed into each other, as tough wood would be by human artificers; while the inner table is harder, and more brittle (hence called *vitreous*), with its edges merely lying in contact, because its brittleness would render dovetailing useless.

A very severe partial blow on the skull generally fractures and depresses the part, as a pistol bullet would; while one less severe, but with more extended contact, being slowly resisted by the arched form, often injures the skull by what is correspondent to the horizontal thrust in a bridge, and causes a crack at a distance from the place struck, generally half way round to the opposite side. Sometimes, in a fall with the head foremost, the skull would escape injury, but for the body, which falls upon it, pressing the end of the spine against its base.

In the *lower jaw*, we have to remark the greater mechanical advantage, or lever power, with which the muscles act, than in most other parts of animals. The temporal and masseter muscles pull almost directly, or at right angles to the line of the jaw; while in most other cases, as in that of the deltoid muscle lifting the arm, the muscles act very obliquely, and with power diminished in proportion to the obliquity. An object placed between the back teeth is compressed with the whole direct power of the strong muscles of the jaw; hence the human jaw can crush a body which offers great resistance, and the jaws of the lion, tiger, shark, and crocodile, &c., are stronger still.

The *teeth* rank high among those parts of the animal body which appear almost as if they were merely the fruits of distinct miraculous agencies, so difficult is it to suppose a few simple laws of life capable of producing the variety of form so beautifully adapted to purposes which they exhibit. They constitute an extraordinary set of chisels and wedges, arranged as to be most efficient for cutting and tearing the food, and, with their exterior enamel, so hard that, in early states of society, teeth were made to answer many purposes for which steel is now used.

It seems, however, as if the laws of life, astonishing as they are, had still been inadequate to cause teeth, used in their hard enamel, to grow as the softer bones grow; and hence has arisen a provision more extraordinary still. A set of small teeth appear soon after birth, and serve the child until six or seven years of age: these then fall out, and are replaced by larger ones, which endure for life; the number being completed only when the man or woman is full-grown, four teeth, called *wisdom teeth*, because they come so late, which rise to fill up the then spacious jaws.

The *spine*, or *back-bone*, has, in its structure, as much of beautiful and varied mechanism as any single part of our wonderful frame. It is the central pillar support, or great connecting chain of all the other parts; and it has, at the same time the office of conning within itself, and of protecting from external injury, a prolongation of the brain, called the *spinal marrow*, more important to animal life than the outer part of the brain itself. We shall see the

spine uniting the apparent incompatibilities of great elasticity, great flexibility in all directions, and great strength, both to support a load and to defend its important contents.

*Elasticity.* The head may be said to rest on the elastic column of the spine, as the body of a carriage rests upon its springs. Between each two of the twenty-four vertebrae, or distinct bones, of which the spine consists, there is a soft elastic intervertebral substance, about half as bulky as a vertebra, yielding readily to any sudden jar; and the spine, moreover, is waved, or bent a little, like an italic *f*, as seen when it is viewed sideways; and, for this reason, also, it yields to any sudden pressure operating from either end. The bending might seem a defect in a column intended to support weight; but the disposition of the muscles around is such as to leave all the elasticity of the bend and a roomy thorax, without any diminution of strength.

*Flexibility.* The spine may be compared to a chain, because it consists of twenty-four distinct pieces, joined by smooth rubbing surfaces, so as to allow of motion in all directions; and a little motion, comparatively, between each two adjoining pieces, becomes a great extent of motion in the whole line. The articulating surfaces are so many, and so exactly fitted to each other, and are connected by such number and strength of ligaments, that the combination of pieces is really a stronger column than a single bone of the same size would be.

The strength of the spine, as a whole, is shown in a man's easily carrying upon his head a weight heavier than himself, while each separate vertebra is a strong irregular ring, or double arch, surrounding the spinal marrow. The spine increases in size towards the bottom, in the justest proportion, as it has more weight to bear.

*The Ribs.* Attached to twelve vertebrae, in the middle of the back, are the ribs, or bony stretchers of the cavity of the chest, constituting a structure which solves, in the most perfect manner, the difficult mechanical problem of making a cavity with solid exterior, which shall yet be capable of dilating and contracting itself. Each pair of corresponding ribs may be considered as forming a hoop, which hangs obliquely down from the place of attachment behind; and so that, when the fore part of all the hoops is lifted by the muscles, the cavity of the chest is enlarged.

We have to remark the double connexion of the rib behind, first to the bodies of two adjoining vertebrae, and then to a process or projection from the lower, thus effecting a very steady joint, and yet leaving the necessary freedom of motion; and we see the fore part of the rib to be of flexible cartilage, which allows the degree of motion required there, without the complexity of a joint, and admirably guards, by its elasticity, against the effects of sudden blows or shocks.

The muscles which have their origin on the ribs, and their insertion into the bones of the arm, afford us an example of action, and reaction being equal and contrary. When the ribs are fixed, these muscles move the arm; and, when the arm is fixed, by resting on a chair or other object, they move the ribs. This is seen in fits of asthma and dyspnea.

The *shoulder-joint* is remarkable for combining great extent of motion with great strength. The round head of the shoulder-bone rests upon a shallow cavity in the shoulder-blade, that it may turn freely in all ways; and the danger of dislocation from this shallowness is guarded against by two strong bony projections above and behind. To increase the range of motion to the greatest possible degree, the bone called the shoulder-blade, which contains the

socket of the arm, slides about itself upon the convex exterior of the chest, having its motion limited only by a connexion, through the collar bone, or clavicle, with the sternum.

The *scapula*, or *blade-bone*, is extraordinary as an illustration of the mechanical rules for combining lightness with strength. It has the strength of the arch, from being a little concave, and its substance is chiefly collected in its borders and spines, with thin plates between, as the strength of a wheel is collected in its rim, and spokes, and nave.

The bones of the arms, considered as levers, have the muscles which move them attached very near to the fulcrum, and very obliquely; so that, from working through a short distance comparatively with the resistances overcome at the extremities, the muscles require to be of great strength. It has been calculated that the muscles of the shoulder-joint, in the exertion of lifting a man upon the hand, pull with a force of two thousand pounds.

The *os humeri*, or bone of the upper arm, is not perfectly cylindrical; but, like most of the other bones which are called cylindrical, it has ridges to give strength.

The *elbow-joint* is a correct hinge, and so strongly secured, that it is rarely dislocated without fracture.

The *fore-arm* consists of two bones, with a strong membrane between them. Its great breadth, from this structure, affords abundant space for the origin of the many muscles that go to move the hand and fingers; and the very peculiar mode of connexion of the two bones, give man that most useful faculty of turning the hand round, into what are called the positions of pronation and supination, exemplified in the action of twisting, or of turning a gimlet.

The *wrist*. The many small bones forming this, have a signal effect of deadening, in regard to the parts above, the shocks or blows which the hand receives.

The *annular-ligament* is a strong band passing round the joint, and keeping all the tendons which pass from the muscles above to the fingers, close to the joint. It answers the purpose of so many fixed pulleys for directing the tendons: without it, they would all, on action, start out like bow-strings, producing deformity and weakness.

The *human hand* is so admirable, from its numerous mechanical and sensitive capabilities, that an opinion at one time commonly prevailed, that man's superior reason depended on his possessing such an instructor and such a servant. Now, although reason, with hoofs, instead of fingers, could never have raised man much above the brutes, and probably could not have secured the continued existence of the species, still the hand is no more than a fit instrument of the godlike mind which directs it.

The *pelvis*, or strong irregular ring of bone, on the upper edge of which the spine rests, and from the sides of which the legs spring, forms the centre of the skeleton. A broad bone was wanted here to connect the central column of the spine with the lateral columns of the legs; and a circle was the lightest and strongest. If we attempt still further to conceive how the circle could be modified to fit it for the spine to rest on, for the thighs to roll in, for muscles to hold by, both above and below, for the person to sit on, we shall find, on inspection, that all our anticipations are realized in the most perfect manner. In the pelvis, too, we have the thyroid hole and ischiatic notches, furnishing subordinate instances of contrivance to save material and weight: they are merely deficiencies of bone where solidity could not have given additional strength. The broad

ring of the pelvis protects most securely the superior organs placed within it.

The *hip-joint* exhibits the perfection of the bone and socket articulation. It allows the leg to move round in a circle, as well as to have its great sweep of backward and forward motion estimated in the action of walking. When we see the dense, tough smooth cartilage which lines the deep ends of the joint, and the similar glistening covering of the head of the thigh-bone, and the lubricating oil poured into the cavity by appropriate osseous, and the strong ligaments giving strength to it, we feel how far the most perfect of man's works is short of the mechanism displayed by nature.

The *thigh-bone* is remarkable for its process called *trochanters*, to which the moving muscles are fixed, and which lengthen considerably the lever which the muscles work. The shaft of the bone is not straight, but has a considerable forward curvature. Short-sightedness might suppose this unnecessary, because the bone is a pillar supporting weight but the bend gives it, in reality, the strength of an arch, to bear the action of the mass of muscle called *vastus*, which lies and spreads upon its part.

The *knee* is a hinge joint of complicated structure and it claims the most attentive study of the surgeon. The rubbing parts are flat and shallow, and hence the joint has little strength from form; but derives security from the numerous and intricate strong ligaments which surround it. The ligaments are inside of the knees resemble in two circumstances the annular ligaments of joints, namely, a band constant and great strain to bear, and yet a bending stronger always as the strain increases. The bone of the leg, even in the most perfect shape, bends inward a little at the knee, requiring the support of the ligaments, and in many persons, it bends very much; but the inclination does not increase with age. The legs of many weakly men bend double become straight by exercise alone. The skeleton at the middle joint of the leg, by throwing a strong strain on the ligaments, gives an increase of elasticity to the limb, in the actions of jumping, &c. In the knee, there is a singular provision of two cartilages, which have been called *menisci*, or *wheels*, from a supposed relation in use to brass wheels; but their real effect seems to be to moderate, in the different positions of the joint, the surfaces of the rubbing bones to each other.

The great muscles on the fore part of the leg are contracted into a tendon a little above the knee and have to pass over, and, in front of the knee, to reach the top of the leg, where their attachment is. The tendon, in passing over the joint, becomes hard and forms the *patella*, or *knee-cap*, often called the *pulley* of the knee. This peculiarity enables the muscles to act more advantageously, by increasing the distance of the rope from the centre of motion. The patella is, moreover, a sort of shield or protection to the fore part of this important joint. The leg below the knee, like the fore-arm above described, has two bones. They offer quite a new surface of origin for the numerous muscles proper for the feet, and they form a compound shaft of greater strength than the same quantity of matter of one shaft would have had. The metatarsals are also angular instead of round, to receive greater power to resist blows, &c.

The *ankle-joint* is a perfect hinge of great strength. There is in front of it an annular ligament, by which the greater part of the tendons, passing downwards to the foot and toes, are kept in their place. One of these tendons passes under the *heel*, in the projection of the inner ankle, as a small support

groove, exactly as if a little fixed pulley were there.

The *heel*, by projecting so far backwards, is a lever for the strong muscles to act by, which form the calf of the leg, and terminate in the *tendo achillis*. These muscles, by drawing at it, lift the body, in the actions of standing on the toes, walking, dancing, &c. In the foot of the negro, the heel is so long as to be ugly in European estimation; and, its great length rendering the effort of smaller muscles sufficient for the various purposes, the calf of the leg in the negro is smaller in proportion than in other races of men.

The *arch of the foot* is to be noticed as another of the many provisions for saving the body from shocks by the elasticity of the supports. The heels and the balls of the toes are the two extremes of the elastic arch, and the leg rests between them.

Connected with elasticity, it is interesting to remark how imperfectly a wooden leg answers the purpose of a natural leg. With the wooden leg, which always remains of the same length, the centre of the body must describe, at each step, a portion of a circle of which the bottom knob of the leg is the centre, and the body is therefore constantly rising and falling; while, with the natural legs, which, by gentle flexure at the knee, are made shorter or longer in different parts of the step, as required, the body is carried along in a manner perfectly level. In like manner, a man riding on horseback, if he keep his back upright and stiff, has his head jolted by every step of the trotting animal; but the experienced horseman, even without rising in the stirrups, by letting the back yield a little at each movement, as a bent spring yields during the motion of a carriage, can carry his head quite smoothly along.

In a general review of the skeleton, we have to remark, 1. the nice adaptation of all the parts to each other, and to the strains which they have respectively to bear; as in the size of the spinal vertebrae increasing from above downwards; the bones of the leg being larger than those of the arm, and so on. 2. The objects of strength and lightness combined; as by the hollowness of the long bones; their angular form; their thickening and flexures in articular places where great strain has to be borne; the enlargement of the extremities to which the muscles are attached, lengthening the lever by which these act, &c. 3. We have to remark the nature and strength of material in different parts, so admirably adapted to the purposes which the parts serve. There is a bone, for instance, in one place, nearly as hard as iron, where, covered with enamel, it has the form of teeth, with the office of chewing and tearing all kinds of matter used as food. In the cranium, again, bone is softer, but tough and resisting; in the middle of long bones, it is compact and little bulky, to leave room for the swelling of the muscles lying there; while, at either end, it is large and spongy, with the same quantity of matter, to give a broad surface for articulation; and, in the joints, the bodies of the vertebrae, which rest on an elastic bed of intervertebral substance, are light and spongy, while their articulating surfaces and processes are very hard. In the joints, we see the tough, elastic, smooth substance, called *cartilage*, covering the ends of the bones, defending and padding them, and destroying friction. In infants, we find all the bones soft or gristly, and therefore calculated to bear, with impunity, the falls and blows unavoidable at their age; and we see certain parts retaining cartilage or gristle for life, where their elasticity is necessary or useful, as at the anterior extremities of the ribs. About the joints, we have to remark the ligaments which bind the bones to-

gether, possessing a tenacity scarcely equalled in any other known substance; and we see that the muscular fibres, whose contractions move the bones, and thereby the body,—because they would have made the limbs clumsy even to deformity had they all passed over the joints to the parts which they have to pull,—attach themselves, at convenient distances, to a strong cord called a *tendon*, by means of which, like a hundred sailors at a rope, they make their effort effective at any distance. The tendons are remarkable for the great strength which resides in their slender forms, and for the lubricated smoothness of their surfaces. Many other striking particulars might be enumerated; but these may suffice. Such, then, is the skeleton, or general frame-work of the human body—less curious and complicated, perhaps, than some other parts of the system, but so perfect and so wonderful, that the mind which can attentively consider it without emotion, is in a state not to be envied.

The living force of man has been used as a working power in various ways, as in turning a winch, pulling at a rope, walking in the inside of a large wheel to move it, as a squirrel or turn-spit dog moves his little wheel, &c. Each of these has some particular advantage; but that mode in which, for many purposes, the greatest effect may be produced, is for the man to carry up to a height his body only, and then to let it work by its weight in descending. A bricklayer's labourer would be able to lift twice as many bricks to the top of a house in the course of a day, by ascending a ladder without a load, and raising bricks of nearly his own weight over a pulley each time in descending, as he can by carrying bricks and himself up together, and descending again without a load, as is still usually done.

Reflection would naturally anticipate the above result, independently of experiment; for the load which a man should be best able to carry, is surely that from which he can never free himself—the load of his own body. Accordingly, the strength of muscles and disposition of parts are all such as to make his body appear light to him.

The question which was agitated with such warmth some time ago, as to the propriety of making men and women work on the tread-mill, receives an easy decision here. They work by climbing on the outside of a large wheel or cylinder, which is turning by their weight, and on which they must advance just as fast as it turns, to avoid falling from their proper situation. There are projections or steps for the feet on the outside of the cylinder, and the action to the workers is exactly that of ascending an acclivity. Now, as nature has fitted the human body for climbing hills, as well as for walking on plains, the work of the tread-mill, under proper restrictions as to duration must be as natural and healthful as any other. Its effects have now proved it to be so.

As animal power is exhausted exactly in proportion to the time during which it is acting, as well as in proportion to the intensity of force exerted, there may often be a great saving of it by doing work quickly, although with a little more exertion during the time. Suppose two men of equal weight to ascend the same stair, one of whom takes only a minute to reach the top, and the other takes four minutes; it will cost the first but a little more than a fourth part of the fatigue which it costs the second, because the exhaustion has relation to the time during which the muscles are acting. The quick mover may have exerted, perhaps, one twentieth more force in the first instant, to give his body the greater velocity which was afterwards continued; but the sloth supported his load four times as long.

A healthy man will run rapidly up a long stair,

and his breathing will scarcely be quickened at the top; but, if he walk up slowly, his legs will feel fatigued, and he will have to wait some time before he can speak calmly.

For the same reason, coach-horses are much spared by being made to gallop up a short hill, and being then allowed to go more slowly for a little time, so as to rest at the top.

The rapid waste of muscular strength, which arises from continued action, is shown by keeping the arm extended horizontally for some time; few can continue the exertion beyond a minute or two. In animals which have long horizontal necks, there is a provision of nature in a strong elastic substance on the back, or upper part, of the neck, which nearly supports the head, independently of muscular exertion.

MECHELN, or MECKENEN, ISRAEL OF; two artists, father and son, the former of whom appears to have been a painter, the latter a goldsmith, and one of the earliest and most distinguished engravers. They lived between 1450 and 1503. The son was born at Mecheln, near Bocholt. From his drawing, we may conjecture that he was a scholar of Van Eyk. Of the circumstances of his life, little else is known than that he lived, during his latter years, at Bocholt, and died there in 1503. His engravings are rare, and much sought after; yet they bear the marks of a rude taste and imperfect drawing, incorrect perspective, and other traits which characterize the period. They are chiefly valuable for the minute accuracy of their execution, and as monuments of the history of the art.

MEHLIN, or MECHELN (in French, *Malines*); a city lately belonging to the kingdom of the Netherlands, in the Belgic province of Antwerp, five leagues south of the city of Antwerp, and four and a half north-east of Brussels, on the Dyle and the Louvain canal; archiepiscopal see; population, 18,000. The streets are broad and well paved, and the buildings handsome: the cathedral, with a tower 348 feet high; the Beguine house, which serves as an asylum for 800 widows or aged women; the arsenal, with a cannon foundry; the archbishop's palace, &c., are the principal. The lace, woollen, calico, and hat manufactures are extensive, and the tanneries and breweries are considerable. Its commerce by the Dyle, which is navigable for large ships, is important in grain, oil, flax, and hops. The time of its foundation is not known: it is an old city, and was surrounded by ramparts in the tenth century. It has been repeatedly inundated by the Dyle, and captured by the Spanish, Dutch, British, and French. The latter destroyed its fortifications in 1804. See *Netherlands*.

MECHOACAN, or VALLADOLID; one of the states of the Mexican republic, formed, in 1824, of the former province or intendency, of Mechoacan or Valladolid, bounded by the states of Guanajuato and Mexico, and the Pacific ocean; lat. 18° to 20° 30' N.; lon. 104° 20' to 108° 50' W. Its productions are cotton, corn, sugar-cane, indigo, gold, silver, copper lead, &c. Mechoacan was an Indian kingdom at the time of the arrival of the Spaniards in Mexico, and was conquered by one of the generals of Cortes, in 1524. There are, at present, three tribes of Indians, forming the greatest part of its population, within its limits—the Tarascos, the Otomites and Chichimeks. The population was estimated by Humboldt, in 1803, at 376,400. (See *Mexico*.) Capital, Valladolid (q. v.).

MECKLENBURG-SCHWERIN; a grand-duchy in the north of Germany, lying between the Baltic, the kingdom of Hanover, and the Prussian territories; a member of the Germanic confederation. The

population is 430,927, principally Latins (Germ. Jews); the superficial extent of the grand-duchy 4833 square miles; revenue of the tax, 1,500,000 guilders; debt, between eight and ten millions capital, Schwerin, with 11,230 inhabitants. The grand-duke has two votes in the plenum, and one the grand-duke of Mecklenburg-Strelitz in the fourteenth vote in the diet. The two dukes have one a common supreme court of appeal at Berlin. The population of Mecklenburg-Schwerin is principally agricultural; the manufactures are considerable; the foreign commerce is carried on chief from the ports of Rostock and Wismar on cattle are the principal articles.

MECKLENBURG-STRELITZ; a grand-duchy in the north of Germany, divided into two parts by the grand-duchy of Mecklenburg-Schwerin. It has 75,500 inhabitants on a superficial area of 1590 square miles. It has one vote in the *General-Plenum*. The capital is Neustrelitz, with 1600 inhabitants. The productions, and the commerce and employment of the inhabitants, are the same as Mecklenburg-Schwerin.

MEDALLIONS. The term *medallion* is applied to those productions of the mint which, if gold, exceed the *aureus* in size; if silver, the *denarius*; and if copper, the *sestertius*, or large brass. Antiquaries have long differed as to the purposes for which they were designed; they are generally, however, supposed to have been struck, like the medals of our time, to commemorate some remarkable event. No circumstances are not wanting to render it probable that they were intended for circulation as money. Perhaps both objects were united, at least in some instances, a large number of pieces, of a given value, being coined in memory of a great event, and thus adapted, at the same time, for use as medals. Medallions are not numerous. The *Genæ*, or those struck in the Greek provinces of the Roman empire are more common than the Roman, but of inferior workmanship. A gold medallion existed Augustus and one of Domitian; but few, in any metal, were found prior to the reigns of Adrian and Antonine; those in brass are the largest, many of them having several inches in diameter. See *Nomenclature*.

MEDALS. See *Nomenclature*.

MEDEA; daughter of Aetes, king of Colchis. By some, her mother is said to be *Iphigeneia*, daughter of Oceanus; by others, Hecate. Mythology attributes her a profound knowledge of the secret virtues of vegetables, by means of which she practiced witchcraft. She saved the lives of many foreigners by her prayers and the aid which she rendered them, but thereby incurred the suspicions of her father and was thrown by him into prison, from which she escaped to the temple of the sun. Her husband, with Jason (q. v.), the leader of the Argonauts, celebrated. For ten years she lived with her husband in wedlock, after having supported him in every danger till the charms of Glauce, or Creusa, the daughter of king Creon, kindled a new passion in him, and he discarded the unhappy Medea. According to one account Jason separated from her, because of the sorceries heaped on him for having a foreign sorceress for his wife. Under the semblance of patient resignation she brooded on revenge. With this purpose she sent the bride, as a wedding gift, a garment with which when she put it on, enveloped her in a consuming flame, so that she died a death of the utmost anguish. Another account is, that she sent her rival a golden crown of gold by her stepsons. She rushed into the palace to ashes by a shower of fire, murdered her children by Jason, and then mounted her dragon-chariot, and escaped. Some say that she was Hercules, others to Athens, to king Ægeus, by whom

she had Medos. From Athens, also, she was banished as a sorceress. She finally returned to her home, where she reinstated her father, who had been dethroned by his brother Perses, after which, she died. According to later accounts, she became reconciled with Jason, and was deified by the Colchians. Medos is said to have taken possession of the kingdom of his grandfather, and to have called it, from himself, *Media*. The story of Medea has often been a subject of poetry, especially of tragic poetry. The tragedies of this name, by Æschylus and Ovid, have perished, as well as the Colchides of Sophocles. The Medæas of Euripides and Seneca are alone extant. The story has lately been made the subject of a tragedy by Grillparzer.

**MEDIA**; the largest and most important province of the ancient Persian empire, bounded east by Hyrcania and Parthia, south by Persis and Susiana, west by Assyria and Armenia, and north by the Caspian sea; so that it comprised the modern Iran, Aderbidhan, Ghilan, and the western half of Masanderan. According to Hammer, it belonged to Aria, or Ariana, of the Zend, the land of the Medes, in its widest extent. This Aria is bounded by the ancient Bactria, the centre of the great national intercourse of Asia, of the religion of the Magi, and of the ancient Persian civilisation. (See *Zoroaster*.) Media, on account of its mountains, was not easily accessible, was inhabited by warlike people, and, in part, well cultivated. Even before the Persian period, it was an independent kingdom. Its history begins with Dejoces, who, according to Herodotus, collected the people in villages and towns, and accustomed them to laws. He is said to have conquered Ecbatana. Ninus, the founder of the Assyrian monarchy, conquered this country. After the downfall of the Assyrian empire, the governor of the province of Media succeeded in rendering it once more independent, and it soon became the most powerful of the states which had arisen from the ruins of the Assyrian monarchy. According to tradition, as given by Herodotus, another Dejoces begins a series of Median kings at Ecbatana, which continues uninterrupted from 700 B. C. to 550 B. C. The last were Phraortes, Cyaxares, and Astyages. Respecting the then existing connexion of Media with Bactria and India, nothing certain is known. Cyrus (q. v.) subjected the Medes to the Persians. This latter people had, till then, been considered by the former as of little importance, on account of their poverty. The conquered soon became the subjects of the conquerors, not only in the arts and manners of private life, but also in their public policy. After Cyrus, Media remained connected with the other parts of the Persian empire, excepting the north-western parts, which, before the reign of Cyrus, seem to have belonged to Assyria, and were separated, for a time, from the Persian monarchy. When Alexander had conquered the Persian empire, he gave to Media a native governor, named Artabazus, who maintained himself in the northern mountains, even after the death of Alexander, when Media had received a Macedonian governor. His territory inherited his power, and, in spite of their numerous neighbours, the Parthians, Armenians, and Indians, maintained possession of it, partly by prudence, partly by arms. In the time of the first Sassanid emperors, Media was still independent; at a later period, it came under the yoke of the Parthians. Media consisted of Southern, or Proper Media, also called *Great Media*, whose capital was Ecbatana; of the country of Atropates, (Atropatene), and of the northern parts, along the shores of the Caspian sea, called *North Media*.

**MEDIAN WALL**, in ancient geography, also called *Wall of Semiramis* (not built, however, by

Semiramis), is reported to have been 300 feet high, about 140 miles long, and twenty feet thick, in Mesopotamia, running north-west from the Tigris, about thirty miles distant from the present Bagdad; erected against the invasions of the Medians. It was built of brick and asphaltum.

**MEDIATION, MEDIATOR**. In international politics, a power which endeavours to prevent, by peaceable interference, an approaching war, or close one which has broken out, is called a *mediator*. Mediation is essentially different from *arbitration*, which takes place if two powers submit points in dispute between them to the decision of a third power, which is to confine itself strictly to the points at issue, —a proviso which often affords a dissatisfied party a pretext for rejecting the decision. Mediation generally takes place in consequence of a request. In 1818, Spain asked the mediation of the powers assembled at Aix-la-Chapelle in her quarrel with her American colonies, which, however, was refused, on the ground that the aid desired would amount to assistance in making a re-conquest. The Poles, in 1831, sought for the mediation of Britain between themselves and Russia. France has been, very often, the mediator between Russia and Turkey, or Austria and Turkey, from interested motives, to prevent Russia or Austria from becoming too powerful. Several powers may act jointly as mediators. Mediation, particularly of late, has often been performed by congresses, as, for instance, in the case of the treaty of London (July 6, 1827) for the pacification of Greece, or the late mediation of the congress at London between Holland and Belgium. This kind of mediation, however, was introduced by a most arbitrary declaration at Aix-la-Chapelle, that the five great powers of Europe, Austria, France, Great Britain, Russia, and Prussia, would be the mediators in all disputes between minor powers. Their ministers in Paris, Frankfurt, and Vienna were provided with the necessary authorities. This led to the adoption of the principle of *armed intervention* at Laybach and Verona. (See *Intervention*.) Napoleon took the title of mediator of Switzerland. (See *Switzerland*.) By a law of the German empire, disputes between the members were left to the decision of a third member—a proceeding called *Austrägalinstanz*. (See *German Empire*.) The same rule has been established in the Germanic confederacy.

*Mediator*, in theology, is an appellation which is given in a peculiar sense to Jesus Christ, the Instructor and Saviour of mankind. Divines, however, have differed in their sentiments in respect to the nature and extent of this office, and the mode of its accomplishment.

**MEDIATISATION**. When the German empire, whose unity and power had been long before destroyed, was formally dissolved (in 1806), it would have been impossible to suffer such a number of small sovereignties to exist by the side of each other as remained in Suabia, Franconia, Bavaria, and on the Rhine, even after the secularizations of the ecclesiastical governments in 1803. It was a work of necessity and of duty to the subjects, to aggregate them in large masses; and, in the previous history of the empire, good precedents were found for changing smaller estates from immediate members of the empire to mediate, that is, to dependencies on the larger governments. The number of the estates of the empire formerly exempted in this manner was very considerable, especially in the Austrian countries. But what made this proceeding odious in 1806 was, partly, the want of a principle; for large possessions, like Furstenberg, with 74,000 inhabitants, Leiningen, with 83,000, were mediatized, while much smaller ones retained their sovereignty;

partly the manner in which the legal relations of the former sovereigns towards their new superiors were settled. The proceeding itself, however, was unavoidable, as appeared in 1815, when it was not only found impossible to restore the sovereignty of the mediatised princes, but new ones were added to the number (Salm, Isenberg, von der Leyen). But, by the fourteenth article of the German act of confederation, provision has been made to fix the legal relations of the mediatised sovereignties.

MEDICI. It is not uncommon for families, from the common ranks of society, to attain to great opulence by industry and good fortune. But wealth imparts influence, and this, rank and distinction. In democratic states, then, it is not wonderful that we find families of originally little importance, after some generations, appearing among the rulers of the state, and even at the head of it. The histories of the Grecian and Italian republics are full of such examples. But, owing to the fluctuating nature of wealth and popular favour, such houses generally decline as rapidly as they rise into consequence. If, therefore, a family from the class of commoners flourishes for centuries amidst the continual vicissitudes of conflicting parties, if its influence during this time gradually becomes supreme, and it maintains this power for centuries, we can confidently conclude that the heads of the family must have been distinguished for wisdom and good fortune. Such is the case with the family of the Medici. The Medici, when they first appeared in Florentine history, in the beginning of the fourteenth century, were already rich and important, having recently acquired affluence by commerce. Corso Donato, the head of the party of the Neri, had expelled the Bianchi from Florence, but found himself neglected by his former friends, the chiefs of the nobility; he therefore attached himself, for the purpose of forming a new party, to some wealthy families belonging to the commoners. Among these, the Medici are the first named, although, according to some, they were in favour of the recall of the banished Bianchi. However that may be, they behaved with so much sagacity, that they soon became one of those families from which the popular oligarchy of Florence was composed. They principally contributed to the elevation of Walter of Brienne, duke of Athens, to the head of the state, who, however, made use of his power to humble the ruling families, and caused Giovanni de' Medici, who had not defended Lucca against the Pisans with sufficient firmness, to be beheaded. The Medici, therefore, with some other families, entered into a conspiracy against him, which was discovered to him by Matteo di Marozzo; but, luckily for the Medici, the tyrannical duke, in a fit of caprice, to appear magnanimous, did not investigate the case. This proved his ruin; for when the dissatisfaction at last broke out into open rebellion, the Medici were among the leaders. Thenceforth we find them always in public affairs. After the banishment of the duke, the old nobility were again admitted to participate in the government, from which they had been excluded for fifty years; but abusing their new liberty, they were guilty of such violence and excesses, that Alamanno de' Medici, the oldest of the family, called the people to arms, and drove out the nobles. During the next ten years, when Florence was disturbed anew by the Ricci and Albizzi factions, and distracted by the Ammonizioni (as the exclusion of certain individuals and families from public honours under the pretence of Ghibelinism, was called), the Medici joined the Ricci, which was the weaker party. A son of Alamanno, named Bartholomew, entered into a conspiracy against the Albizzi about the year 1360, but

escaped, on its discovery, from the list of his accomplices, by placing himself in the order of protection of his brother Salvestro, who was a magistrate. Salvestro himself, when publisher of justice, in 1378, procured a law by which the Albizzi were humbled, and the Ammonizioni were abolished. The party of the Albizzi being thereby wholly annihilated, and the popular party having gained the supremacy, Salvestro attained the position which laid the foundation for the greatness of his house. The moderation of Salvestro and his family preserved them from falling, even when a few years later, the party which had caused its prepared its own ruin by its arrogance. The Medici, undisturbed in their greatness and affluence, saw the Albizzi, Strozzi, Scolari, Albizzi, but none of them; for they did not, like the latter, aspire to the supreme power of the state. Yet they soon, for a period, became the victims of republican spirit. In an insurrection of the people against the principal citizens and the revived party of the Albizzi, 1393, the furious populace obliged Verro Medici, Salvestro's son, and at that time head of the family, to be their leader, and to consent the people to grant their demands. Verro might easily have then become the master of Florence, but he made use of his influence with the people only as a mediator, and calmed the disturbance. But the people failing to fulfil their promises to the people, he and his adherents loudly expressed their dissatisfaction. The suspicious government took advantage of these threats, uttered by a friend of the Medici, to banish all those members who were loudly demanding Salvestro, with their friends. Some of these men, and among them Antonio, in concert with the friends in Florence, attempted, in 1397, to seize the government. They failed, but were obliged to take refuge in the church of San Donato, where a part of them were killed, and a part were prisoners and executed. After the failure of another conspiracy, excited by the duke of Milan, in 1400, among the Florentine exiles a Lancia, and in which inhabitants of Florence were to co-operate, the Medici were again banished, with the exception of a few. But these too, who continued to enrich themselves by successful commerce, restored the distinction of their house as a basis. Giovanni de' Medici was, in 1402, 1404, and 1417, member of the *signoria*, in 1414 he became a member of the Ten, and, finally, when the republic was convinced of his moderation and of his impartiality, became, in September and October, 1417, gonfalonier of justice. The people were again repelled from him the formation of an opposition party, but he was too prudent to attempt; on the other hand, he was honestly devoted to the Albizzi. He died in 1426. Of his sons, Cosimo (Cosmo) and Lorenzo, the latter begins the splendid series of the celebrated Medici, the latter was the ancestor of the grand duke of Tuscany. Cosmo had already a great name in 1416. Though he made little direct opposition to the ruling party, yet the great liberality with which his immense wealth allowed him to exercise, and the numerous party around him, which consisted of the Albizzi, neglected no means to weaken them. He does not, indeed, appear to have been directly instigated by Cosmo, and his party was not called after him, but after a certain Paganus, who, with Averardo de' Medici, was considered by the Albizzi the chief of the party and their dangerous enemy. He was finally seized and imprisoned, on not being proved guilty of any crime, except of popular affability, and succeeded only by his party.

gonfalonier Bernardo Guadagni in having the sentence of death, which was preparing for him by Rinaldo Albizzi, converted into banishment to Padua (1433). Yet his friends were so numerous, that a year after, a *signoria*, which consisted wholly of them, recalled Cosmo, and banished Rinaldo and his adherents. By this victory, the party of the Medici acquired the ascendancy. Nevertheless, Cosmo scorned to use force against his enemies; but some suspected persons were banished in 1442. The worthy Neri Capponi endeavoured to oppose the policy of Cosmo, who was a friend of Francesco Sforza. But Cosmo was contented with protecting himself against his enemies by the number of his friends, and was able to check the arrogance of the latter, which he most feared, by inspiring them with a dread of the former. The ruling party in Florence was accustomed to obtain for some of their number, from the people, the grant of full powers (*balia*) to appoint the magistrates or some years. Cosmo himself caused Neri to be appointed one of these commissioners, and thus attached him to his own party, which hazarded nothing in receiving the weaker one of Neri. When, after the death of Neri, the term of the *balia* was expired, he did not make use of his power to effect a prolongation of it, as heretofore some less sagacious chiefs had done, but waited quietly, until the great mass of those, who vainly expected honours from the people, but might have hopes of receiving them from him, effected the renewal of the former oligarchy for eight years, in 1458. Indeed, it was always his policy to let others work for his advantage, while he remained in apparent indifference and inactivity himself. As Puccio Pucci was formerly called the head of his party, so, at present, Cosmo ruled the republic, from 1458, through Luca Pitti, he himself remaining in the back ground. From thence he observed his friends and his enemies, and endeavoured to keep the former within the bounds of moderation, which are essential to the existence of a constitutional aristocracy, and much more to that of an insecure oligarchy. He was less successful in this, in his later years, particularly on account of the imperious character of Luca Pitti. He therefore laid it down as a rule, never to distinguish himself in his mode of living by expense or by a splendour that would excite envy. His superfluous wealth he expended upon public buildings, with which he adorned Florence, and in a splendid munificence, not only towards his adherents, but especially towards artists and learned men; among whom Argyropylus, Marcilius Ficinus, &c., enjoyed a liberal share of his favours; for he himself was a cultivated and accomplished friend to science, without being a less active merchant, or a less sagacious statesman. It would have been easy for him, who in Europe was considered as the prince of Florence, to ally himself with princes; but he married his sons and his grand-daughters to the daughters of some of the Florentine citizens. With equal wisdom he managed the foreign affairs of the republic, in his difficult relations with Naples, Milan, and Venice, in which his commercial connexions with all countries and his vast credit firmly supported him. The learned Pignotti is more rigid and impartial than Roscoe in his judgment upon Cosmo. After Cosmo had done everything which he could to establish his house in the popular favour, he died in 1464, with anxious thoughts respecting the future; for his kinsman, the sagacious Bernardo de' Medici, who had gained so much honour in the war against Milan and Naples, and his son Giovanni, had both died before him; his other son, Piero, on account of a ill health, seemed little capable of being at the head of the state; the sons of Piero, Giuliano and Lorenzo, were still minors. Piero, in the com-

mencement of his course, lost much of the favour which the Florentines would readily have transferred to him from his adored father, in consequence of following the evil suggestion of a false friend, Diotisalvi Neroni, who advised him, in order to restore his finances, which had suffered from the munificence of his father, to exact the payment of many sums of money, which his father had lent to citizens. The growing dislike of the people towards him on account of this measure, and also the betrothment of his son Lorenzo with Clarice (of the noble house of Orsini), were eagerly taken advantage of by Neroni and the ambitious Luca Pitti, in conjunction with the true patriot Nicolo Soderini, and Agnolo Acciajuoli, the personal enemy of the Medici, to effect his downfall. They prepared a list of names personally subscribed by the enemies of the Medici. Piero, to whom this was made known, procured a similar list of the names of his friends and partisans, which many subscribed under the influence of fear, who had already enrolled themselves among his adversaries. After unsuccessful attempts, by moderate measures, to change the government, the malcontents resolved to put Piero to death in his own house at Carreggi, and to take possession of the government, with the assistance of the marquis of Ferrara. But the design was revealed to Piero, whereupon, in August, 1466, with a numerous body of armed men, he went to Florence. Guarded by these, he kept quietly in his own house. His enemies also armed themselves, but were discouraged by the defection of Luca Pitti. Piero having professed his moderation to a deputation of eminent citizens, and declared that he did not desire the renewal of the expired *balia*, the people would undertake nothing against him; his enemies therefore dispersed, and their leaders fled from Florence. The *balia* was then renewed to the party of the Medici, and they became from this time supreme. But the other members of the *balia* abused this power in the most arbitrary manner, and Piero, being almost constantly confined to his bed, was unable to prevent them; he was, therefore, on the point of recalling his banished enemies, in order, by their means, to check the violence of his friends, when death prevented him (1469). The secret enemies of the Medici, on account of the youth and inexperience of his sons, Lorenzo and Giuliano, thought the time favourable for a new attempt to overthrow that powerful house. In conjunction with pope Sextus IV. and the archbishop of Pisa, Francesco Salviati, the Pazzi, the family next in consequence to the Medici, formed the plan of an assault on Lorenzo and Giuliano, which, after many disappointments, was carried into execution April 26, 1478, in the church S. Reparata. They failed, indeed, in their attempt on Lorenzo; but Giuliano was murdered. The people immediately armed themselves in the cause of the beloved Medici, his assassins were put to death, and the house of Pazzi was overthrown. Lorenzo, now the only head of his house, and more than ever confirmed in the government of the republic, ruled it in a manner worthy of his grandfather, whom he surpassed in wisdom and moderation, as in magnanimity and munificence; but particularly in his active zeal for the arts and sciences. By alliances with Venice and Milan, he protected Florence against the machinations of the pope and the king of Naples. He then made a journey to Naples, and induced the king, the bitterest enemy of himself and his country, to become his warmest friend, and an ally against the attacks of the implacable pope and the faithless Venetians. By his honourable and wise policy, he placed the balance of power in Italy on

a footing, which, until his death, insured to her full security and ample scope to extend and confirm her prosperity. Great losses induced him to give up commerce, which the Medici had always carried on, though, indeed, by agents who were frequently treacherous or inefficient. These losses had reduced him to such a want of money, that he was often compelled to borrow large sums from the public treasury; yet, when he withdrew his property from trade, he was sufficiently wealthy to purchase princely domains, and not only to adorn them with palaces of regal splendour, but also to ornament Florence with elegant edifices. In the long peace, which his wisdom procured for the republic, he entertained the Florentines with elegant and splendid festivals himself, with the society of the most distinguished literati of his age, whom (as, for instance, Demetrius Chalcondylas, Agnolo da Montepulciano, Christopher Landini, and, above all, the great John Pico of Mirandola) his fame and his invitation had attracted to Florence, and his princely munificence rewarded. He increased the Medicean library, so rich in manuscripts, founded by Cosmo in 1471. He also opened a school of the arts of design, in a palace adorned with ancient statues and excellent paintings. All, who in this age had gained a reputation in Florence for great talents, shared his patronage. Lorenzo was therefore surnamed the *Magnificent*. Honoured by all the princes of Europe, beloved by his fellow-citizens, he died in 1492, and with him the glory of his country.—See Fabroni's *Vita Laur. Medicis* (Pisa, 1784, 2 vols. 4to), and William Roscoe's *Life of Lorenzo de' Medici*. The *Opere di Lorenzo de' Medici, detto il Magnifico*, were published at Florence in 1826, in a splendid edition, at the expense of the grand duke Leopold II., and contain the first complete collection of his poems (4 vols. quarto).

Lorenzo left three sons, Piero, married to Alfonsina Orsini; Giovanni, at the age of fourteen cardinal, and afterwards pope Leo X.; and Giuliano, duke of Nemours. Piero, the new head of the state, was wholly unqualified for the place. In two years, he had alienated the duke of Milan and the king of France from the republic, and, by his imprudence and weakness, but particularly by the disgraceful peace of Serres, had made himself despised and hated by the Florentines, who would willingly have honoured his great father in him. He was, in consequence, divested of the government, and banished, with his whole family. After several attempts, by fraud, or force, to return, Piero lost his life (1504) in the battle of the Garigliano, being drowned in this river, where he was with the French army. In 1513, his brother, the cardinal Giovanni, by an insurrection raised by the popular preacher Hieronymus Savonarola, obtained a re-establishment in his native city, and when he became pope, in 1514; he elevated his family again to its pristine splendour. Piero's son, Lorenzo, created by the pope duke of Urbino, was the head of the state, though always without the princely title, and with the preservation of the republican forms. He died in 1519. Julius, a natural son of the Giuliano who was murdered in 1478, ascended the papal throne, in 1523, under the title of Clement VII., and, in 1533, Catharine, Lorenzo's daughter, became the wife of Henry II., king of France; after which events, the speedy dissolution of the semblance of liberty at Florence was readily foreseen. The Florentines, indeed, seemed on the point of recovering their ancient freedom, when they banished, in 1527, the vicious Alessandro; but this was the last ebullition of republican spirit. At the persuasion of Clement II. Charles V. besieged Florence in 1531, and after its capture reinstated

Alessandro, made him duke of Florence and gave him his natural daughter, Margaret, a marriage. At first, the nation loved him for his abilities; he finally he gave himself up to a licentiousness of life. He was the first independent duke of Florence. When Alexander, the last descendant of the previous line, had been murdered by Lorenzo de' Medici, a kind descendant from Cosmo's brother Lorenzo, a L.R., the Florentines made a weak attempt to re-establish the republic; but Charles V. again intervened, and his power promoted Cosmo I. who belonged to another branch) to the dukedom of Florence. Cosmo I. possessed, as did his successors, the state in the virtues, of the great Medici to whom he owed power. To confirm his greatness, he made it his chief object to exterminate the Strozzi, the hereditary enemies of his house, in 1554. To prevent commerce of the Levant against the Turks, he founded a new religious order, that of the Sante. He was a great amateur and collector of statues and pictures, and founded the extensive collection of statues of celebrated men, and constantly increased the collection of statues in the garden of Lincei the Magnificent. The foundation of the Florentine academy, and of the academy of despatches, is due to him. After he had made himself master of Sienna, with the assistance of Spain, in 1555, and several other acquisitions had extended the dominions of Florence, he obtained from pope Pius IV. the title of grand duke of Tuscany; but he was not successor, Francis, first procured, from the emperor Maximilian II., whose sister Joanna he married, the confirmation of this title, in 1575, for a large sum of money. Francis's second wife, the celebrated Italian, Bianca Capello, was declared, by the senate of her country, daughter of the republic, in order to make her worthy of this alliance. His daughter Maria became the wife of Henry II. of France. This branch of the Medici had not, like the other, become extinct with Alessandro, great of commerce; even when prince, Cosmo I. himself, and his brother Ferdinand I. (at that time cardinal), succeeded him, likewise an ardent lover of the arts, as also Cosmo II., the son of the last, who reigned in 1609), continued engaged in it, and from then continued the retail traffic, which Ferdinand gave up. Under these grand dukes the arts and commerce flourished at Florence, and, in this circumstance, as well as in the artful policy of the government, especially in the delicate situation of affairs between France and Spain), was recognised the spirit of the great Medici of the fifteenth century. But the state of things was changed under Ferdinand II., as Cosmo II., who, in 1621, came to the government at the age of eleven years. During his minority, the clergy, and through it the papal see, acquired a very pernicious influence in the administration, and persuaded him, contrary to the policy of his father, to throw himself into the arms of Spain and Austria—an alliance made use of by these courts to extort immense sums of money from the treasury of the Medici, which was thought to be inexhaustible. He governed forty-nine years, and his son, Cosmo III., austere brought up, and destitute of all public capacity, fifty-three years, from 1670 to 1723, a century in which Tuscany was reduced to the most deplorable state, by an enormous national debt, and by an exhaustion of all the sources of national wealth. Fortunately for this country, John, son of Cosmo III., was the last of his family; and, glorious, but now degenerated beyond hope of recovery. He died in 1737, after an arduous reign, and, in compliance with the terms of the peace of Vienna (1735), left his duchy to the house of Sardinia. Francis Stephen, duke of Lorraine and grand

duke of Tuscany (afterwards the emperor Francis I.), made a contract with the sister of John Gasto, the widowed electress of the Palatinate, the last of the name of Medici, by which he acquired the various fiefdom possessions of her house, and also the celebrated works of art and antiquities collected by her ancestors. Under the twenty-six years' reign of his son, the wise and virtuous Leopold, Tuscany recovered from a decline which had lasted for more than a century. See *Tuscany*, and Clayton's *Memoirs of the House of Medici*.

MEDICI, LUIGI, DON, minister of the king of Naples, descended from the ducal house of Ottobiano, as duke of Sarto, high steward of the king of Naples, and, for some time, president of the ministry. He succeeded Acton, and rendered service, in 1805, in improving the state of the finances. During the reign of Joseph Bonaparte and Joachim Murat, he resided in England, and returned with the Bourbons to Naples, where he was minister of the police, when Murat, induced by false reports, purposely spread in order to lead him to his ruin, passed from Corsica to the Neapolitan territory. Medici ordered the coasts be watched, and Murat was taken and shot. The sister's report on this event is contained in the papers of that time (1815). In 1818, Medici concluded a concordat with the pope. He now improved the system of coinage, &c. In 1819, the king, on his proposal, ordered "that all judges should decide causes according to the literal meaning of the laws, and, wherever this was not clear, should follow reasonable interpretations, and not the commentaries of jurisconsults; after which, the reasons of the sentence should be printed." To clear the prisons, filled with captive robbers, Medici sent 10 criminals to Brazil, according to a treaty concluded with the court of Rio Janeiro. Yet his administration, particularly the re-establishment of the vents, in 1819, met with much censure. The people were dissatisfied with the new tax on landed property (*fundaria*). The revolution broke out at night, July 2, 1820. The ministry of the police had previously been given to the prince of Canosa, who, like Medici, united with the secret society of the *Carbonari*, in order to suppress the *Carbonari*, whilst Medici had sent the most ardent members of these societies to the insane hospitals. Medici gave in his resignation, and retired to Rome, where he remained some time after the return of the king to Naples.

When the violent measures of the prince of Canosa appeared to be ill adapted to restore order, the king, on the advice of Austria, resolved to form a new ministry (June, 1822), the president of which prince Alvaro Ruffo, and the finances were once again given to Medici: milder measures were now adopted. To cover the deficit in the revenue, a loan was contracted with the house of Rothschild. In the king, with prince Ruffo, went to the congress of Verona, and afterwards to Vienna, Medici appointed president of the council of ministers. He saw himself obliged to contract a new loan with the house of Rothschild, for two millions and a half sterling, for which, customs and other indirect taxes were pledged. Under the reign of Francis I., Medici retained his high post. He went with his king to Madrid, and is said to have been delighted respecting the regulation of the embarrassed finances of Spain. He died in 1830.

MEDICINE; the science of diseases, and the art of curing or alleviating them. It is founded on the study of man's physical and moral nature, in health and in disease. Created by necessity, the offspring of instinct, observation, time, and reflection, it has advanced in ages previous to the records of history; it has struggled at all times, and continues to

struggle, with favourite theories; has been influenced by all systems of philosophy and religion, by truth and superstition; and has, with the slowness which marks all the important advancements of mankind, but lately emerged from some of the prejudices of thousands of years, and will long continue subject to others. Like other sciences, medicine has gained more from the single discoveries of close observers than from centuries of theory. For the few hundreds of years in which men have begun to apply themselves more to actual observation, and the human body has been carefully studied, medicine, like all the natural sciences to which it is so near akin, has made great progress. The higher kinds of skill and knowledge, in the earlier stages of nations, are in general exclusively appropriated by the priests, and this has been the case with medicine and the other branches of natural science. In the sacred writings, mention is occasionally made of the external application of oil and wine, and of the effects of warm bathing in the treatment of the sick. Amongst the Assyrians it was usual to carry those afflicted with diseases to the gates of the temples, where they might have an opportunity of imploring the advice and assistance of those who passed by. Machaon and Podalirius are mentioned in the *Iliad* of Homer, as having been "good physicians," and their skill in the cure of wounds is recorded with great praise. They were the sons of a physician named Esculapius, who, after his death, had been placed amongst the demigods of Greece, and to whom the Romans, many centuries afterwards, erected a temple upon the island of the Tiber. Hippocrates is the earliest author on medicine whose writings have been preserved. He lived about the middle of the fifth century before Christ, and was a man of very superior talents and great medical acquirements. His writings maintained an unrivalled authority over the minds of his successors for many centuries, and by the consent of posterity, he has been styled the Father of Medicine. The remedies which he employed were principally evacuations, more especially purgatives, and he also prescribed diuretics and sudorifics. He was accustomed to draw blood both by the lancet and scarifications, employed cupping-glasses, inserted issues, and used injections. Most of the active drugs of the present day were unknown to him, all the powerful metallic preparations, for instance, as well as the spirituous and ethereal compositions; and anodyne and narcotic remedies were but little valued.

The doctrine of Hippocrates may be called the *empiric rationalism*; and, numerous as are the systems that have flourished since, in ancient and modern times, mankind have always returned to his principle of making observation the only rule in the treatment of diseases. The doctrine of Hippocrates was blended, by his immediate successors, with the Platonic philosophy, whereby was formed the (so called) *ancient dogmatic system*. In Alexandria, which was, from 300 B. C., the seat of learning, medicine was one of the branches studied, but soon degenerated into mere dialectics and book learning. Hence we find it soon followed by the empiric school (286 B. C.), the methodic school (100 B. C.), the pneumatic school (68 B. C.), and, at length, by the eclectic school (81 A. D.), which took from all the others. A philosophical and great mind was required to put an end to so confused a state of medical science, and such a mind appeared in Galen (q. v.) of Pergamus. His system acquired an almost undisputed pre-eminence during the middle ages, and down to the sixteenth century. For some time (in the seventh century), the intellectual Arabians cultivated the sciences, and with them medicine. They also founded their medicine on that of Galen, but fashioned the

science according to their notions, and left it not unimproved in respect of practical application and pharmacology. Arabian medicine reached its highest point under Avicenna (born 980), who, for some time, was esteemed even higher than Galen; the opinion of the latter's superiority, however, eventually revived. The Western medicine begins with the medical school of Salerno, perhaps existing as early as in the ninth century, but well established in 1143 and 1238, where medicine was taught according to the principles of the Greeks. During the rest of the middle ages, there existed a Galeno-Arabian science of medicine, mostly fostered by ignorant monks, and only gradually struggling on, after suffering, perhaps, more than any other science, from every superstition and every misconception of nature. In the fourteenth century, anatomy was improved by Mondini; later, the knowledge of medicaments, by the discovery of new and distant countries, practical medicine, by the appearance of new diseases, and not a little by the frightful syphilis. The love of Greek literature was revived by the scholars driven from Greece by the conquest of Constantinople (in 1453), and men having begun to read the Greek medical writers, especially Hippocrates, in the original language, a more scientific and liberal spirit of investigation took the place of slavish adherence to antiquated prejudice. Thus the fall of the Galenic system was prepared, which was completed in the sixteenth century, and forms the essential part of the reformation produced by Theophrastus Paracelsus (1526). The chemico-theosophical system of this enthusiast was refined and arranged by J. B. von Helmont (who died in 1644), until, deprived of its theosophical character, it passed over into the chemico-material system of Francis Sylvius (who died in 1672), and, at length, into the psychiatric system (from *inspiration*, cure) of Stahl (who died in 1734). Yet, soon after Harvey's great discovery of the circulation of the blood (in 1619), the iatromathematical doctrine, under Alphonso Borrelli (who died in 1679), developed itself, which finally took the shape of the dynamic system of Fr. Hoffmann (died 1742), from which the dynamic schools of modern times proceeded. Hoffmann, who may be called the morning star of the reformation of medicine, feeling the insufficiency of all the opinions of his predecessors, and clearly perceiving that the animal body was influenced by laws quite different from those presiding over inanimate matter, dedicated himself to a careful examination of the nature of the operations of the respective parts of the body, whereby he perceived that certain organs possessed specific actions, and that those of the brain and nerves were of all others the most remarkable, and unlike what was to be observed in the other objects of nature. To the nervous system, therefore, he referred the effects of vitality, and to the nervous influence he attributed the production of two diseased states of the system, dissimilar and opposite to each other, to which he applied the terms of spasm and atony—the first expressing the condition of increased, the second, of diminished activity.

Upon this doctrine, Dr Cullen of Edinburgh laid the foundations of his system. Discarding, in the most positive manner, the merely mechanical powers of matter as accounting for the phenomena of vitality, and resting all his opinions upon the specific properties of the living body, he taught that the great agents in all the operations either of health or disease are the minute fibres of the nerves and muscles, which, he says, are the immediate cause, not only of sensation and motion, but of all the changes gradually effected in the internal economy of the system; that the most important of these changes are produced through the medium of the minute terminations of

the arteries, and that the action of these vessels was perfectly competent to produce it. It changes, however, both in the state of the fluids and solids. He adopted the spasm and atony of Helmont, but added so far upon their nature, as to connect them with the two conditions to exist at the same time in different parts of the system.

Soon after the promulgation of the views of John Brown, also of Edinburgh, appeared another equally novel and striking. He taught that every living being possesses a specific power of excitability, from which all its appropriate functions are in every circumstance, either external or internal, that can affect a living animal is an excitement or cause, and contributes to expend a portion of its excitability; that upon the proper action of these elements depends the due development of its powers; so that, whenever they are applied to an immoderate degree, the excitability is too quickly expended, the animal becomes exhausted, it falls into a state of indirect debility. But if, on the contrary, there should be a deficient stimulus, the powers of life become lowered by want of being called into play, and a certain loss or direct debility, ensues, and the excitability becomes preternaturally accumulated. Thus, when the animal suffers from the want of food, it falls into a state of direct debility; whereas, if the system be inordinately excited by a large quantity of wine, it is a state of languor follows from it, the condition induced is that of indirect debility—due to loss from defect, and the latter from excess of excitement. That the state of the body, as to excitability, is the same in kind, and can only vary in degree, but always invariable in the same individual, except it may depend upon the smaller or greater quantity of excitability called into action at different periods. Moreover, that the portion of excitability allotted to each individual was allotted to him at birth, and that this original stock cannot by any means be increased, but that it cannot be expended at more than a given rate without producing a diseased condition of the body, and that, if, from any cause, the rate is exceeded, a certain portion of time is requisite to restore the balance between the supply and demand; as the excitability resides both in the nervous system, and that its quantity in the different parts of the body exists always in the same proportion to each other, whereby whenever a becomes excited or defective, in any one organ, it likewise affects every other part, owing to the human system existing between them. Hence, he concluded, that all diseases may be divided into two great classes, either of excess or defect—or, as he calls them, sthenic or asthenic—of which the principal difference in each class consists in the parts which the disease is modified by peculiarities in the temperament, age, habits of life, &c., &c.

The system of the celebrated Brown is one of many respects, to that of Brown. He commenced by assuming the existence of a certain power, faculty attached to the living body, which he called the immediate cause of all the phenomena of life, and he gives the name of *spirit of animation*, or *vital power*. This resides both in the nervous system and is equally the origin of motion and sensation. It is called forth by the action of various external powers, and is capable of accumulation and retention, upon which states of excess or defect of a diseased train of action depend. There are two kinds of debility, either from defect or from excess of excitement. But he differs from Brown in not placing the portion of excitability, for he connects the sensorial power may be generated, but at the same time, by the nervous system, exactly as it is in

the purposes of life, by a process resembling evolution. Darwin divides diseases into four great series depending upon certain functions of the sensual power, which are irritation, sensation, volition, association.

One of the latest train of medical reasoning, or system of medicine, which has been proposed, is that of the doctrine of plethora, and which we shall attempt to describe. In this all the derangements of the animal economy are attributed to general partial fulness of the blood-vessels or *plethora*. The system is founded more upon the results of practical experience than from any imaginary views of the state of the animal economy. The great extent to which the system of depletion has been carried, first by Dr Rush and other practitioners in America and the West Indies, and latterly by others in different parts of Europe, has had a very powerful effect upon local opinions on all subjects, and has tended to reduce the whole of the practice of medicine to little more than a succession of evacuations, or an alternation in the different methods of abstracting the fluids from the human body. By this means a most beneficial effect has been produced both in the theory and practice of physic. The work in which this doctrine is presented in the most methodical and connected manner, is written by Dr Parry of Bath, and entitled "Elements of Pathology;" and the points he attempts to illustrate and establish are these:—That the system of the blood-vessels is that which is most entirely deranged, and from which nearly all disorders originate. That partly from the natural condition of the body, partly from the present acquired state of civilized society, these derangements generally proceed, in the first instance, from an excess in quantity, or the moving force of the blood: added to which, that our blood-vessels are peculiarly liable to a state of local plethora, or fulness—a state of parts which may occur even when there is a general deficiency in the quantity of the fluids. That this plethora may have its origin from two distinct causes; either from an increased force of the heart, or from the resistance of the vessels—but that, although the mechanical nature of these causes be nearly the same, and the mode of treatment be also in a great measure similar, that the state of the vital powers of the system, at least of the part affected, are totally opposite to each other. Lastly, Dr Parry endeavours to prove that the affections of the nervous system are entirely primary and subservient, and that these likewise arise from an excessive determination of the blood to the substance of the nerves themselves, and that the distinction between diseases arises principally from the parts that are affected; and that the character of their symptoms is determined, either by the particular structure of the organ, by the nature of the cause producing the disease, or by the peculiar state or constitution of the individual.

Among the newest systems, as the homœopathic system of Hahnemann (see *Homœopathy*), or that of M. Broussais, a Frenchman, who strives to trace all diseases to inflammation of the bowels, we must refer to publications of the authors, and to the medical dictionaries.—See Kurt Sprengel's *Geschichte der Heilkunde* (third edition, Halle, 5 volumes, 1827; translated into French, Paris, 1816); J. F. K. Richter's *Geschichte der Heilkunde* (Berlin, 1822, 11 vols.); Hamilton's *History of Medicine* (London, 2 vols., 8vo, &c.).

Among the various medical sciences, or those closely connected with them, and more or less requisite for a thorough knowledge of medicine, may be thus enumerated:—the whole range of natural sciences, including comparative anatomy and physiology, mineralogy, geology, botany, natural philoso-

phy, chemistry, &c.: psychology, which teaches the various phenomena of soul and mind: anatomy, which teaches the form and situation of the organs by the examination of dead bodies, and is divided into osteology, treating of the bones; syndesmolgy, of the ligaments; myology, of the muscles; splanchnology, of the intestines; angiology, of the vessels; neurology, of the nerves; and adenology, of the glands: organic physics, treating of the mechanical operations of the human body, the power, gravity, &c., of its parts: physiology, which treats of all the phenomena of life in connexion.\* Such is the basis of all those branches of science which may be more particularly called *medical*, and which we will now enumerate. The science of health, that is, of that in which it consists, its conditions, and its signs, is called *hygiene*, or as far as it relates to the regulation of the diet, *diætetics*. *Pathology*, on the other hand, is the science of disease, of that in which it consists, its origin, &c. *Nosology* treats of the various sorts of diseases, their origin and symptoms, and strives to arrange diseases into one whole. *Pathological anatomy* teaches the mechanical alterations and changes of structure. *Semiotics* teaches to infer from the various symptoms, the nature of the disease; *diagnostics*, to distinguish the symptoms of different diseases; and *prognostics*, to infer, from the past and present state of a disease, its future course. *Therapeutics* is the science of the cure of diseases, often divided into *general*, treating of the subject of cure in general, its character, &c., and *special*, of the cures of the particular diseases. *Surgery* treats of mechanical injuries, and the mode of relieving diseases and derangements by mechanical means. *Obstetrics* treats of the modes of facilitating delivery. *Materia medica* is the science of medicines, their external appearance, history, and effects on the human organization. *Pharmacy* teaches how to preserve drugs, &c., and to mix medicines. *Clinics* (q. v.), or medical practice, applies the results of all these sciences to real cases. We should mention, in this connexion, the history and literature of medicine, the history of diseases, a very interesting branch, political medicine, which is divided into medical police and forensic medicine, that branch which enables the physician to give to courts and other legal authorities proper explanations in regard to personal injuries, particular appearances of the body, &c., as whether a wound was mortal, how inflicted, whether a child was dead before born, &c. In many countries, physicians are appointed by the government for this purpose. We must last mention *midwifery*, as taught, in many countries, to women, who make a regular study and business of it. A student of medicine ought to be well versed in the two learned languages, and cannot dispense with a respectable knowledge of English, French, German, and Italian. Among the works which treat of medicine at large are *Dictionnaire des Sciences Médicales par une Société de Médecins et Chirurgiens* (Paris, Panckoucke, containing 60 vols., 1812 to 1822), and *Journal complémentaire du Dict. des Sciences Méd.* (from 1818 to 1824, 17 vols., still continued); *Encyclop. Wörterbuch der Medicin. Wissenschaften* (edited by the professors of the medical faculty at Berlin—Grafe, Hufeland, Link, Rudolphi, von Siebold, Berlin, vol. i., 1827); also Good's Book of Medicine.

*Medical Geography* is geography applied to medicine, treating all the subjects of geography which have any influence upon the health, the bodily structure, activity of mind, and the diseases of men. It is

\* Some add here, anthropochemie or the chemistry of the human body, the chemical composition of all its parts—a most important branch, but usually treated under general chemistry.

a science of great interest.—See *Geographical Nology* in (German), Stuttgart, 1823, by Schnurrer.

*Medical Topography* is the description of single places or tracts of country as to the circumstances which make them interesting in a medical point of view—the winds, rivers, springs, mountains, the sea, woods, plains, structure of the houses, way of living of the people, their amusements and customs; in short, every thing which affects the health of the inhabitants. Geographical situation, elevation, &c., belong to a complete medical topography. See *Metsler's Guide for the drawing up of Medical Topographies*, in German.

**MEDIETAS LINGUÆ**; a jury or inquest, whereof the one half consists of denizens, the other strangers, in pleas wherein the one party is a stranger.

**MEDINA**, or **MEDINA EL NEBI** (the city of the prophet); before the days of Mohammed, *Jathreb*, anciently *Iatrippa*; a city of Arabia, in Hedjas, 70 miles E. of Jembo, its port on the Red sea, 180 N. of Mecca; lon. 40° 10' E.; lat. 25° 13' N.; population about 8000. It is regarded by Mohammedans as sacred, from its containing the tomb of Mohammed. Most of the houses are poorly built, and the place is of no importance, except from its containing the sepulchre of Mohammed. This sepulchre is held in high veneration by Mohammedans, yet the visiting it is not considered necessary or highly meritorious, and Medina is much less visited by pilgrims than Mecca. Neither the tomb nor the mosque in which it is enclosed, is distinguished by any magnificence; but it was remarkable for an immense treasure of pearls, precious stones, &c., accumulated for ages by the contributions of rich Mohammedans, until it was pillaged by the Wahabees, a few years since. See *Mohammed*.

**MEDINA SIDONIA**, ALFONSO PEREZ GUZMAN, duke of; admiral of the armada. (q. v.) Philip II. received him, after his disaster, with unexpected favour. Medina died in 1615.

**MEDITERRANEAN SEA** (*Nostrum Mare*, *Inter-num Mare*, with the Romans); the large mass of waters between Europe, Asia, and Africa, which receives its name from its inland position, communicating with the great ocean only by the straits of Gibraltar. Its northern shore is irregular, forming large gulfs which have received separate names; between the western coast of Italy and the islands of Corsica and Sardinia, it is called the *Tuscan*, or *Tyrrhenian sea* (*Mare Inferum*); between Italy and Illyria and Dalmatia, the *Adriatic*, or *Gulf of Venice*; farther south to the west of Greece, the *Ionian sea* (the two latter formed the *Mare Superum* of the Romans); to the north-east of Greece, between Turkey in Europe and Nalolia (Asia Minor), the *Archipelago*, or *Egean sea*. Its southern shore is less indented. It receives the waters of the Black sea, by a current which sets constantly through the Dardanelles, and thus mingles the waters of the Danube, the Po, and the Nile, with those of the Dnieper and the Ebro. Its length from east to west is about two thousand miles; its general breadth varies from 7—800 to 4—500 miles; between Genoa and Biserta it is about 375 miles; between the southern part of Italy and cape Bon, not quite 200 miles. The principal islands of the Mediterranean are the Balearic isles, Corsica, Sardinia, Sicily, Elba, the Lipari islands, Malta, the Ionian isles, Candia (Crete) and Cyprus. (See these articles.) The winds are irregular, the tides variable and slight, rarely exceeding two feet of rise and fall, and the sea is generally short and rough. A strong central current sets into the Atlantic through the straits of Gibraltar; on each shore are superficial counter currents setting in from the ocean into the sea; but a

rapid under current sets out. In a common point of view, the Mediterranean is of the greatest use; its shores contain numerous celebrated ports, and its waters are covered with the ships of all the nations. The different maritime powers maintain a naval force in the sea, which has lately been infested with pirates. Its coasts were in some of the earliest civilized nations the Ithaca, Phœnicians, Carthaginians, Greeks and Romans. See *Steel's Chart of the Mediterranean*, London 1821.

**Mediterranean Pass**. In the times when Britain and the Barbary states, it used to be supposed that the subjects of the former should pass to or unmolested by the cruisers of those states, in order better ascertaining what ships and vessels belonged to British subjects, it was provided, that they should produce a *pass* under the hand and seal of the high admiral, or the lords commissioners of the admiralty. The passes were made out at the admiralty, containing a very few words, written on parchment with ornaments at the top, through which a scolloped indenture was made; the scolloped part was sent to Barbary, and being put in possession of the cruisers, the commanders were instructed to allow all persons to pass who had passes that were of these scolloped tops.

**MEDIUM** (Latin, *middle* or *mean*); a body the space or substance through which a body moves or acts. Thus air is the medium through which sound is transmitted, light passes, &c. A *transparent medium* is that which allows the free passage of light; a *refracting medium* is one which makes them aside in their course.

*Medium*, in logic. See *Syllogism*.

**MEDIUM, CIRCULATING**. See *Circulating Medium*.

**MEDLAR** (*mespilus Germanicus*); a small leucophaea tree, allied to and somewhat resembling the quince, and belonging to the natural family roseæ. The flowers are moderately large, white, and occur at the extremities of the branches; the first and peduncles are cottony; the fruit, in the autumn varieties, is large, and, before it is perfectly ripe, is an excessively austere and astringent one. The medlars do not ripen naturally on the tree, but are collected in the autumn, and spread upon a flat position. They have now a sweet, ruddy flesh which, however, is not to the taste of most people.

**MEDOC**; formerly a country of France, a western part of Guienne, between the Garonne and the sea, in the present department of the Gironde. A great part of it is covered with woods and marshes, along the Garonne, the soil is fertile, and produces excellent wines. See *Bordeaux Wine*.

**MEDULLA**, in anatomy; the fat substance which fills the cavity of a long bone. See *Bone* and *Marrow*.

*Medulla*, in vegetable physiology; the pith of plants, is lodged in the centre or heart of the vegetable body. In the parts most enclosed next to the root, or especially young growing stems or twigs, the medulla is usually of a pulpy substance, tolerably firm, though rather brittle. In some pale green, or yellowish, with a watery transparency the substance being very juicy. Its juice is abundant, but little, or not at all, of the peculiar flavour of the plant, they being more of the nature of sap, branches or stems more advanced in growth, the medulla is found of a drier, more white, and more cellular texture. In this state, it is well known the full grown branches of elder, the stems of rose &c. In these, it is dry, highly cellular, and is extremely light and compressible, though not elastic. In the greater number of plants, as in

are perceptible in the pith, but in some, entire vessels, conveying proper juice, are present, as in the gum elastic fig-tree, the proper juice of which is seen exuding from different points of the pith, in an horizontal section of the stem. Little is yet known, with certainty, concerning the functions of the pith. It appears, on the whole, to be a mere reiteration of the cellular envelop, and subservient to the vessels which surround, and occasionally pass through it.

MEDUSA. See *Gorgons*.

MEERMAN, JOHN, a Dutch scholar and statesman, born at the Hague, in 1753, was the only son of Gerard Meerman, known as the author of a *Theaurus Juris civilis et canonici*, and *Origines Typographice*, and who had been created baron of the German empire. The son received his early education at the Hague and at Rotterdam, and while hardly ten years old, translated and published, without the knowledge of his father, Molière's *Mariage Forcé*. He then studied at Leyden, at Leipsic under Ernesti, and at Gottingen under Heyne. After travelling through England, Italy, and France, he took the degree of doctor of laws, at Leyden. The number of his writings, on different subjects, proves his extensive knowledge, and his zeal for virtue and piety. In 1786, in company with his wife, he visited England, Scotland, and Ireland, Germany, Italy, and Northern Europe, and published full and accurate accounts of his travels, in eleven volumes. His time and labours were also employed in the service of the state, the church, and literary institutions. Under the reign of Louis Bonaparte, he was director of the fine arts and of public instruction in the kingdom of Holland. Some years before his death, the dignity of senator of France was conferred on him, and he was called to Paris. After the Restoration, he returned to his own country, and died in 1816. Besides his *Travels*, his *History of William, count of Holland*, and an edition with notes, of the *Histoire des Voyages faits par l'Empereur Charles V.*, by J. Vandenesse, deserve mention. As director of the arts and sciences, he also rendered important assistance in the preparation of the *Jaarboeken van Wetenschappen en Kunsten in het Koninkrijk Holland over de Jaren 1806—7*. His widow, an esteemed poetess, has written his life. His valuable library, the catalogue of which is a literary curiosity, was sold by auction, at the Hague, in 1824, and brought 171,000 Dutch guilders, 32,000 of which were paid for the manuscripts. The prices have been printed.

MEERSCHAUM. See *Magnesite*.

MEGERA; one of the Furies. See *Eumenides*.

MAGALONYX. See *Megatherium*.

MEGALOPOLIS (i. e. *large city*); a city of Arcadia, one of the largest cities of Greece, on the Helicon, containing many temples, a stoa, &c. The theatre of Megalopolis was the largest in Greece. The city was built at the suggestion of Epaminondas, after the victory of the Thebans at Leuctra, about 368 B. C., as a city of the Boeotian league, and was peopled from thirty-eight cities. It is, at present, the considerable place Sinano. Philopœmen, Polybius, and other distinguished men, were born here.

MEGALOSAURUS (Greek, *giant lizard*); an extinct species of lizard, of an enormous size, which, according to Cuvier (*Recherches sur les Ossements Fossiles*, vol. ii. part 2, p. 343), would be as large as a whale, if we assign to it the proportions which its characters indicate. It was discovered in England, by Mr Buckland, and has also been found in France and Germany.

MEGARA; a daughter of Creon, king of Thebes, given in marriage to Hercules, because he had delivered the Thebans from the tyranny of the Orchomenians. When Hercules went to hell, by order of

Eurystheus, violence was offered to Megara, by Lycus, a Theban exile, and she would have yielded to her ravisher, had not Hercules returned that moment and punished him with death. This murder displeased Juno, and she rendered Hercules delirious, so that he killed Megara and the three children he had by her, in a fit of madness, thinking them to be wild beasts. (See *Hercules*.) Some say that Megara did not perish by the hand of her husband, but that he afterwards married her to his friend Iolas.

MEGARA. See *Megaritis*.

MEGARIS, a small state of ancient Greece, west of Attica, occupied the upper and wider part of the isthmus of Corinth. The capital city, Megara, was rendered illustrious, not only by the firmness with which it maintained its independence, but also by a school of philosophy, founded by one of its citizens, Euclid, a disciple of Socrates. Pausanias (i. 40—44) enumerates its many splendid public buildings. See Reinganum's *Das alte Megaris* (Berlin, 1825).

MEGATHERIUM, or GIANT SLOTH; an extinct genus of the sloth family, of which fossil remains have been found only in America. Two species have been discovered, the *M. Cuvieri* and the *M. Jeffersonii*; the latter was first described by president Jefferson, under the name of *megalonyx*, or *great claw* (Transactions of the Americ. Phil. Soc., iv. 246). The megatherium unites some of the generic character of the armadilloes with some of those of the sloth; its size must have been equal to that of the rhinoceros. Three specimens of the first species have been discovered in South America, and one in Georgia. The only fragments of the second species hitherto discovered, were found in Green Briar county, Virginia, in a saltpetre cave. See Godman's *Am. Nat. History*, vol. ii. 173—201.

MEGRIM; a species of headache; a pain generally affecting one side of the head, towards the eye, or temple, and arising, sometimes from the state of the stomach, sometimes from rheumatic and gouty affections. In French it is called *migraine*, derived from *hemicrania*, from the Greek *ἡμι* (signifying, in compound words, *half*) and *κρανιον* (the *skull*). It affects chiefly persons of weak nerves.

MEHUL, STEPHEN HENRY, a celebrated musical composer, and member of the institute of France, born at Givet, in 1763, received his first lessons from a blind organist at his native place, and became such a proficient that, at the age of twelve, he was appointed joint organist to the abbey of Valledieu. The desire of improving his talents attracted him to Paris in 1779. He there studied under Edelmann, and afterwards, under Gluck; and, after the departure of the latter for Vienna, Méhul presented to the royal academy of music the opera of *Cora and Alonso*; but his *Euphrosine* and *Coradin* was first performed at the comic opera, in 1790. This was followed, at different periods, by *Stratonice*, *Irato*, *Joseph*, and many other operas, besides the ballets of the Judgment of Paris, *Dansomanie*, and *Perseus and Andromeda*. Méhul was one of the three inspectors of instruction at the conservatory of music, from its creation, in 1795, till its suppression, in 1815. He was then appointed superintendent of music at the king's chapel, and professor of composition at the royal school of music. He was chosen a member of the institute in 1796, and of the academy of fine arts in 1816, and was also a knight of the legion of honour. He died at Paris, 1817. Méhul read before the institute two reports *Sur l'Etat Actuel de la Musique en France*, and *Sur les Travaux des Elèves du Conservatoire à Rome*.

MEIBOM, JOHN HENRY (in Latin *Meibomius*), a celebrated physician, was a native of Helmstadt,

where he was born in 1500. After travelling in Italy, and taking his doctor's degree at Basil, he returned home, and occupied a medical chair in the university of Helmstädt. In 1626, he was appointed physician of Lubeck, where he died in 1655. His works are *Aurelii Cassiodori Formula Comitum Archiatrorum* (1668, 4to); *De Usu Flagrorum in Re medica et venerea*; *Jurjurandum Hippocratis, Gr. et Lat.*, with commentaries relative to the history of Hippocrates, his disciples, &c. After his death appeared his treatise *De Cerevisiis, Potibusque et Ebriaminiis extra Vinum aliis*.

His son, *Henry Meibom*, also a physician, was born at Lubeck in 1638, and became professor of medicine in the university of Helmstädt. In 1678, he was made professor of poetry and history. He was the author of numerous medical and anatomical dissertations, and distinguished himself by his investigation of the sebaceous glands and ducts in the eyelids, the valves of the veins, and the papillæ of the tongue. His principal historical publication, *Rerum Germanicarum Tomi tres*, is a collection of writers on German history. He also wrote many pieces concerning the dukes of Brunswick and Lunenburg, and, in 1687, he published *Ad Saxonie inferioris Historiam Introductio*. Henry Meibom died in 1700.

MEIBOMIUS, MARCUS, a learned philologist, born at Tonningen, in the duchy of Holstein, in 1630. Settling at Stockholm, he acquired the favour of queen Christina, whom he inspired with much of the same enthusiasm, with respect to the ancients, which possessed himself. Having prevailed upon his royal mistress to be present at a concert, which he proposed to conduct entirely upon the plan of the ancient Greeks, and at which professor Naudaus was to dance a Greek dance, the ridicule of some of the courtiers at the absurdity of the performance, excited his anger so violently, that, forgetful of the presence of the sovereign, he struck M. Bourdelot, a physician, who, as he fancied, encouraged it, a violent blow in the face. This indiscretion induced him to quit Sweden for Denmark, where he obtained a professorship in the college established for the education of the young nobility at Sorø, was eventually advanced to the rank of a royal counsellor, and made president of the customs. His inattention to the duties of his post soon caused his removal, on which he removed to Amsterdam, and became historical professor there, but lost this appointment, also, by his petulance in refusing to give lessons to the son of one of the principal burgomasters. After visiting France and England, Meibomius returned to Amsterdam, and died there, in 1711. His principal work is an edition of the seven Greek musical writers Aristoxenus, Euclid, Nicomachus, Alypius, Gaudentius, Bacchius, and Aristides Quintilianus, with an appendix, containing the *De Musica* of Martianus Felix. His other writings are *Dialogues on Proportions*, *On the Construction of the Trireme Gallies of the Ancients*, and an edition of *Diogenes Laertius* (2 vols., 4to).

MEINAU; a charming island in the beautiful lake of Constance, belonging to Constance, with fifty inhabitants and an ancient castle. It is much resorted to by travellers in Switzerland.

MEINERS, CHRISTOPHER, born at Ottendorf, kingdom of Hanover, in 1747, studied at Gottingen from 1767, and afterwards became one of the most valuable teachers there. His works are very numerous, on various subjects, and of unequal merit. As an academical teacher, his activity in organizing and promoting the prosperity of his university was untiring, and it is much to be regretted that his history of the university was left incomplete. His favourite study was the history of human civilisation, and particularly of religion, to which some of his earliest writings,

among them his *Historia Doctrinæ & Disputationis*, relate. His latest work on this subject, *Agræus Critische Geschichte der Religion* (three vols.; 1801), is, however, more defective a canon of criticism and clearness of arrangement than his previous writings. Some of his earlier works bear the impress of a judicious, calm, and sagacious thinker. From his writings on the study of religion, particularly from his learned treatise of the value of learning in the fifteenth and sixteenth centuries, a new Bayle may find materials for study of defence. A French translation of his work of the Origin, Progress, and Decline of Learning in Greece and Rome procured him election into the national institute. He died in 1810.

MEININGEN, SAXE (an German. *Erzherzogthum Meiningen-Hildburghausen*); a duchy in the western confederation, belonging to the ducal house of two Meiningen, of the Gotha branch of the Ernestine line. (See *Saxony*.) The population of the duchy is 130,500, on an area of 870 square miles, of which one half of which was acquired in 1825 by the extinction of the male Saxe-Gotha line. The duchy, in conjunction with the other princes of the Ernestine line, has the twelfth vote in the diet, as has by himself one vote in the *plénipotentiary*. The religion is Lutheran. In 1824, a new constitution was granted by the duke to the part of the province then under his government, advancing the prince to the ducal diet as a third estate. The contingent to the army of the confederacy is 1150 men, 750,000 guilders; debt, 2,500,000. The capital is Meiningen, with 4500 inhabitants, containing a large and handsome ducal palace, with a library of 24,000 volumes and the state archives. (See *Germany*.) Long. 109° 24' E.; lat. 50° 35' N.

MEIONITE. See *Scapulate*.

MEISSEN, the oldest city in the kingdom of Saxony, was built by the emperor Henry I. as a bulwark against the incursions of the Slavonians. It lies on the left bank of the Elbe, population, 4100. In the vicinity is a school, established by the elector Maurice, in 1543, in the building of the ancient Albrechtsmonastery. Lon. 12° 11' E., lat. 51° 19' N. The cathedral, an old monument of German art, is a remarkable building. The porcelain manufacture has been carried on here since 1710.

MEISSNER, AUGUSTUS GOTTLIEB, born at Meissen, in 1753, studied law and the belles-lettres at Leipzig and Wittenberg from 1773 to 1778, and died at Fulda, where he was director of the high seminaries of education, in 1807. He was also, for some time, professor of aesthetics and classical literature at Prague. His works were, at one period, very popular in Germany. A glowing imagination, an easy style, grace, wit, and a brilliant manner, united with a delicate tone of gallantry, were the causes of his success. His principal productions are comic operas in the French style; Sketches, a miscellaneous collection of anecdotes, tales, &c.; several humorous romances, as *Alcibiades*, *Bianca Caprice*, &c. He also translated Hume's History of England.

MELA, POMPONIUS; a geographer, who flourished during the first century of the Christian era. Little more is known of him than that he was a native of Spain, and the author of a treatise, in three books, in the Latin language, *De Sine Orbis*, containing a concise view of the state of the world, so far as it was known to the ancient Romans. Among the best and best editions of this work are that of A. de Valart, (Lugd. Bat. 1782, 8vo.), and the very complete one of C. H. Tschuckius (Leipzig, 1807, 2 vols., 8vo.), and the more copious one by Schert (Leipzig, 1816).

MELAMPUS; the son of Amythaon and Demeter.

brother to Bias. Fable relates many wonderful things of his skill in the healing and prophetic arts. serpents which, when a youth, he had taken under his protection and brought up, having licked his ears while he was sleeping, he found that they opened in such a manner that he was able to understand the voices of birds and insects, and could also to mankind every thing that these voices intimated concerning the future. Bias fell in love with his daughter, Pero, daughter of Neleus, king of Pylos, the elder of the two brothers, but he required as a nuptial present for his daughter, the herd of oxen belonging to Iphiclus, a Thessalian prince. Melampus took to steal the herd for his brother, but was detected and imprisoned. He, however, succeeded, in his prophetic art, in gaining the favour of Iphiclus, gave him his liberty, and sent the oxen as a present, to Bias. Melampus married Iphianassa, daughter of Proetus, king of Argos, and received her, as a dowry, a third part of the kingdom. The time in which he lived is unknown; he is generally considered, however, as having been a wise man who was well skilled in all the ancient mythology and who introduced the worship of several of the gods, together with the Eleusinian mysteries, into Greece, on which account he received divine honours.

MELANCHTHON, PHILIP, Luther's fellow labourer in the reformation, was born February 16, 1497, at Bretten, in the palatinate of the Rhine. His father, George Schwartzerd, was keeper of the treasury of the count palatine, and died in 1507, and his mother, Barbara, was a near relative of the cardinal Reuchlin. He was distinguished at an early age by his intellectual endowments. His rapid progress in the ancient languages, during his boyhood, made him a peculiar favourite with Reuchlin. On his advice, he changed his name, according to the custom of the learned at that time, from Schwartz-blackearth, into the Greek name Melanchthon, of the same signification, and, in 1510, went to the university of Heidelberg. Here he was preeminent in logical and philosophical studies, so that, in the year, he was deemed qualified for the degree of doctor of philosophy, and was made instructor in the young counts. But as this university denied him the dignity of master, on account of his youth, he went to Tübingen, in 1512, where, in addition to his studies, he devoted himself particularly to geometry, and, in 1514, after obtaining the degree of doctor, delivered lectures on the Greek and Latin classics. His profound knowledge is proved by a grammar, which he published about this time. The popularity of his lectures soon gained him universal esteem, and the great Erasmus himself gave him, in the praise of uncommon research, correct knowledge of classical antiquity, and of an eloquent style. He began to lament the loss of its chief ornament Melanchthon, being invited, on Reuchlin's recommendation, to Wittenberg, appeared, in 1518, at the university, in his twenty-second year, as professor of the Greek language and literature. His enlightened mind soon decided him in favour of the evangelical truth; and his judgment, ripened by classical study, his acumen as a philosopher and the uncommon distinctness and order of his views which spread light and grace over whatever he touched, the caution with which he advanced from doubt to certainty, and the steadfast zeal with which he held and defended the truth when found,—a combination of great qualities and merits, at all times rare, contributed greatly to the progress and success of the reformation, in connexion with Luther's ability, spirit, and enterprise. Melanchthon's character as a scholar, his mild, amiable character, his moderation and candour with which he treated

the opposite party, made him peculiarly suitable for a mediator. No one knew better than he how to soften the rigour of Luther, and to recommend the new doctrines to those who were prepossessed against them. His *Loci theologici*, which appeared first in 1521, opened the path to an exposition of the Christian creed, at the same time scientific and intelligible, and became the model to all Protestant writers of dogmatics. He urged decidedly, in 1529, the protest against the resolves of the diet of Spire, which gave his party its name. He drew up, in 1530, the celebrated Confession of Augsburg. This and the apology for it, which he composed soon after, carried the reputation of his name through all Europe. Francis I. invited him to France, in 1535, with a view to a pacific conference with the doctors of the Sorbonne, and he soon after received a similar invitation to England. Political reasons prevented him from accepting either of the invitations. He went to Worms in 1541, and, soon after, to Ratibon, to defend the cause of the Protestants, in the conferences commenced there with the Catholics. But, unfortunately, the wisdom and moderation, which he there manifested, failed, on account of the opposition of the papal legate, to produce the peace which he so earnestly desired; and while the reasonable part of the Catholics learned, on this occasion, to respect him more highly; he had to endure, from his own party, bitter reproaches, for the steps for effecting a compromise, upon which he had ventured after mature deliberation. The same thing happened to him, when, having been invited to Bonn, in 1543, by the elector Hermann of Cologne, he tried to introduce the elector's plans of reformation in a conciliatory spirit towards the Catholics. Meanwhile, neither Luther, nor any other of his friends, who knew his noble heart and upright piety, ever entertained a doubt of the purity of his intentions, or his fidelity to the gospel.

Much as Melanchthon had to suffer from Luther's vehemence, the friendship of these two noble-spirited men, agreeing in sentiment and belief, remained unbroken till Luther's death, whom Melanchthon lamented with the feelings of a son. A great part of the confidence which Luther had enjoyed, now fell to him. Germany had already called him her teacher, and Wittenberg revered in him its only support, and the restorer of its university, after the Smalcaldic war, during which he fled hither and thither, and spent some time in Weimar. The new elector, Maurice, also treated him with distinction, and did nothing in religious matters without his advice. But some theologians, who would fain have been the sole heirs of Luther's glory, could not forgive him, that love to Wittenberg had induced him to submit to this prince, who had rendered himself suspected by the whole Lutheran church, and that the Protestants nevertheless persisted in regarding him as one of the pillars of their faith. They attacked his dogmas, and raised suspicions of his orthodoxy. Melanchthon had indeed shown, in his negotiations with the Catholics, that many an ancient usage, and even a conditional acknowledgment of the papal authority, did not seem to him so dangerous as to Luther. Moreover, the gradual approach of his views (respecting the presence of Christ in the supper) to the Swiss reformers, was known, and the alteration which he had, in consequence, made in the article of the Augsburg confession concerning the supper, was censured by friend and foe. He also explained the doctrine of justification more definitely, and according to his convictions, more scripturally, both in the later editions of his *Loci theologici*, and in other public writings, and explicitly avowed his deviation from the Augustine system, by the assertion that the free

will of man must and could co-operate in his improvement,—as all will perceive who read his works with attention. His habit of continually advancing in his researches, and correcting his opinions, had, unquestionably, a greater share in this change than his natural timidity and love of peace; although, from the last cause, he often used milder language than was agreeable to the rigid Lutherans; but that from fear of man, or a weak spirit of compliance, he ever yielded in any essential point of evangelical truth, cannot be maintained. The introduction of the Augsburg Interim into Saxony, in which, after long deliberation, Melanchthon acquiesced in 1549, under conditions which averted the danger of a relapse into ancient abuses, seemed, to the more zealous, the most fitting occasion of assailing him. The vexatious disputes respecting the greater or less importance of indifferent matters, considered in religious ceremonies, in which he was involved by Flacius; the complaints which Osiander urged against him, in 1557, on account of his doctrine of justification; and, finally, the controversies respecting the co-operation of free will in man's improvement, in which Flacius engaged him shortly before his death, brought great trouble on his over-laboured and sensitive spirit. The investigation of his orthodoxy, which was instituted at Naumberg, in 1554, resulted in his entire justification; but the reconciliation which took place there with his enemies, was, nevertheless, merely apparent; and their opposition frustrated the last attempt, which he made in 1557, at a convention at Worms, in the name of his party, to produce a compromise with the Catholics. The unity of the church was, therefore, Melanchthon's last wish, when he died at Wittenberg, April 19, 1560, sixty-three years of age.

A son survived him, who inherited the virtues but not the genius of his father, and a daughter, married in Wittenberg. His eldest daughter died in 1547; his wife, in 1557. The over-anxious mind of this good and amiable woman had often saddened his domestic peace; but he was nowhere more amiable than in the bosom of his family. Modesty and humility were exhibited in his bodily appearance. No one, who saw him for the first time, would have recognised the great reformer, in his almost diminutive figure, which always continued meagre, from his abstemiousness and industry. But his high, arched, and open forehead, and his bright, handsome eyes, announced the energetic, lively mind, which this slight covering enclosed, and which lighted up his countenance when he spoke. In his conversation, pleasantries were intermingled with the most sagacious remarks, and no one left him without having been instructed and pleased. He loved to see society at his table, and was so liberal towards the needy, that he sometimes involved himself in embarrassments. His ready benevolence, which was the fundamental trait of his character, embraced all who approached him. Open and unsuspicious, he always spoke from the heart; piety, a dignified simplicity, and innocence of manners, generosity and candour, were to him so natural, that it was difficult for him to ascribe opposite qualities to any man; often deceived and abused, he was long in learning the arts and ignoble passions which so often stood in the way of his best intentions. But this unsuspecting, benevolent character, gained him the devoted love of his disciples. From all the countries of Europe, students flocked to Wittenberg, in order to assemble around him; and the spirit of profound and impartial investigation which he inculcated, had a beneficial influence long after his death; and his exertions to promote education in general are never to be forgotten. If, therefore, stronger energies and greater

deeds must be allowed to other distinguished men of his age, he will always be considered the most able, pure, and learned.

**MELANGES** (French, *variety*), signifies something particularly used in French literature in the title of miscellaneous works, as *Melanges de la grande Bibliothèque* (70 vols., Paris, 1773—78).

**MELANITE**. See *Garnet*.

**MELAS** (Greek, *black*); a word which was abbreviated, appears in many compounds and in English, as *melancholy*; chiefly, however, in scientific terms, botanical, zoological, mineralogical, and medical names.

**MELAS**; an Austrian general, who, in 1794, was employed as major-general, and as a lieutenant field-marshal on the frontier of the country of Treves. In 1793, he was named to the army of the Rhine, and, in March, 1796, to that of Italy, which he commanded for a short time; afterwards served under different generals, who succeeded him. In 1799, he was at the head of an Austrian army, which acted in concert with the Russians under Suwarrow. He distinguished himself at the battle of Cassano; was present at the battle of Trebia and Novi; beat Championnet at Genoa (November 3), and took Com. In 1802, he was at the battle of Marengo. He died in 1817.

**MELASSES**. See *Molasses*.

**MELCARTHUS**. See *Herodas*.

**MELCHISEDEK** (i. e. *king of righteousness*), called, in Genesis (xiv. 18), *king of Salem, and priest of the Most High God*. He is there said to have offered Abram bread and wine, after the victory of the latter over the four kings, to have received him, and to have received tithes of the booty. He is called (Heb. vi. 20; vii. 1—22) *a high priest after the order of Melchisedek*. The meaning of the expression, and the dignity, *kingdom*, &c. of the *chisedek*, are not satisfactorily explained by others.

**MELCHITES** (Syrian, *Rapallites*), were those given, in the sixth and seventh centuries to those Oriental Christians who, in compliance with the imperial orders, submitted to the decree of the council of Chalcedon. (q. v.) It was in a later period, given to the Jacobites as *Melchites*, and to the Copts in Egypt, who were separated from the Roman church.

**MELCHTHAL**, ARNOLD OF (10th cent.), was the place of his residence in the canton of Lucerne, one of the founders of the freedom of Switzerland. The governor of the district, under Albert of Austria, having caused a yoke of oxen to be attached to the plough of Arnold's father, a rich peasant of the tyrant added the words, "They may drag the plough themselves, if they will." Arnold, exasperated by the insult, was about to depart, and saved himself by flight; but he experienced the vengeance of the tyrant, who deprived him of sight. Arnold now came with two friends, Furst and Stauffer, and they bound themselves by an oath, on a night of November, 1307, at Grutlin (Roth), on the lake of Waldstetter (see *Lucerne*), to procure the deliverance of their country. They proceeded in his own canton to defend the cause of the oppressed, and with the assistance of the community, it, at every sacrifice, in the enjoyment of the emperor was expressly agreed not to adjust the canton of Lucerne in his possessions and his rights, and to free from the German empire, and not to deliver up to the abbots, or the nobles. They were as far as possible, shaking the hands of the territorial officers, since their only object was to deliver themselves and their posterity from the inheritance from their forefathers. See *Switzerland*.

MELEAGER; the son of Ceneus, king of Calydon; according to some, of Mars and Althæa. After the birth of the child, the Parce came to Althæa, and determined his fate. Clotho said that he would be magnanimous, Lachesis that he would be valiant, and Atropos that he should not die until the brand which lay upon the hearth was consumed. Althæa immediately snatched the brand from the fire, and reserved it with the utmost care. Meleager soon distinguished himself as a hero. He accompanied the Argonautic expedition, gained the prize for throwing the discus at the funeral games established by Acæstus, and distinguished himself particularly at the Calydonian hunt. (See *Calydon*.) He killed the boar, and gave the skin of the animal, as the highest token of regard, to his beloved Atalanta, who had given the beast the first wound. The others of his mother, Idrus, Plexippus and Lynceus, conceiving themselves to have been injured, robbed Atalanta of the skin, while she was returning home to Arcadia. Meleager, unable to persuade them to restore the skin, slew them all three. Althæa, furious with grief for the death of her others, seized the fatal brand, and cast it into the fire; upon which Meleager died in great agony. His story is differently told by other writers. Two excellent statues of Meleager have come down to us from antiquity.

MELEAGER, a Greek poet, in the first century before the commencement of the Christian era, a native of Gadara in Syria, and a resident at Tyre, died in the isle of Cos, whither he had removed in the latter part of his life. His compositions, consisting of short pieces, or epigrams, are among the most beautiful relics preserved in the Grecian Anthology (v.), and, in the simple elegance of their style and sentiment, are finely contrasted with the productions of more recent bards in the same collection. Some of the verses of Meleager have been translated into English by the reverend R. Bland and others, in editions from the Anthology.

MELIDA, or MELITA; a small island of the Adriatic, on the coast of Dalmatia; lon. 17° 30' E.; 42° 45' N. From 1822 to 1825, loud explosions were repeatedly heard on the island, attended with considerable agitation, and supposed to be occasioned by the shocks of an earthquake, or by discharges of some kind of gas formed in the interior of the earth. (See Partsch's *Account* (in German, Vienna, 1826).) Some writers consider it the place of Paul's shipwreck. See *Melita*.

MELETIANS; the followers of Meletius, bishop of Lycopolis, in Egypt, who, in the year 306, during the persecution under Diocletian, had a dispute with Peter, bishop of Alexandria, on the subject of the re-admission of some lapsed Christians, which (Meletius) rejected. Meletius was deposed by Peter, but paid no attention to the sentence, even assumed the right of consecrating priests, which, by the laws of Egypt, belonged to the bishop of Alexandria. His gravity and piety drew many to his party. The dissensions by caused among the Egyptian clergy lasted, after the council of Nice had forbidden Meletius to exercise the episcopal duties, till almost the end of the fourth century. The Meletians joined with the Arians against the party of the orthodox Athanasius, bishop of Alexandria, but without adopting their views. Schismatics of the same name arose at Antioch, when Meletius of Melitene, in Armenia, chosen bishop (360) by the Arians, and afterwards driven out, on account of his orthodoxy, was considered him as the true bishop, and followed him alone, when he returned in the reign of Julian, were called *Meletians*. At his death,

which took place in the year 381, this name was discontinued; yet the dissensions of the church at Antioch did not cease till a later date. The Roman and Greek churches reckon this Meletius among their saints.

MELICERTA, MELICERTES, or MELICERTUS; son of Ino, or Leucothea, who, being persecuted by Juno, leapt into the sea. (See *Ino*, and *Athamas*.) Melicerta was changed into a sea-god, and received the name of *Palæmon*. Sailors revered him as their protector, who carried their shattered ships safely into port, whence he was called *Portumnus* (q. v.) by the Romans. He is commonly represented with a large blue beard, a key in his hand, or hanging over his shoulder, and swimming. The chief deities of the sea are described riding in a chariot. In many seaport towns, temples were erected in honour of him, and, on the island of Tenedos, children were offered to him.

MELILOT (*melilotus officinalis*); a leguminous plant, somewhat resembling clover, and formerly referred to that genus. It is a native of Europe, and is now naturalized in some parts of the United States. The root is biennial, and gives out one or several stems, which attain the height of one or two feet, and are provided with trifoliate leaves; the leaflets are serrated on the margin; the flowers are small, numerous, pale yellow, and are disposed in long racemes in the axils of the superior leaves; they are succeeded by an almost globular pod, containing a solitary seed. When fresh, the plant has a slight odour, which becomes stronger, and very pleasant, after it has been dried. It seems to render hay more agreeable to the taste of cattle, who, in general, and more especially sheep and goats, are very fond of it. It is adapted to every kind of soil, but, in general, is not cultivated separately. The celebrated Gruyere cheese is said to owe its excellence partly to the flowers and seeds of this plant, which are bruised and mixed with the curd.

MELINDA; a kingdom of Zanguebar, on the eastern coast of Africa, in the Indian ocean, having the kingdom of Magadoxo on the north, and that of Zanzibar on the south. Little is known of the country, except its sea-coast. The mass of the population is composed of native negroes, but the rulers and principal people are Arabs. *Melinda*, the capital, is situated on the Indian ocean, in lat. 3° 15' S., lon. 40° 5' E. It is large, well built, and contains a great number of mosques. Its commerce is considerable, and is in the hands of Asiatics, being rarely visited by Europeans. The exports are gold, copper, iron, and wax; provisions are abundant, and easily obtained. Vasco de Gama was well received here, but the arrogance of the Portuguese soon became insupportable to the inhabitants; a war ensued, and the city was captured by the Portuguese, who retained possession of it till 1698, when it was retaken by the Arabs.

MELISSUS, son of Ithagenes, and a native of Samos, flourished about 444 B.C. He is distinguished in the history of his country as a statesman and naval commander. As a philosopher, he is considered as belonging to the Eleatic (q. v.) school; he differed from Parmenides in many points, by developing the Eleatic system with still stricter consistency. Parmenides allowed credit to experience obtained through the senses; Melissus represented all existence as one eternal, unlimited, and immutable, yet material being, and rejected the experience obtained through the senses; he also maintained that nothing could be known, with certainty, respecting the gods.

MELITA. It is related in the Acts of the Apostles, that Paul, on his voyage to Rome, was cast

away on the island of Melita. This has generally been considered to be the island of Malta, the ancient name of which was *Melita*; but some critics have attempted to prove that it was an island on the coast of Dalmatia, in the Adriatic. See *Paul, Meleda*, and *Malta*.

MELLITE, or HONEYSTONE, in mineralogy, takes its name from its yellow colour, like that of honey. Its primitive figure is an octahedron. The crystals are small; their surface is commonly smooth and shining. Internally, it is splendid. It is transparent, passing into the opaque, and possesses double refraction. It is softer than amber, and brittle. Specific gravity 1.5, to 1.7. It becomes electric by friction. It occurs on bituminous wood and earthy coal, at a single locality in Thuringia. It consists of 46 mellitic acid, 16 alumine, and 38 water.

MELLITIC ACID; discovered by Klaproth in the mellite, or honey stone. It is procured by reducing the mellite to powder, and boiling it with about seventy-two times its weight of water; the alumine is precipitated in the form of flakes, and the acid combines with the water. By filtration and evaporation, crystals are deposited, in the form of fine needles, or in small, short prisms. It is composed of carbon, hydrogen and oxygen. In combination with the earthy alkalis and metallic oxides, it forms compounds called *mellates*.

MELMOTH, WILLIAM, son of an eminent advocate, author of a work entitled *The Great Importance of a Religious Life*, was born in 1710, and received a liberal education, but does not appear to have studied at either of the universities. He was bred to the law, and, in 1756, received the appointment of commissioner of bankrupts, but passed the chief part of his life in literary retirement at Shrewsbury and Bath. He first appeared as a writer about 1742, in a volume of *Letters*, under the name of *Fitzosborne*, which have been much admired for the elegance of their style, and their calm and liberal remarks on various topics, moral and literary. In 1757, this production was followed by a translation of the *Letters of Pliny the younger* (in 2 vols. 8vo), which has been regarded as one of the happiest versions of a Latin author in the English language, although somewhat enfeebled by a desire to obliterate every trace of a Latin style. He was, also, the translator of Cicero's treatises *De Amicitia* and *De Senectute*. These he enriched with remarks, literary and philosophical, in refutation of the opposing opinions of lord Shaftesbury and Soame Jenyns, the first of whom maintained that the non-existence of any precept in favour of friendship was a defect in the Christian system, while the second held that very circumstance to form a proof of its divine origin. His last work was memoirs of his father, under the title of *Memoirs of a late eminent Advocate and Member of Lincoln's Inn*. Mr Melmoth died at Bath, in 1799, at the age of eighty-nine.

MELO-DRAMA (from the Greek *μελος*, song, and *δραμα*); a short, half-musical drama, or that species of drama in which the declamation of certain passages is interrupted by music. It is called *monodrama* if but one person acts, *duodrama* if two act. It differs from the opera and operetta in this, that the persons do not sing, but declaim, and the music only fills the pauses, either preparing or continuing the feelings expressed by the actors. Generally, the subject is grave or passionate. The German melo-drama is of a lyrical character, with comparatively little action. Objections have been made to it on this ground, that it affords too little variety; that the music only renders it more monotonous, because it expresses only the feeling or passion already expressed in words; that the course of feeling is interrupted

by the music; and that the actor is embarrassed during the music, being obliged to fill the pause in recitation by pantomimic action. The first idea of a melo-drama was given by J. J. Lanner, in his *Pygmalion*. The proper inventor of the German melo-dramas, however, was a German who named Brandes, who wished to prepare a lasting pact for his wife, who excelled in the declamation of free poetry. Brandes arranged a *caste of feeling*, after the fashion of *Pygmalion*. G. Schütz, composed the music for it. This kind of pleasure met with great applause, and Götter was to Medea; others followed. But the music in two pieces was not of long continuance, because of the want of action. In modern times, some (such as, for instance, of Schiller) have been not so much in melo-dramatic way. Parts of operas have been, likewise, composed in this way, as, for instance, the scene of incantation in Weber's *Freischütz*, and some scenes in the *Precious*, by the name Schütz. In his Lectures on Dramatic Art and Literature, on "Under melo-drama, the French do not understand like the Germans, a play, in which music is interlarded with instrumental music as the poem, but drama in high-flown prose, representing some romantic scene, with suitable decorations and a chinery." Such was its character from 1750 to 1800 and this sort of exhibition became popular in other countries. On the inclination for a still better might be built, for most melo-dramas were less and extravagant. The new melo-dramas, which have proceeded from the boulevard, are full of rude dramas, in which music is interlarded, and then, in order to heighten the effect.

MELODY; in the most general sense of the word, any successive connexion or series of tones, in a more narrow sense, a series of tones which pass near by their succession and variety; and, in a still narrower sense, the particular use or use of a vocal piece. By melody, in its general meaning, the composer strives to express particular feeling or disposition, which, in pieces of the voices, is chiefly effected by the principal melody, chief voice, to which the other voices, with the melodies, are subordinate.\* The elements by which the composer is enabled to express beautiful feelings of sentiments and feelings, by means of the vocal connexion of tones, are the variety of tones in themselves, and the variety of transitions from one to another, to which is still to be added the variety of the movements in which music proceeds. Melody and rhythm are the true sources of delight, and where they are wanting, the purity of harmony remains without effect. The very essence of melody consists in expression. It always to express some internal emotion, and one who hears it, and is able to understand language, must understand the feeling which it expresses. But as melody, in the hands of the composer, work of art and taste, it is necessary that, where other work of art, it should form a whole, in which the various means are combined to produce

\* In regard to the relative importance of melody and harmony, we may observe, that it is in vain to talk of either as harmony and melody as more or less important, without impartial judgment acknowledging the superiority of melody. Though Rousseau, in the beginning of the century, and the melodists and harmonists, declared harmony to be the most Gothic barbarism, necessary only for the support of the most scientific monotonies of French music, — though music, what thought is for poetry, or drawing for the rhythm is, in music, what metre is in the art of versification, in drawing; in the harmony, to be the variety of its elements, the failure of its combinations, that of its rests at the end of phrases, and otherwise, all, or most of which it alone can give to instruction, in the last of mental requisite of the enjoyment of the science of music, the logic of the art of music.

effect. This whole must be such that the hearer is kept constantly interested, and can give himself up, with pleasure, to the impressions which he receives. The particular qualities of a good melody are these :—It is indispensable that it should have one chief and fundamental tone, which receives proper gradations by a variation adapted to the expression. This can be effected only by letting the tones proceed according to a certain scale ; otherwise there would be no connexion between them. The chief tone, again, must be appropriate to the general idea to be expressed, because every kind of tone has its own character, and the finer the ear of the composer is, the better will he always discover the tone wanted. Very short melodies, or tunes, consisting merely of a few chief passages, the same fundamental tone may maintain throughout, or perhaps pass over into its *dominante* ; but longer pieces require change of tone, at the harmony also may receive modifications according to the feeling. Thirdly, a good melody requires rhythm. A regular advance from one part to another, whether in music or motion (dancing), affects the mind agreeably, whilst irregular progress tires. The love of rhythm is one of the most general feelings of human nature. We find rhythm everywhere, and to music it is quite indispensable, tones without regularity of measure would distract and weary. Hence music is divided into sections or bars ; these, again, are divided so as to prevent monotony, without disturbing the general regularity. Accents are given to certain parts, and it is possible greatly to assist the expression of feeling, by slow or quick, gay or solemn movements, and by the variety of accents, and the even or uneven measure. Much might be said respecting the skill of a composer to adapt his music, not only, in general, to the idea to be expressed, but also, in song, to the single words, to the pause, which the hearer wishes for, or the speedy movement, which he desires in other places ; the necessity of the repetition of words, the feeling is long and varied, while the word is short ; the childish impropriety of representing, as we have by imitative sounds, the ideas presented by particular words, which is much the same as if a claimer, every time that he pronounces the word *an*, were to endeavour to represent the roaring of waves ; the parts where dissonances are admissible, &c. ; but it would carry us much beyond our limits.

**MELOE.** These insects have the elytra, or wing covers, short, extending about half the length of the body ; the antennæ, or feelers, are jointed, of which the middle divisions are the largest. They are slow and heavy in their motions, and have a large head. They feed on the leaves and flowers of different vegetables. They do not occur in as large numbers as some of the genera closely allied to them, as *Cantharis* and *lytta*, but have in common with these insects, the property of blistering the human skin. Linnæus included the well-known and valuable Spanish fly in this genus ; but it was very properly separated from it by Fabricius, and placed in the genus *cantharis*, of which it forms the type. (*Cantharides*.) These insects emit an oleaginous, viscid, or reddish liquid, from some of the joints of their feet. In some parts of Spain, they are used in place of the cantharides, or mixed with them. Mr Reille is of opinion that these are the insects spoken of by ancient writers, under the name *buprestis*, and which they considered as very injurious to the vine, and as often causing their death when swarmed with their food. The *M. proscarabæus*, which is native of Europe, exudes a large quantity of a oily matter, which has been highly recommended as a stimulating application to poisoned wounds.

There are many species of this genus found in the United States of America, the largest of which is the *M. purpureus*. Mr Say has described many of them in the Journal of the Academy of Natural Science, to which we refer for detailed accounts of them. As these insects possess the vesicating property to a considerable degree, they might, where they occur in sufficient quantities, form a very good substitute for the cantharides of the shops.

**MELON.** The musk-melon is the product of the *cucumis melo*, a rough, trailing, herbaceous plant, having rounded, angular leaves, and yellow, funnel-shaped flowers. Though originally from the warmer parts of Asia, its annual root and rapid growth enable it to be cultivated in the short summers of northern climates ; but the flavour of the fruit is much heightened by exposure to a hot sun. The form of the fruit is, in general, oval, but varies exceedingly in the different varieties, which are very numerous. In some, the external surface is smooth ; in others, rugged or netted, or divided into segments by longitudinal grooves. The odour of the fruit is delightful. The flesh is usually yellow, and has a sugary and delicious taste. It has been cultivated in Europe from time immemorial.

The water-melon is the product of the *C. citrullus*, a vine somewhat resembling the preceding, but having the leaves deeply divided into lobes. It is smooth, roundish, often a foot and a half in length, and has a thin, green rind. The seeds are black or red. The flesh is usually reddish, sometimes white, icy, and has a sugary taste ; it melts in the mouth, and is extremely refreshing. It is cultivated, to a great extent, in all warm countries of both continents, and even in high northern latitudes. It serves the Egyptians for meat and drink, and is the only medicine used by them in fevers. These two plants, together with the cucumber, gourd, &c., belong to the natural family *cucurbitaceæ*.

**MELOS** (now *Milo*) ; an island of the Ægean sea, about sixty square miles in extent, with about 500 inhabitants. The island has a wild, uncultivated appearance, sulphureous springs abound, and volcanic exhalations burst from the rocky and sterile soil. Oil, wine, cotton, and fruits, such as oranges, melons (which derive their name from the island), figs, &c., are produced. Lon. 24° 22' E. ; lat. 36° 40' N. The chief town, Milo (formerly Melos), is now occupied by only forty families. In 1814, baron von Haller discovered on the site of the ancient city, an amphitheatre of marble, with numerous fragments of statues and columns, which were bought by the present king of Bavaria. In the vicinity, a Greek peasant has since found (1820), a statue of Venus, with three Hermes, figures three feet high, which were bought by the marquis de la Rivière, French ambassador at Constantinople, and are now in the royal museum at Paris. The Venus is of the finest Parian marble (*Grechetto*), to which the colour of ivory has been given ; it is called by the Parisian amateurs, *la Femme du Torse*. Though much injured, the head is not separated from the body. As she held the apple, she was a *Venus victrix* ; and she appears to have been modelled after the naked Venus of Praxiteles. See Clarac's and de Quincy's Descriptions (Paris, 1821) ; others have supposed it to be a statue of Electra. See *Venus*.

**MELPOMENE** ; one of the Muses, daughter of Jupiter and Mnemosyne. She presided over tragedy. Horace has addressed the finest of his odes to her, as to the patroness of lyric poetry. She was generally represented as a young woman with a serious countenance. Her garments were splendid ; she wore a buskin, and held a dagger in one hand, and in the other a sceptre and crown.

MELROSE, the name of a parish and village in Roxburghshire, Scotland. The parish is about seven miles in length, and five in breadth, and is distinguished for its beauty and fertility. Population in 1831, 4,339. The village (distant from Edinburgh thirty-five miles south), is small, and derives its main importance from the ruins of the celebrated abbey of Melrose, situated in its vicinity. Melrose abbey is, on all hands, admitted to be the most beautiful of all the ecclesiastical ruins in the island. It was built by king David, in 1136. The public attention was first particularly drawn to it by Sir Walter Scott, in his *Lay of the Last Minstrel*, and it has since become a favourite subject of the poet, the painter, and the tourist.

MELUN (*Melodunum*); an ancient city of France, on the Seine, nine leagues from Paris; lat.  $48^{\circ} 32'$  N.; lon.  $2^{\circ} 39'$  E. It has some manufactures, and three annual fairs; population, 7,250. The Seine, here forms an island, and is crossed by two stone bridges, one of which has an arch of 159 feet ten inches span, and fourteen feet ten inches high. Louis XIV. and his court resided here some time during the war of the Fronde. Abeillard established his school here in the twelfth century.

MELUSINA; a well known personage in the fairy world; according to some, a kind of female sea-demon, according to others, the daughter of a king of Albania, and a fairy. Paracelsus makes her a nymph. She is generally considered a powerful fairy, who married a prince of the house of Lusignan. She was, like most fairies of her time, obliged, on certain days of the month, to take the shape of a fish, at least in respect to half her body; she had, therefore, strictly enjoined the prince, her husband, with whom she lived most happily in the castle of Lusignan, to leave her alone on such days, and not to dare to look at her. The prince, however, like other mortals, was curious, entered her chamber on one of the forbidden days, and saw her in her state of metamorphosis. She immediately uttered a shriek, and disappeared; but ever after, when an important death was about to take place in the family of Lusignan, and when they became related to the kings of France, also in the royal family, she appeared in a mourning dress, on a lofty tower of the castle, until, at last, this tower was demolished, in 1574, by order of the duke de Montpensier, which she strove in vain to prevent, by frequent apparitions. Various versions of this story exist.

MELVIL, SIR JAMES, a statesman and historian, was born at Hall-hill, in Fifeshire, in 1530; and, at the age of fourteen, became page to Mary, queen of Scots, then wife to the dauphin of France. After having travelled and visited the court of the elector palatine, with whom he remained three years, on the accession of Mary to the throne of Scotland, Melvil followed her, and was made privy counsellor and gentleman of the bed-chamber, and continued her confidential servant until her imprisonment in Lochleven castle. He was sent to the court of Elizabeth, and maintained correspondences in England in favour of Mary's succession to the English crown. He died in 1606. He left a historical work in manuscript, which was published in 1683, under the title of *Memoirs of Sir James Melvil, of Hall-hill, containing an impartial Account of the most remarkable Affairs of State during the last Age*.

MELVILLE ISLAND, in the Polar sea; one of the north Georgian group, between  $74^{\circ}$  and  $76^{\circ} 50'$  N. lat., and  $105^{\circ} 40'$  and  $113^{\circ} 40'$  W. lon. It is surrounded with enormous masses of ice, and the only vegetation is moss. Captain Parry discovered it in 1819, and passed the winter of 1819—20 there. Its only inhabitant in winter is the white bear. See *Polar Seas*.

Melville is also the name given to a kind of the Indian ocean, near the northern end of New Holland; lat.  $11^{\circ} 20' 8''$ ; lon.  $137^{\circ} 0' 1''$ . It was discovered by captain King, in 1810, and, in 1811, the British government formed a company for the purpose of establishing commercial relations with the Malays. The settlement received the name of *King's Cove*, and the harbour that of *Port Jackson*.

MEMEL; the most northern town of Prussia at the mouth of the Dange, on the borders of N.  $55^{\circ} 42'$  N.; lon.  $21^{\circ} 3'$  E.; population 10,000. The harbour is good, safe, and strong; about 600 ships enter and leave it yearly. Its exports are corn, hemp, skins, with flax and wool from Lithuania.

MEMEL. See *Nirnium*.

MEMNON, according to fable, was the son of Tithonus and Aurora, and the brother of Memnon. According to some, he was king of Egypt, according to others, of the Assyrians. He had a splendid palace and a labyrinth at Abydos, a lion and another palace at Sais, in Egypt, which he received from him the epithet of *Memnonius*. From king of Troy, induced him, by the promise of a golden vine, to come to his assistance against the Greeks. He performed many valiant exploits, and was slain by Achilles himself, by whom he was finally taken to Jupiter, being requested by Aurora to honour him with some peculiar mark of distinction, and a numerous crowd of birds to arise from his tomb (Memnonides), which annually returned to him and fought with each other, thus celebrating his funeral games in honour of his memory. At his death, he was worshipped as a hero. At Thebes on the left bank of the Nile, in the ruins of the Memnonium (palace of Memnon), are still to be seen the remains of colossal statues of Memnon. One of these uttered a joyful sound when the sun rose and shone upon it, but when the sun set, it uttered a mournful. It is also related, that it had oracles and gave out oracular responses in seven words. The sound was heard till the fourth century after Christ. Descriptions of this sounding stone, on accounts of the sounds heard, are to be found in 6 works of Pausanias and Strabo, and among many authors, in those of Porphyry and Lucian. There have been many hypotheses concerning its nature and also concerning the story of Memnon. Pliny in his *Amalthæa*, (vol. ii. page 175), shows that Memnon and Phænomenus were the same, and that the statue of Memnon represents a hero worshipping the sun, a king or priest saluting the god. It is deposited in the British museum, in 1810, the first of such a statue of Memnon, which is called a younger Memnon.

MEMOIRS, HISTORICAL, are writings in which a person sketches the events experienced and witnessed by himself to furnish matter for his own reflection. They differ from a complete history, in the limited nature of their subject, and in the only particular events or persons to which the authors, too, have either taken part personally, or the scenes described, or have been connected with the actors so intimately as to have derived thorough information from the most trustworthy sources. We do not expect from them the same precision of arrangement and style which is required in a regular historical work. They are, however, more valuable in proportion as this license is not abused, and as the relation is easy without being negligent. They furnish the inquirer with interesting materials, and often expose the most secret motives, disclose the whole character of events, which are often but mentioned, entirely omitted, or merely hinted at in

timid circumspection, in books of general history, develop details of secret plots and projects, of which he result only is noticed in history, and, under certain limitations, they are entitled to a high degree of credit. They are no less interesting on account of showing the individual character of the writer in his manner of relating events, even supposing his views to be partial, limited, and affected by party prejudices. These qualities give them an advantage over other kinds of historical writings, since they satisfy the mere reader for amusement, as well as the student; the more by the pleasing negligence of their manner, and the other by the value of their materials; although they must be acknowledged, that to the latter, the historical criticism of them is a difficult task. Xenophon's Anabasis, and Caesar's accounts of his campaigns (Commentaries) are generally considered as the oldest memoirs. But France is the native soil of memoirs, in the historical literature of which country they form a national peculiarity, and where, since the end of the fifteenth century, they have been continually becoming more numerous. The memoirs of Philip de Comines, Brantôme, Sully, Joinville, and Cardinal de Retz (see these articles, and *French literature*) deserve particular notice. The memoirs of Martin du Bellay, which relate to the period from 1513 to 1516 (Paris, 1569, folio, edited in a modern form, by Lambert, Paris, 1753, 7 vols.), are distinguished for vigorous delineation and the national feeling which they display. Blaise de Montluc, in his memoirs, 1521—69, called, by Henry IV., *the tier's bible* (Paris, 1746, 4 vols., 12mo), is no less frank in revealing his own faults than in commending his own virtues; lively and striking description blended with the verbosity of an old soldier. Michel de Castelnau is distinguished for the highest intellectual honesty, for the soundness, maturity, and firmness of his judgment, as much as for his dignified and tranquil manner (Memoirs, 1559—70, 4 vols., 1731, 3 vols. folio). Margaret of Valois, wife of Henry IV., relates the history of her life (1561—81) with much, although somewhat superficial elegance and feminine adroitness, but at the same time, evident good nature (Hague, 1715, 2 vols.). Richelieu (1550—1600, Amsterdam, 1623, 3 vols. fol.), with all his partiality, his effrontery, his freedom borrowing on calumny, and his far-fetched and often intelligible expressions, is an author of great importance for the history of his times, but must be read with caution. Rochefoucault, a nobleman of acute wit, and a deep knowledge of human nature, who described the disturbances of the Fronde (1648—52) with the hand of a master, has, notwithstanding his obvious partiality, great clearness and sagacity in narrating and developing events, and shes admirable portraits of the principal persons described, and is distinguished for animation and natural colouring. His style (which is often, little propriety, compared to that of Tacitus) is manly, and sententious, and his language measured, and concise (Trevoux, 1754, 2 vols., 12mo; Paris, 1804, 18mo). Among the numerous French memoirs, those of D'Étrées, Marquis de Torcy, and Montyon are of especial interest for diplomatists. We may mention also those of St Simon, Duclos, and madame D'Épinay. These may be added also the works of the Abbé de La Rivière, the Confessions of Jean Jacques Rousseau, the Correspondence of Grimm and of La Harpe; the Diary of Bachaumont; the *Considérations sur la Révolution* of Madame de Staël; Garat's *Journal* on Suard and the eighteenth century; the *Mémoires* of Madame Laroche Jacquelin, &c. In a few years there have been begun in Paris great collections of memoirs, which are of high

importance for libraries and collectors; the first is *Collection complète des Mémoires relatifs à l'Histoire de France depuis le Règne de Philippe Auguste jusqu'au Commencement du dix septième Siècle; avec des Notes sur chaque Auteur et des Observations sur chaque Ouvrage, par Monsieur Petitot*. This collection consists of forty-two volumes, and is completed. The second is a sequel and continuation of the preceding, under the title of *Collection. etc. depuis l'Avènement de Henri IV., jusqu'à la Paix de Paris, conclue en 1763*, and is also arranged and edited by Petitot. The twenty-third volume of this second series appeared in April, 1823. Foucault has published these two collections with the greatest typographical accuracy. The third is a collection of memoirs, published and unpublished, relating to the French revolution. This collection, edited by Berthier and Barrière, may be regarded as a *chef d'œuvre* of its kind. Each work is preceded by a life of the author; the very correct text is accompanied by emendatory, explanatory, and supplementary notes, and at the close are generally the *pièces justificatives*, selected and arranged with great judgment and accuracy. This collection is to consist of the memoirs of Madame Roland, the marquis of Ferrières, Linguet, Dusault, the marquis of Bouillé, baron Besenval, Bailly, Rabaut de St Etienne, Mounier, the marquis of Lally-Tollendal, the marquis of Rochambeau, Riouffe, Rivarol, Louvet, general Puits, the marquis of Montesquiou, Camille Desmoulins, St Just, Necker, Cléry, Mallet du Pan, Barbaroux, Fréron, Garat, general Dophe, Beaumarchais, Ramel, Aymé, Marmontel, Phelippeau, Antonelle, Courtois, Dumouriez, madame Campan, Morellet, and many others. The fourth collection contains memoirs of the British revolution, translated and edited by Guizot. This collection is also conducted with great judgment, accompanied with introductions, notes, and documents, and deserves a place in every large library. It consists of twenty-five volumes, containing the memoirs of Thomas May, or the history of the Long Parliament, those of Sir Philip Warwick, who flourished in the reign of Charles I., Sir John Berkley, Thomas Herbert and Price, Hollis, Fairfax, Huntington, Mrs Hutchinson, Ludlow, lord Clarendon, Burnet, Temple, Reresby, and others. In German, works of this description are very rare. Among the most interesting of these are memoirs of the margravine of Bayreuth, the sister of Frederic the Great, originally written in the French language; and among the most important are those of Frederic the Great himself, *Histoire de mon Temps* (History of my own Times), &c. Dohm's highly valuable Memoirs are of a different class from those of which we treat here, consisting of a series of historical treatises upon the events of our times, in which Dohm has taken more or less part, or respecting which he has made investigations. The banishment of Napoleon to St Helena, and his subsequent death, have given rise to the publication of many works of this sort, from which we have obtained valuable accounts of the most important occurrences and most prominent characters of our times. (See the works mentioned in the article *Napoleon*.) Among the British works of this description, we may mention Burnet's Memoirs of his own Times; Pepys's Memoirs, comprising his Diary, from 1659 to 1669; Evelyn's Memoirs, comprising his Diary from 1641 to 1705—6; Horace Walpole's Memoirs of the last ten Years of George II.; Calamy's Life and Times (1671 to 1731); Life of Edward, Lord Herbert of Chesham; Melvil's Memoirs relating to the Reigns of Queen Elizabeth, Mary, Queen of Scots, and James I.; Lilly's Life and Times, from

1002 to 1681; Memoirs of Gilbert Wakefield; Clarendon's Life; Life of Richard Watson, Bishop of Llandaff; Memoirs of William Hayley,—all written by the men whose names they bear. Among the American works of this class are Winthrop's Journal; Mather's Magnalia; Memoirs of R. H. Lee; of Josiah Quincy, Jun., &c.; Jefferson's posthumous works contain much information respecting the writer's times. Short literary treatises, especially those papers read before literary societies, are also called *memoirs*. The *Mémoires de l'Académie des Inscriptions et Belles-lettres* (Memoirs of the Academy of Inscriptions and Belles-lettres), and other collections of this description, are well known.

MEMORIAL; in general, whatever serves to preserve the memory of any thing; also a written representation; e. g. state papers, in which the usual forms, or most of them, especially sealing, are wanting. They are much used in the negotiations of ministers, sometimes in the replies and resolutions of sovereigns, for the purpose of avoiding all disputes in regard to rank and ceremonials. There are three sorts: 1st. those containing an address, date, and signature, in which the writer speaks in the first person, and the second person is used of the individual addressed (memorials in the form of letters); 2d. those which also contain an address, date, and signature, but in which the writer speaks of himself in the third person (memorials proper); 3. those which have no address, and often no signature, and in which the writer and the person addressed are both spoken of in the third person (notes). These papers are either written and delivered by the court or by the minister. To the former belong (a.) circulars to the diplomatic corps, that is, to the foreign agents residing at a court, communicating or requesting information, commonly with the signature of the secretary or minister of foreign affairs; also (b.) the answer of a court to the memorial of an ambassador; (c.) notes to a foreign cabinet, or to a foreign ambassador, to be transmitted with a memorial to his cabinet. The communications of ambassadors to the courts at which they reside, are generally memorials, but sometimes mere notes; letters are no longer in use.

MEMORY; that faculty of the mind which receives ideas presented to the understanding, retains them, and exhibits them again. Its power of recalling ideas is sometimes exercised with, sometimes without, an act of volition. Its strength may be greatly increased by judicious culture. Memory is so prominent a faculty of the human mind, so necessary, both in the most common transactions and the highest pursuits of life, so curious in its phenomena, and, at times, so capricious, that it formed, even at a very early period, a subject of philosophical research; and, to a certain degree, more is known about it than about any other faculty; but, beyond this point, it is as incomprehensible as the other powers. It is easy to talk of the memory in metaphors, to speak of impressions on the mind, storehouse of ideas, recalling ideas, &c.; but what is this impression? where is it made? and what does the word signify, as applied to the mind? It is only a metaphor, taken from the physical world, to illustrate an act of the mind, which we can only represent figuratively, and reasoning on this assumption is but a *petitio principii*. Without memory, the whole animal world would be reduced to a kind of vegetative life, such as we observe in the lowest classes of animals, because any variety of action presupposes memory.\* Memory embraces all ideas received

from the senses, as well as those of an *idoneus* character; all feelings and emotions. The power of memory, in regard to ideas received from the senses, appears to be strongest in regard to the sense of sight. We are able to remember a map, a picture, a landscape, a face, with great exactness and truth. The ideas of sounds are, on the contrary, less retained, the memory of them being in proportion as the sense of hearing is more acute. Music may be remembered very distinctly, as well as with the three other senses, music being no taste. The ideas received through the sense of touch would appear, cannot be remembered with the same liveliness. It is difficult to recall, with distinctness, the pain of a wound; we usually see little more than the general idea of a wound; particular tastes are not easily recalled. These, indeed, may give the memory considerable power even over these ideas. The taste of his best dishes dwells in the mind of the gourmet, as without making pretensions to gourmandise, one may remember, with some distinctness, the taste of a canvass-back deck. The impressions of our are still more difficult to be recalled, but, however, though the unaided memory does not recall ideas received from the senses, yet the external means of comparison are presented, and are immediately revived. If we stand a tree in the spring, we recollect, at once distinctly, the taste of the same in the last spring, and are able to distinguish confounding flowers of different kinds, to our taste. These phenomena are easily explained from the fact that the ideas presented by sight or hearing, the two nobler senses, admit most easily of abstraction, and are, therefore, most easily reproduced in the mind, without the physical aid of comparison. Ideas received from objects of sense are sometimes curiously associated with ideas, so that the recurrence of the first immediately recalls the second. The cases are more striking, when, in proportion as the organs are more acute, it is instance, any thing very agreeable, a disagreeable, happens to a man at the very moment of hearing a peculiar sound, or eating something of a peculiar taste, the recurrence of the first taste, involuntarily awakens, in some instances, an agreeable or disagreeable feeling. We can testify from experience, that the ideas are sometimes so instantaneous as to prevent the case from being recognised till after considerable reflection. Considering how many ideas, or emotions, we receive through the senses, and how necessary it is that we should readily remember them, to avoid the necessity of moving constantly in the same circle, it is of the greatest importance that our senses should be cultivated

which would seem most naturally to be so. One of the most striking instances of this is the case of the African slave, who, when he is sold, appears not to be in the least affected by the loss of his country, and the loss of his freedom. Mr. de Boscage, who has been for many years in the interior of Africa, has observed that the slaves, when they are sold, are not in the least affected by the loss of their country, and the loss of their freedom. Similar facts are reported by travellers in the interior of the African continent, and in the interior of the African continent. It would appear, then, that the sense of smell is not so much affected by the loss of its object, as the sense of sight, and, by degrees, constructed their minds with which their young, being accustomed to the same objects, are not so much affected by the loss of their country, and the loss of their freedom. Indeed, observations would seem to be necessary, attributing to them, not merely the power of memory, but even the power of combining ideas to produce new ones. For instance, my dog, when I am walking, and I am walking, take a walk, and, having been often in the habit of taking a walk, and, having been often in the habit of taking a walk, steals quietly out of the room, and goes to the corner which I generally pass on my walk, and sits down. This animal, not only memory, but also the power of combining ideas, is not so much affected by the loss of its object, as the sense of sight, and, by degrees, constructed their minds with which their young, being accustomed to the same objects, are not so much affected by the loss of their country, and the loss of their freedom.

\* It often seems necessary to refer to the memory certain acts of animals, which most people sweepingly refer to that unsatisfactory principle termed *instinct*. Even those actions of ani-

mal which would seem most naturally to be so. One of the most striking instances of this is the case of the African slave, who, when he is sold, appears not to be in the least affected by the loss of his country, and the loss of his freedom. Mr. de Boscage, who has been for many years in the interior of Africa, has observed that the slaves, when they are sold, are not in the least affected by the loss of their country, and the loss of their freedom. Similar facts are reported by travellers in the interior of the African continent, and in the interior of the African continent. It would appear, then, that the sense of smell is not so much affected by the loss of its object, as the sense of sight, and, by degrees, constructed their minds with which their young, being accustomed to the same objects, are not so much affected by the loss of their country, and the loss of their freedom. Indeed, observations would seem to be necessary, attributing to them, not merely the power of memory, but even the power of combining ideas to produce new ones. For instance, my dog, when I am walking, and I am walking, take a walk, and, having been often in the habit of taking a walk, and, having been often in the habit of taking a walk, steals quietly out of the room, and goes to the corner which I generally pass on my walk, and sits down. This animal, not only memory, but also the power of combining ideas, is not so much affected by the loss of its object, as the sense of sight, and, by degrees, constructed their minds with which their young, being accustomed to the same objects, are not so much affected by the loss of their country, and the loss of their freedom.

ice, and discriminating, which, undoubtedly, depends, in a great measure, upon their original organization;\* but they are susceptible of great improvement by exercise; and it is to be lamented that this point is so much neglected in the case of most children educated in populous cities. How dull are their senses allowed to grow, and how dull are the impressions they give! The importance of strengthening the memory, by direct exercise of its powers, undoubtedly great, and we may be allowed to say few words respecting what we conceive to be a popular error at the present time. It is constantly stated that the highest aim of education is the development of the intellect, and that mere learning of heart tends to benumb the active powers; the consequence of which has been that the strengthening of memory is, generally speaking, much neglected. The suggestion is undoubtedly true, to a certain extent, and it would be well if it were acted on, in the particulars, more consistently than it is. The item of recitation, for instance, whereby the relation of the words of an author is substituted for understanding of his meaning, is carried to an unusual extent in the United States of America and Britain. In all branches of study where the great object is that the pupil should form clear conceptions of himself, as in history, geography, natural philosophy, &c., the mere committing and reciting stated cannot fail to be injurious; but, on the other hand, memory is a most important instrument both in the business of life and for self-improvement; certainly, it is one of the chief objects of education to perfect an instrument which is capable of being strengthened by exercise almost beyond conception. Such exercise, however, is greatly neglected in the present systems of education. The books of reference which now abound make strong powers of memory apparently less necessary than formerly, it should be remembered that the circle of knowledge is expanding every day, that the connexion of various branches of science becomes more intimate every day, and that every day more knowledge is required for a given standing in society. Classification is the great basis of memory. From early childhood, we involuntarily classify: but effort is used to give the memory the full advantage which it may derive from this process. It would be possible for a shepherd to remember every one of his sheep, as is so commonly the case, had not his separated the generic marks from the special, by similarities and differences (*classification*), and the means of giving each animal a particular character. A similar process takes place in the case of the learned historian. How could such a man remember without classification, the wide range of facts which he must embrace? He has acquired the habit of giving to every remarkable fact its proper place in the series of his knowledge, where it is firm-ly maintained by the relations in which it stands to other facts, as affirming or contradicting them. This process of classification takes place, in different degrees, in every step of the intellectual scale, from the simplest philosopher to the lowest labourer; and the memory of every one, in any branch, is the better for more he classifies. A sailor, who cares not for politics, and hears of a change of ministry, has never seen it, perhaps, the next day, because it was an isolated fact, totally unconnected with the

general train of his ideas; whilst the same sailor, perhaps, would recollect with the greatest distinctness, how one of his brother sailors off such an island, made himself the laughing-stock of his comrades by his clumsy way of handling a rope. A courtier will remember for life a smile from his monarch, or an unfortunate sneeze which befell him at court when taking a glass of wine. It is all-important, then, that instructors should habitually accustom their pupils to this process of classification; but, at the same time, the process of committing to memory is also one which should be steadily pursued. The poets and orators afford the pupil abundant materials for such an exercise.—The caprices of memory are often curious. How strange are the associations of ideas which often take place in spite of us! Every one must have experienced such. The writer recollects a melancholy instance in the case of an insane boy in an hospital, whose derangement was referred to an irreverent association with the name of God, which occurred to him while singing a hymn in church, and of which he could not divest himself, the painfulness of the impression making it occur to him more forcibly every time he sung in church, till his reason became unsettled. We might observe, in this connexion, that, though man can recall past impressions by a voluntary act of recollection, yet he has not the same power to divest himself of the impressions which the memory presents, by a voluntary forgetfulness. This effect he can produce only by fixing the attention on some other subjects, which may withdraw the attention from the disagreeable idea. Another caprice of the memory is, that we often try to think of a name, or fact, for days and weeks, without success, and, after the lapse of some time, when we have given up the attempt, it all at once suggests itself, when we are occupied with something totally different. To say that the mind continued its action unconsciously suggests no idea. We cannot compare the process to that of a dog separating itself from the chase in which the rest of the pack are engaged. We have no conception of such divided action of the intellect. Any metaphorical explanation of this sort conveys no more idea than Plato's explanation of weak and strong memories, comparing them to wax tablets, the one harder, the other softer. The progress of philosophy has been much hindered by mistaking illustrations for arguments. Another circumstance worthy of remark is, that old people lose their memory for recent events, but retain a lively impression of the events of their earlier years, which shows how much remembrance is influenced by the liveliness of the original impression. It is remarkable, also, how some people, in consequence of diseases, mostly nervous fevers and apoplexies, lose the memory of everything which happened before their sickness, as if it were erased from the Platonic tablet. The editor found his memory seriously impaired after a wound which had severed several nerves in the neck, but by degrees, though slowly, he recovered it. Instances have been recorded in which some sudden and violent derangement of the system has produced a state in which a person would remember everything which happened the day before yesterday, &c., but nothing which happened yesterday, &c. The next day, the relative periods of memory and forgetfulness continuing the same, he would remember what, the day before he had forgotten. We might add to those views of the importance of memory which naturally suggest themselves to every one, that nations, as well as individuals, often suffer from a deficiency of recollection. How often must the historian exclaim, Oh, if they would but remember! —For the various modes of considering this faculty,

\*diversity is obvious to all, in the different sensibility of persons to the pleasures of music and the beauties of nature. The same diversity undoubtedly exists in the small taste, &c.; and perhaps it is not uncharitable to say that the indulgences of the table are, in some instances, less from philosophical moderation, than from weakness of the organ of taste.

see the popular treatises on intellectual philosophy. Locke's chapter on Retention is not very satisfactory. Dugald Stewart's treatise is principally valuable as a practical elucidation of its operations. For instances of persons distinguished for memory, see *Mnemonics*.

**MEMPHIS**; an ancient city of Egypt, whose very situation has been a subject of learned dispute. According to Herodotus, its foundation was ascribed to Menes, the first king of Egypt. It was a large, rich, and splendid city, and the second capital of Egypt. Among its buildings, several temples (for instance, those of Phtha, Osiris, Serapis, &c.) and palaces were remarkable. In Strabo's time (A. D. 20) it was, in population and size, next to Alexandria. Edrisi, in the twelfth century, describes its remains as extant in his time. "Notwithstanding the vast extent of this city," says he, "the remote period at which it was built, the attempts made by various nations to destroy it, and to obliterate every trace of it, by removing the materials of which it was built, combined with the decay of 4000 years,—there are yet found in it works so wonderful as to confound the reflecting, and such as the most eloquent could not describe." Among the works specified by him, are a monolithic temple of granite thirteen and a half feet high, twelve long, and seven broad, entirely covered within and without with inscriptions, and statues of great beauty and dimensions, one of which was forty-five feet high, of a single block of red granite. These ruins then extended about nine miles in every direction, but the destruction has since been so great, that, although Pococke and Bruce fixed upon the village of Metrahenny (Moniet-Rahinet) as the site, it was not accurately ascertained until the French expedition to Egypt, when the discoveries of numerous heaps of rubbish, of blocks of granite covered with hieroglyphics and sculpture, and of colossal fragments scattered over a space three leagues in circumference, seem to have decided the point. See Jacotin's account of the ruins in the *Description de l'Egypte*.

**MEMPHIS**; a town in the north-west angle of Mississippi, upon a high bluff, which used to be called *Fort Pickering*. This bluff is a fine, commanding elevation, rising more than 100 feet above the level of the river. At the lowest stages of the water, strata of stone coal are disclosed in the bank. The situation of Memphis seems very favourable to the growth of a town, and is now rapidly increasing. Opposite, in Arkansas, is the uncommonly high, rich, and extensive bottom land of Wappanocka. Back of the town, is a fertile, rolling country, heavily timbered, and abounding in springs. The bluffs extend three or four leagues above and below the town. Here is the great road for crossing from Tennessee and Alabama to Arkansas. These facts indicate that the local situation of Memphis is peculiarly favourable to health, and to extensive commerce.

**MEMPHREMAGOG**; a lake in North America; the greater part of it lies in Canada, and the rest in Vermont. It is thirty-five miles long and three miles wide, and communicates with the river St Lawrence by the St Francis. It receives the rivers Black, Barton, and Clyde from Vermont. Lat. 45° N.; lon. 72° 8' W.

**MEN**; an abbreviation of the Italian *meno*, less, used in music, as *men. presto*, less rapid; *men. allegro*, less lively.

**MENACHANITE**. See *Titanium*.

**MENAGE**, GILLES, a distinguished man of letters of the seventeenth century, was born at Angers, 1613, in which city his father was king's advocate. After finishing his early studies with great reputation, he was admitted an advocate, and pursued his occu-

pation for some time at Paris: but, dissatisfied with that profession, he adopted the ecclesiastical character, so far as to be able to hold new water, upon cure of souls. From this time he turned himself solely to literary pursuits; and, we are told, he entered into the house of cardinal de Retz, and was himself known by his wit and erudition. He afterwards took apartments in the cloister of St. Louis, and held weekly assemblies *Ménages* of the kind, where a prodigious memory resided in conversation entertaining, although pedantic. He was, ever, overbearing and opinionative, and gave to life in the midst of petty hostilities. He saved himself from being chosen to the French academy by a witty satire, entitled *Requête des Docteurs*, directed against the Dictionary of the academy, which died in Paris, 1692, at the age of seventy. His principal works are *Dictionnaire des Mots*; *Origines de la Langue Française*; *Langue Italienne*; *Miscellanea*, a collection of poems in prose and verse; an edition of *Laquais* with valuable notes; *Remarques sur la Langue Française*; *Anti-Baillet*, a satire, *comparaison des Philosophes*; *Philosophes*; *Philosophes*, *Grecques*, et *Françaises*. He has also a *Ménagiana* was compiled from notes of conversation, anecdotes, remarks, &c., which is one of his most lively works of the kind.

**MENAI STRAIT**, and **BRIDGE**. This is a strait about half a mile across, between the island of Anglesea and the coast of Wales. See account of the celebrated bridge over the strait, *Bridge*.

**MENANDER**, the most celebrated of the writers of the new comedy, born at Athens, is said to have drowned himself in the sea, in consequence of his rival Philomenus, who, at the age of fifty-two years, though some accounts ascribe to death to accident. The superior excellence of his comedies, the number of which number, he acquired him the title of prince of the poets. We have, unfortunately, nothing but a few fragments remaining of them. See *Les Fragments de Menandre et Philomenis Reliquæ*. Among the fragments, they are also contained in *Herodotus*, *Plutarch*, *Terence* imitated and translated him, and in comedies, we may form some idea of the character of Menander. See *Drama*, and *Greek Literature*.

**MENASSEH BEN ISRAEL**, a celebrated rabbi, was born in Portugal, about 1604. He was a rich merchant, who, suffering cruel persecutions, and person, from the inquisition, fled to Amsterdam. At the age of eighteen, the son was married and expounder of the Talmud, at Amsterdam. In 1632, he published, in the Spanish language, the first part of his work entitled *Consolator*. In the next year, a Latin version was printed by J. Vossius, entitled *Consolator*. In 1644, he published *Locorum S. Scripturae pars prima*, and in 1645, *Opus ex retractis et revolutis*. In 1646, he published *magna Industria ac Fide*. In 1647, he published three editions of the Hebrew Bible. At the time of Cromwell, he went to England, for his nation more privilege than he enjoyed there. He died at Amsterdam. His other works are the Talmud *Coram*, *De Resurrectione Mortuorum*, &c. He was dedicated to the parliament of England, the object of which is to prove that the Jews were settled in America; and an Appendix to the Hebrew language, printed at Amsterdam.

**MENDELSSOHN**, Moses, a celebrated philosopher, was born Sept. 12, 1728, at Berlin.

Germany. His father, Mendel,\* a schoolmaster, though very poor, gave him a careful education. He himself instructed the boy in Hebrew and the rudiments of Jewish learning; others instructed him in the Talmud. The Old Testament also contributed to the formation of his mind. The poetical books of these ancient records attracted the boy particularly. The famous book of Maimonides, *More Nebuchim* (Guide of the Erring), happening to fall into his hands, excited him first to the inquiry after truth, and a liberal way of thinking. He studied this work with such ardent zeal, that he was attacked by a nervous fever, which, carelessly treated, entailed upon him for the rest of his life a crooked spine and weakness. His father was unable to support him any longer, and he wandered, in 1742, to Berlin, where he lived several years in great poverty, dependent on the charity of some persons of his own religion. Chance made him acquainted with Israel Moses, a man of philosophical penetration, and a great mathematician, who, persecuted everywhere on account of his liberal views, lived also in utter poverty, and became a martyr to truth. This man often argued with Mendelssohn on the principles of Maimonides. He also gave him a Hebrew translation of Euclid, which thus awakened in the youth a love for mathematics. A young Jewish physician, named Kisch, encouraged him to study Latin, and gave him some instruction in this language; doctor Gumpert made him acquainted with modern literature. Thus he lived without any certain support, all the time occupied with study, until a silk manufacturer of his name, at Berlin, Mr Bernard, appointed him tutor of children. At a later period, he took him as a partner in his business. In 1754, he became acquainted with Lessing (q. v.) who had a decided influence upon his mind. Intellectual philosophy became now his chief study. His *Letters on Sentiments* were the first fruit of his labours in this branch. He became now also acquainted with Leibniz and Abbt, and his correspondence with the latter is a fine monument of the friendship and familiarity which existed between these two distinguished men. Mendelssohn contributed to several of the first periodicals, and now and then appeared before the public with philosophical works, which acquired him fame, not only in Germany, but also in foreign countries. He established no new system, but was, nevertheless, one of the most profound and patient writers of his age, and the excellence of his character was enhanced by his modesty, uprightness, and amiable disposition. His disinterestedness was without limits, and his beneficence ever ready as far as small means would allow. He knew how to combine with delicacy the zealous efforts of Lavater to convert him to Christianity; yet his grief being himself so unexpectedly assailed, brought on a severe sickness, which long incapacitated him for scientific pursuits. In his *Jerusalem, oder religiöse Macht und Judenthum*, he gave to the world, in 1783, many excellent ideas, which were misunderstood, partly because they attacked prejudices of centuries. In some morning lessons he expounded to his son, and other Jewish scholars, the elements of his philosophy, particularly the doctrine of God. He therefore gave the name *Morning Hours (Morgenstunden)* to the work naming the results of his investigations, of which his ill health prevented him from completing more than a volume. F. H. Jacobi having addressed to him his *On the Doctrine of Spinoza*, he thought

himself obliged to defend his deceased friend Lessing against the charge of having been an advocate of Spinoza's doctrines. Without regarding the exhausted state of his health, he hastened to publish his piece entitled *Moses Mendelssohn to the Friends of Lessing*, and became, in consequence, so much weakened, that a cold was sufficient to put an end to his valuable life, in 1786. The German language is indebted to him, in part, for its development. In the philosophical dialogue, he made the first successful attempt among the writers of his country, taking for his models Plato and Xenophon. Besides the works already mentioned, he wrote *Philosophische Schriften* (Berlin, 1761 and 1771, 2 vols.); his masterpiece, *Phædon*, or *On the Immortality of the Soul*, which has gone through several editions since 1767, and has been translated into most modern European languages; and his translation of the five books of Moses, the Psalms, &c.

MENDEZ-PINTO, FERDINAND, a celebrated traveller, was a native of Portugal. In 1537, he embarked in a ship bound for the Indies; but, in the voyage, it was attacked by the Moors, who carried it to Mocha, and sold Ferdinand for a slave. After various adventures, he arrived at Ormus, whence he proceeded to the Indies, and returned to Portugal in 1558. He published a curious account of his travels, which has been translated into French and English. Mendez-Pinto, from his excessive credulity, has been classed with the English Sir John Mandeville, and both are now chiefly quoted for their easy belief and extravagant fiction.

MENDICANT ORDERS. See *Orders, Religious*.

MENDOZA, DON DIEGO HURTADO DE; a Spanish classic, distinguished, likewise, as a politician and a general, in the brilliant age of Charles V. He was descended from an ancient family, which had produced several eminent scholars and statesmen, and was born at Granada, in 1503. As a poet and historian, he contributed to establish the reputation of Castilian literature; but his public life displayed nothing of the finer feelings of the poet, the impartial love of truth of a philosopher, or the clear discernment of the experienced statesman. Stern, severe, arbitrary, haughty, he was a formidable instrument of a despotic court. When don Diego left the university of Salamanca, where his talents, wit, and acquirements had rendered him conspicuous, he served in the Spanish army in Italy, and, in 1538, Charles V. appointed him ambassador to Venice. In 1542, he was imperial plenipotentiary to the council of Trent, and in 1547, ambassador to the court of Rome, where he persecuted and oppressed all those Italians who yet manifested any attachment to the freedom of their country. As captain-general and governor of Sienna, he subjected that republic to the dominion of Cosmo I. of Medici, under Spanish supremacy, and crushed the Tuscan spirit of liberty. Hated by the liberals, held in horror by Paul III., whom he was charged to humble in Rome itself, he ruled only by bloodshed; and, although constantly threatened with the dagger of assassins, not only for his abuses of his power, but also on account of his love intrigues in Rome, he continued to govern until 1554, when he was recalled by Charles V. Amidst the schemes of arbitrary power, Mendoza employed himself in literary labours, and particularly in the collection of Greek and Latin manuscripts. He sent learned men to examine the monastery of Mount Athos, for this purpose, and took advantage of his influence at Soliman's court for the furtherance of the same object. After the abdication of Charles V., he was attached to the court of Philip II. An affair of gallantry involved him in a quarrel with a rival, who turned his dagger upon him. Don Diego threw

\* a very customary among the German Jews to add the *shon* (son) to the name of the father. A similar usage among many Asiatic tribes, and among nations in their early stages.

him from the balcony of the palace into the street, and was, in consequence, thrown into prison, where he spent his time in writing love elegies. He was afterwards banished to Granada, where he observed the progress of the Moorish insurrection in the Alpujarra mountains, and wrote the history of it. This work is considered one of the best historical writings in Spanish literature. He was also engaged till the time of his death (1575) in translating a work of Aristotle, with a commentary. His library he bequeathed to the king, and it now forms one of the ornaments of the Escorial. (For a criticism on his writings, the reader may consult Bouterwek and Sisoni.) His poetical epistles are the first classical models of the kind in the literature of his country. They are mostly imitations of Horace, written in an easy style, and with much vigour, and show the man of the world. Some of them delineate domestic happiness and the tenderer feelings with so much truth that we can with difficulty recognise the tyrant of Sienna. His sonnets are deficient in elevation, grace, and harmony. His *canzons* are often obscure and forced. In the Spanish forms of poetry, *redondillas*, *quintillas*, and *villancicos*, he surpassed his predecessors in elegance of diction. His satires, or *burleascas*, were prohibited by the inquisition. As a prose writer, he forms an epoch; he has been called the father of Spanish prose. His comic romance, written while he was yet a student,—*Vida de Lazarillo de Tormes* (Tarragona, 1536, continued by Luna, Saragossa, 1652),—has been translated into foreign languages. The hero is a cunning beggar, and the life of the various classes of the people is described in it with great spirit and truth. The numerous imitations of Lazarillo de Tormes produced a peculiar class of writings in Spanish literature—*gusto picaresco*, so called. (See *Spanish Literature*.) His second great work, the History of the War of Granada, may be compared with the works of Livy and Tacitus. Though Mendoza does not pronounce judgment, yet it is easy to see, from his relation, that the severity and tyranny of Philip had driven the Moors to despair. The Spanish government would not, therefore, permit the printing of it till 1610, and then only with great omissions. The first complete edition was published in 1776. His complete works also appeared at Valencia, in 1776.

**MENEDEMUS OF ERETRIA**, in Eubœa; founder of the Eretrian school of philosophy, which formed a branch of the Socratic. He was a pupil of Plato and Stilpo, and ascribed truth only to identical propositions. Diogenes Laertius wrote his life. He is said to have starved himself to death because he could not engage Antigonus to restore freedom to his country.

**MENELAUS**; son or grandson of Atreus, and brother of Agamemnon. From his father-in-law, Tyndareus, whose daughter Helen he married, he received the kingdom of Sparta. He was at Crete, for the purpose of dividing the inheritance left by his paternal grandfather, Cretus, when Paris carried off his wife Helen, with a part of his treasures, and some female slaves, and conveyed them to Troy. On learning this, Menelaus, with Palamedes, went to Troy, to demand satisfaction; and this being refused, he summoned the Greek princes to revenge the affront, according to their promise. He himself led sixty ships to Troy, and showed himself a brave warrior. Homer gives him the title of *Boar ayakos*, on account of the loudness of his cry in battle, and describes him as mild, brave, and wise. After the conquest of Troy, Menelaus took Helen, to return with her to his native land. Eight years he wandered before he reached home. He first went to Tenedos,

then to Lesbos and Eubœa but, being saved there by storms and tempests, he last sailed to Cyprus, Phœnicia, Egypt, and Libya, and on several instances, detained for a long time. He was the son of Pharus, on the Egyptian coast, a cruel Proteus asleep, by the aid of Eidothea, a naiad, was compelled him to disclose the means to take to reach home. Proteus likewise said that he should not die, but would be transformed into Elysium, as a demigod and the husband of Menes. See *Hieroglyphics*, *ancient*, *temporal* *Periods of Egyptian History*.

**MENGES**, ANTHONY RAPHAEL, one of the distinguished artists of the eighteenth century, was born at Aussig in Bohemia, 1728, was the son of a talented Danish artist, who had settled in Sweden. In the sixth year of his age, the young Raphael was compelled to exercise himself in drawing daily an hourly, and a few years later was directed by his father in oil, miniature, and enamel painting. His father hardly allowed him a moment for play, and his tasks, which he was required to accomplish within given time, and severely punished him if he failed. In 1741, the young artist accompanied his father to Rome, and studied the remains of ancient art, the works of Michael Angelo, in the Vatican, and finally, the inimitable productions of the Raphael in the Vatican. He was not permitted to dine there with bread and water, and in the winter his studies were examined with the greatest care. In 1744, his father returned with him to Dresden, and Augustus soon after appointed him his successor. A second visit to Rome was ordered, and there his former studies, studying anatomy, &c. So his great compositions appeared in 1748 and drew universal admiration. A holy family was particularly admired; and the young painter, who had him as a model became his wife. On his return to Dresden the king appointed him principal painter. In 1751, he was engaged to execute a piece for the Catholic chapel, with which he was in Rome. At this time, he made a copy of Raphael's School of Athens for the duke of Saxe-Berndorf. The seven years' war deprived him of his pension, and, in 1754, he received the decree of the new academy of painting in the capital. In 1755 the Celestines employed him to paint the ceiling of the church of St Eusebio. His first travel was after painted, for cardinal Albani, to Rome, his villa, and executed various oil paintings. In 1761, Charles III. invited Menges to Spain, and his principal works at this time were an altar-piece of the gods and a descent from the cross. When he returned to Rome, he executed a great altar-piece for painting for the pope, in the church of St. Peter, and after three years, returned to Madrid. It was there he executed the apotheosis of Trajan, a most fine work. He died in Rome, in 1774, and left seven children, thirteen having died previously. He was an expensive manner of living, and he collected drawings of masters, vases, &c. &c. He absorbed all his gains, although during his eighteen years he had received 100,000 scudi. A splendid monument was erected to his memory, by his friend the cavalier d'Amara, at the side of Raphael and another by the empress of Russia, in 1780. Menges's composition and grouping are simple and studied; his drawing correct and his expression, in which Raphael was his model, is a colouring, in every respect, are excellent. His works are finished with the greatest care. His works in different languages (published, by his son, in 1783), particularly his *Remarks on Raphael*, and Titian, are highly interesting. He was the celebrated Winckelmann, rendered his name

assistance in the preparation of them. See Goethe's *Winkelmann und sein Jahrhundert*.

**MENILITE.** See *Opal*.

**MENINSKI**, or **MENIN**, FRANCIS (*Francis a'egnyen*), a celebrated Orientalist, was born in Lorraine, in 1623, and studied at Rome, under the named Jesuit Grattini. At the age of thirty, he accompanied the Polish ambassador to Constantinople, applying himself to the study of the Turkish language, became first interpreter to the Polish embassy at the Porte, and, soon after, was appointed ambassador plenipotentiary to that court. He was naturalized in Poland, and added the termination *ski* his family name of Menin. In 1661, he became interpreter of the Oriental languages at Vienna, and is entrusted with several important commissions. 1669, going to visit the holy sepulchre of Jerusalem, he was created a knight of that order, and, on return to Vienna, was created one of the emperor's council of war. His principal work was his *esaurus Linguarum Orientalium*, published at Vienna in 1680. A new edition of this valuable work begun in 1780, but remains still unfinished. **MENSKI** died at Vienna in 1698.

**MENIPPUS**, a cynic, and disciple of the second Socrates, was a native of Gadara, in Palestine. His writings were chiefly of a satirical kind, inasmuch as Lucian styles him "the most snarling of cynics," and, in two or three of his dialogues, introduces him the vehicle of his own sarcasms. It appears that satires were composed in prose; on which account some of Varro were denominated *Menippean*; and, for the same reason, that of *satire Menippée* was written in France, to the celebrated piece written against the league.\* **Menippus** is said to have regarded himself, in consequence of being robbed of a great sum of money. He had been originally a slave, purchased his freedom, and was made a citizen of Athens. None of his works is now extant.

**MENNO**, SIMONS (i. e. the son of Simon), born in Friesland, in 1505, joined the Anabaptists in 1537, having been previously a Roman Catholic priest. After the suppression of the disturbances at Münster, he collected the scattered remnants of the sect, and organized societies, for which he secured the patronage of the government. His peregrinations during many years, in Holland and the north of Germany, as far as Livonia, contributed to increase the number of his followers, and to disseminate his doctrines among those who were not satisfied with the progress of the Protestant churches in reform. Except in the opinions concerning the incarnation of Christ, which he was probably led by the controversy concerning the bodily presence of Christ in the eucharist, he was in the administration of baptism to adults only, tenets agreed, in general, with those of the Calvinists. **Menno** died at Oldeslohe, in Holstein, 1561.

His followers are called *Mennonites*, an account of whom has been given in the article *Anabaptists*.

**MENOLOGIUM** (from *μήνη*, the moon, and *λογος*, course, report, &c.), in the Greek church, has at the same signification as *martyrologium* (q. v.) in the Roman church. The *Menologium* is a book in which the festivals of every month are recorded, with names and biographies of the saints and martyrs, in the order in which they are read in the masses, the offices of the day, &c.

**MENOMONIES**, **MENOMENIES**; a tribe of

Indians, residing in the North-West Territory, to the south of Lake Superior and west of Green Bay, called by the French *Mangeurs de Folle-Avoine* (or Eaters of Wild Oats). They belong to the great Chipewyan family. See *Indians, American*.

**MENOU**, JACQUES FRANÇOIS, baron de, born in Touraine in 1750, entered the military service at an early age, and rose rapidly to a high rank. In 1789, the noblesse of Touraine chose him their deputy to the states-general, where he was one of the earliest to unite with the third estate. Menou turned his attention particularly to the new organization of the army, and proposed to substitute a general conscription of the young men, in the room of the old manner of recruiting. His subsequent votes and propositions, in favour of vesting the declaration of war in the nation, of arming the national guard (1791), &c., were generally on the revolutionary side; but when the more violent opinions began to prevail, he joined those who endeavoured to moderate the excitement. In 1792, he resumed his military duties, and was second in command of the troops of the line, stationed near Paris. In this capacity, he accompanied the king to the assembly, and was afterwards repeatedly denounced to the convention as an enemy to the revolution. He, however, escaped condemnation, and, in May (2 *prairial*), 1795, commanded the troops who defended the convention against the insurgents of the faubourg St Antoine. On the 13th Vendémiaire, he was likewise in command, but would not allow his troops to attack the section opposed to the convention, and Bonaparte first gained celebrity by undertaking that attack. Menou afterwards accompanied general Bonaparte to Egypt, and distinguished himself by his courage on several occasions. After the return of Bonaparte, he married the daughter of a rich bath-keeper of Rosetta, submitting to all the ceremonies of the laws of Mahomet, and adopting the name of Abdallah. On the death of Kléber (q. v.), he took the chief command, and, after a gallant defence in Alexandria, was obliged to capitulate to the English. Bonaparte received him favourably, on his arrival in France, and appointed him governor of Piedmont. Menou was afterwards sent to Venice in the same capacity, and died there in 1810.

**MENSCHIKOFF**, ALEXANDER, the son of a peasant, born near Moscow, in 1674, was employed by a pastry-cook to sell pastry in the streets of Moscow. Different accounts are given of the first cause of his rise. According to some statements, he overheard the project of a conspiracy by the Strelitz, and communicated it to the czar; other accounts represent him as having attracted the notice of Lefort (q. v.), who took him into his service, and, discerning his great powers, determined to educate him for public affairs. Lefort took the young Menschikoff with him on the great embassy in 1697, pointed out to him whatever was worthy of his attention, and instructed him in military affairs, and in the maxims of politics and government. On the death of Lefort, Menschikoff succeeded him in the favour of the czar, who placed such entire confidence in him, that he undertook nothing without his advice; yet his passion for money was the cause of many abuses, and he was three times subjected to a severe examination, and was once also condemned to a fine. The emperor punished him for smaller offences on the spot; but much of his selfishness and faithlessness was unknown to his sovereign. He was much indebted for support, to the empress Catharine. He became first minister and general field-marshal, baron and prince of the German empire, and received orders from the courts of Copenhagen, Dresden, and Berlin. Peter also conferred on him the title of duke of Ingria. On the death of Peter, it was chiefly through the in-

The title of this ingenious and amusing satire is *Satyre d'après la Vertu du Catholicon d'Espagne, ou de la Tenue d'Etat à Paris en 1593, par M.M. de la Ste. Union* (Paris, 1711). The title is a satire on Philip II., king of Spain, head of the league, who masked his projects under pretext of zeal for Catholic religion. It is the work of several hands, and was, according to Voltaire, of not less advantage to Henry IV. than the battle of Ivry.

fluence of Menschikoff that Catharine was raised to the throne, and that affairs were conducted during her reign. (See *Catharine I.*) When Peter II. succeeded her on the throne, Menschikoff grasped, with a bold and sure hand, the reins of government. In 1727, when his power was raised to the highest pitch, he was suddenly hurled from his elevation. Having embezzled a sum of money which the emperor had intended for his sister, he was condemned to perpetual exile in Siberia, and his immense estate was confiscated. He passed the rest of his life at Beresov, where he lived in such a frugal way, that, out of a daily allowance of ten roubles, he saved enough to erect a small wooden church, on which he himself worked as a carpenter. He sunk into a deep melancholy, said nothing to any one, and died in 1729. Menschikoff was selfish, avaricious, and ambitious, implacable, and cruel, but gracious, courageous, well informed, capable of large views and plans, and persevering in the execution of them. His services in the promotion of civilization, commerce, the arts and sciences, and in the establishment of Russian respectability abroad, have been productive of permanent effects.

**MENSES.** See *Catamenia*.

**MENSURATION**, is the art of ascertaining the contents of superficial areas, or planes; of solids, or substantial objects; and the lengths, breadths, &c., of various figures, either collectively or abstractedly. The mensuration of a plane superficies, or surface, lying level between its several boundaries, is easy: when the figure is regular, such as a square, or a parallelogram, the height multiplied by the breadth, will give the superficial contents. In regard to triangles, their bases, multiplied by half their heights, or their heights by half their bases, will give the superficial measure. The height of a triangle is taken by means of a perpendicular to the base, let fall from the apex or summit. Any rectangular figure may have its surface estimated, however numerous the sides may be, simply dividing it into triangles, by drawing lines from one angle to another, and taking care that no cross lines be made; thus, if a triangle should be equally divided, it may be done by one line, which must, however, be drawn from any one point to the centre of the opposite face. A four-sided figure will be divided into two triangles, by one oblique line connecting the two opposite angles; a five-sided figure (or pentagon) by two lines, cutting, as it were, one triangle out of the middle, and making one on each side; a six-sided figure (or hexagon) will require three diagonals, which will make four triangles; and so on, to any extent, and however long or short, the several sides may be respectively. The most essential figure is the circle, of which mathematicians conceive it impossible to ascertain the area with perfect precision, except by the aid of logarithmic and algebraic demonstration. It may be sufficient in this place to state, that  $8\frac{1}{8}$  of the diameter will give the side of a square, whose area will be correspondent with that of a circle, having ten for its diameter. Many circular or cylindrical figures come under the measurer's consideration—mirrors, arched passages, columns, &c. The contents of a pillar are easily ascertained, even though its diameter may be perpetually varying; for if we take the diameter in different parts, and strike a mean between every two adjoined measurements, and multiply that mean area by the depth or interval between the two, the solid contents will be found. The contents of pyramids are measured by multiplying the areas of their bases by half their lengths, or their lengths by half the areas of their bases. Cones, whose sides are straight, are equal to one third the contents of cylinders, equal to them in base

and altitude. Solids having a round degree of regularity, may be easily measured, and are computed by multiplying first the area of the base, then their product by its height, and dividing the result by four feet each way. This is the meaning of what is called the *rule of four*. (See *Cube*.) Parallelopipedons, or solids of the same form, such as squared timbers, are measured by the same means. For the mensuration of pyramids, various modes have been devised. The area of the base has been felled, its girth is usually also taken, and at the middle, when there is no irregularity, or the top extremity does not exceed the base. But where the irregularity is great, it is necessary to take many more girths, and, summing them up, to divide their amount by the number of girths, so as to establish a mean measurement. Trees are measured by four, to find the area of a square to which the tree will be nearest, and prepared for the sawyer. If the tree is not round, it is to be estimated, divide by three, multiply by four, and taking the third part, the rest is the diameter, proceed in the way already mentioned, to the side of a square, equal to the area of the tree; that ascertained third part is the diameter of the bodies, or areas, such as hay-stacks, &c. granaries, &c., come under the rule of four cubes, &c. When any sides fall in square, garrets, &c., the inclined part must be measured, pyramid, or as a quoin (or wedge, &c.) and be summed up together. The contents of canals, &c., are found by the process of gauging, &c. a part of the subject which appertains to the measurement of lands, as also to the contents of &c., of remote objects, accessible to a surveying.

**MENTAL DERANGEMENT** See *Melancholy*.

**MENTCHIKOFF.** See *Menschikoff*.

**MENTOR**, son of Alcimus, the companion of Ulysses, who intrusted to him the care of his domestic affairs, during his absence at the siege of Troy. The education of the young Telemachus was his charge, and when the latter was on a voyage in search of his father, Mentor accompanied him under the form of Mentor. (See *Odyssey*, B. 12, &c.), acting the part of a prudent and constant counsellor to the young hero. The character of a sage adviser is more fully developed in the *Maquette of Fénelon*, in which Mentor plays a conspicuous part. Mentor has thence acquired a metaphorical sense of a wise and faithful monitor.

**MENTZ**, or **MAYENCE**, or **MAYN**, in Germany, in Hesse-Darmstadt, formerly an electorate and archbishopric, situated at the conflux of the Rhine and Main, and a *Landgraviat*, or *Moguntinatum*; lat. 50° 15' N.; population, 25,251. It is the capital of Germany: towards the river lies a *Landgraviat*, but on the land side the walls are extremely complicated. The fortress belongs to the German confederation. The town is built upon a hill of a semicircle, the Rhine forming the bay; the interior is by no means handsome. The streets are crooked, narrow, and gloomy, and the houses old fashioned. It contains a cathedral, a school of medicine, a cabinet of coins and medals, a cabinet of natural history, a gallery of pictures, and a library of 90,000 volumes. The suburbs are partly in wine, and partly in commerce connected with the navigation of the river. It is famous for the beauty of its view, and for its university was founded here in 1527, and re-established in 1682, by the elector Diether, of the house of Hesse; but the

converted into a lyceum. The honour of the invention of printing was claimed by John Faust (q. v.), a goldsmith of Mentz, and by John Guttenberg. (q. v.) The archbishopric of Mentz was an extensive electoral principality. The archbishop was also elector, and ranked as the first archbishop in Germany. The archbishopric was suppressed in 1802, and the city of Mentz is now only a bishop's see. See *Germany*.

**MENU.** The Hindoo mythology mentions fourteen of these mystical personages, of whom seven have already reigned on the earth. The celebrated code of laws, or the *Manava Dharma Sastra*, which goes under the name of *Menu*, is attributed to the first of the name, or Swayambhaura, the son of Brama. The name is derived from *men*, signifying intelligence (Latin *mens*, mind), and Sir W. Jones suggests that it is connected with *Menes*, the name of the first king of Egypt and *Minos* (q. v.), the Cretan avenger. The code, which has been translated into English by Sir W. Jones (*Works*, vol. iii.), is the basis of the whole civil and religious policy of the Hindoos. Menu appears in it relating the history of the creation of the universe to the *Rishis*, or holy saints; he then commands Brigu to repeat the divine laws of Brahma. These laws relate to the divisions into castes, education, marriage, diet, purification, devotion, private and criminal law, penances and expiations, transmigration, &c. The last Menu, whose reign is not yet over, was Satyavrata, or Vaivaswata, whose history is given as follows, in the Bhagvat:—Brahma, being inclined to slumber, the demon Haya-griva stole the Vedas from his lips. Heri, the preserver of the universe, discovering this deed, assumed the shape of a small fish, and appeared to the holy king Satyavrata, who was so devout that his only sustenance was water. Having grown to an enormous size in a few days, he was recognised by the pious king, to whom he declared that in seven days the earth should be plunged in an ocean of death, and promised to send a large vessel for his deliverance; into which continued the god-fish, thou shalt enter with seven saints and pairs of all brute animals; and thou shalt fasten it with a large sea-serpent to my horn, for I will be near thee. Satyavrata complied with these directions, and the primeval male, speaking aloud to his own divine essence, pronounced by his instruction a sacred *purana*, explaining the principle of the soul, the external being. Heri then slew the demon, and recovered the sacred books, and Satyavrata was appointed the seventh Menu; but the appearance of the horned fish was *Maya* (or deception).

**MENZABANO**; a town of Italy, on the Mincio. On the 28th of December, 1801, a bloody battle was fought here between the French and the Austrians: the French conquered, and made 8000 prisoners.

**MENZALEDH**, or **MENZALA**; a large lake in Egypt, running parallel with the Mediterranean, from which it is divided by a narrow slip of land, sixty miles in length, and from two to twelve in breadth, overflowed and filled by the waters of the Nile. It was anciently called *Tanis*, from the town of that name. Its waters are soft in the time of inundation, and become brackish as the river retreats within its channel. Numerous boats continually fish on the lake. Length of the lake from north-west to south-east 43,000 fathoms, breadth from 12,000 to 26,000. **MENZEL**, **FREDERIC WILLIAM**; private secretary to the royal cabinet at Dresden, whose treachery hastened the breaking out of the seven years' war. **FREDERIC II.**, suspecting that negotiations were going on against him between the courts of Petersburg, Vienna and Dresden, directed his minister at the court of Saxony to procure information on the sub-

ject. Chance made the ambassador acquainted with Menzel, whose expensive and dissipated habits had plunged him into embarrassments, to relieve which he had been induced to purloin from the public treasury. The unhappy man hoped to preserve himself by a greater crime, and, in consideration of a large sum of money, delivered to the Prussian ambassador copies of the secret correspondence between Saxony, Russia, and Austria, relating to Prussia. His conscience, indeed, was awakened, but he could not turn back without forfeiting the protection of the ambassador in case of detection. During a journey to Warsaw, in the retinue of the king, traces of his guilt were at length discovered. Menzel himself was surprised by the report of the discovery of his treachery in a social party. He attempted to save himself by flight, but was arrested at Prague, on the demand of the court of Saxony, and imprisoned, first at Brunn, but after the conclusion of the peace of Hubertsburg, in the castle of Konigstein. Here he lived thirty-three years, at first in the strictest custody. During his imprisonment at Brunn, he cherished the hope that Prussia would stipulate for his liberation at the conclusion of peace. Through the favour of king Frederic Augustus I., his condition was somewhat alleviated in the latter part of his life; he received better food, and permission to take the air now and then; he was also relieved of the heavy chains which he had worn many years. He died in May, 1796, at the age of seventy years.

**MENZIKOFF.** See *Menachikoff*.

**MEPHITIC** (from the Latin *mephitis*, an offensive odour) is used to signify those kinds of air which will not support combustion or animal life, or, more generally, offensive exhalations of any sort. Modern chemistry has given particular names to many of these. (See *Carbon*, and *Sulphur*.) There was a Roman goddess called *Mephitis*, who was worshipped as a protectress from such exhalations.

**MEQUINEZ**; a city of Morocco, in Fes, situated in a plain surrounded with fertile valleys and eminences, watered by a number of rivers; 35 miles south-west of Fes, 165 north-east of Morocco; lon. 5° 30' W.; lat. 35° 56' N.; population stated by Jackson at 110,000; by Hassel at only 15,000. It is frequently the residence of the emperor. It is surrounded with walls, and the palace is fortified with bastions. The Jews have a quarter appropriated to themselves, walled in and guarded. The Moors at Mequinez are much more affable than in the southern provinces.

**MERCANTILE SYSTEM**, in political economy, is one that prevails to a greater or less extent in every country of Europe. It was introduced in France by Colbert. As originally understood and acted upon, it embraces some fallacious doctrines, and carries some just ones to excess. The notion, for example, that wealth is derived mostly from foreign commerce, and depends upon an annual importation of specie, called the *balance of trade*, is erroneous. This balance was understood to be the bullion or coin received by a country in exchange for a part of its exports, and the foreign trade was supposed to be advantageous and promotive of the national wealth in proportion as the returns of trade were made in the precious metals, instead of other merchandise, whereas an exchange for iron, tin, leather, or any other useful merchantable commodity, is quite as advantageous, as the importation of specie. It will depend upon the wants of the community whether the importation of one or another article will most promote the national wealth. It would be quite absurd, therefore, to attempt, by legislation, to force trade to yield a balance in specie. As far as this was a direct object of the commercial system, it was accordingly mis-

taken. If a nation needs other things more than specie, such prices will be offered as will induce their importation. But this notion of the importance of the balance of exports and imports is not without its truth in a certain respect. It is undoubtedly an evil for one nation to be constantly indebted to another. It will be found true between individuals, different districts of the same country, and also between different nations, that the indebted party is the one most liable to make sacrifices. If a people or district, or an individual, will keep in advance of their means, and anticipate the income of the coming year, the consequence will be a perpetually straitened and embarrassed state. This was always the case with the British American colonies, and even of the states for many years after the establishment of the American independence. The liberal credits in England enabled them to anticipate their income, and they were, accordingly, always largely indebted to England, and thus constantly straitened and distressed, notwithstanding the country was, during the same time, rapidly growing in population and wealth. It is desirable that the commerce of a country should be so conducted as not to keep the country constantly indebted. If we were, therefore, to consider the balance of trade to be a constant standing balance of debt due to, or from, a country, in this sense it would be a subject of great importance. The consequence of large foreign credits, and of the desire to consume more of foreign products than the people have present produce of their labour sufficient to pay for, is occasionally to drive specie from the country; and the more extensive the credits, the more complete and exhausting will be this drain when it happens. This has been a subject of very frequent experience in the trade between Europe and America. The only way of preventing its recurrence is to produce at home so great a proportion of the commodities wanted for consumption, that the exportable produce will be amply sufficient to pay, in the foreign markets, for the foreign products needed. But whether legislation shall be at all, and if at all, to what extent, directed to the advancement of commerce, or any other branch of industry, so as incidentally and consequentially to affect the kind and amount of exchanges with foreign nations, are much agitated questions. The practice of the whole civilized world is to legislate with a reference to national industry, and such it always has been. The real ground of doubt seems to relate to the proper objects and extent of this legislation.

MERCATOR, GERARD, a mathematician and geographer, born at Rupelmonde (not, as usually stated, at Ruremond), in the Low Countries, in 1512, studied at Louvain, applying himself with such intensity as to forget to take the necessary food and sleep. His progress in the mathematics was very rapid, although without a teacher, and he soon became a lecturer on geography and astronomy, making his instruments with his own hands. Granvella (q. v.), to whom he presented a terrestrial globe, recommended him to Charles V. Mercator entered into the emperor's service, and executed for him a celestial globe of crystal, and a terrestrial globe of wood. In 1559, he retired to Duisburg, and received the title of cosmographer to the duke of Juliers. His last years were devoted to theological studies. He died in 1594. Mercator published a great number of maps and charts, which he engraved and coloured himself. He is known as the inventor of a method of projection called by his name, in which the meridians and parallels of latitude cut each other at right angles, and are both represented by straight lines, which has the effect of enlarging the degrees of latitude, as they recede

from the equator. His first maps of the provinces were published in 1569; the principles on which they were explained by Edward Wright, in *Artis et Mystere Rectificationis Errorum in Navigatione*, where the discovery has sometimes been attributed to him. His *Tabula Geographica* (Cologne, 1594) is the last edition of the maps of Ptolemy, and has been many times copied by his successors. His Atlas has also been republished.

MERCER, HENRY, a brigadier-general in the American revolutionary army, was a son of Scotland. He was liberally educated in medicine, and acted as a surgeon; and was in the memorable battle of Culloden. He escaped from his country, not long after, to France, but removed to Virginia, where he settled and married. He was engaged with Washington in the Indian wars of 1755, &c.; and his children are in possession of a medal which was presented to him by the corporation of the city of Philadelphia, for his good conduct in the expedition against an Indian settlement, conducted by Colonel Armstrong, in September, 1754. In one of his engagements with the Indians, general Mercer was wounded in the right wrist, and being separated from his party, he found that there was danger of his being surrounded by hostile Indians, when a whoop and yell indicated their near approach. Becoming faint from loss of blood, he took refuge in the hollow trunk of a large tree. The Indians came to the spot where he was concealed, and sought themselves about for rest, and then disappointed. He left his hiding-place, and pursued his course through a trackless wild of about one hundred miles, until he reached Fort Cumberland. On the way, he climbed on the body of a rattlesnake, which he cut and killed. When the war broke out between America and the mother country, he immediately joined the American standard, relinquishing a lucrative medical practice. Under Washington, valour and confidence he enjoyed beyond most of his fellow-officers, he soon reached the rank of brigadier-general, and, in that command, distinguished himself, particularly in the battles of Brandywine and Princeton, in the winter of 1776—7. In the attack on Princeton, general Mercer, who commanded the van of the American army, after exerting the utmost valour and activity, had his horse killed under him, and, being thus dismounted, he was surrounded by some British soldiers, with whom, when they seized him, he fought desperately, until he was completely overpowered. They stabbed him with their bayonets, inflicted several blows on his head with the butt-end of their muskets, and left him dead on the field of battle. He died a short week after, from the wounds in his head, of the arms of major George Lewis, the nephew of general Washington, whom the British commanded to watch over his expiring friend. The night corpse was removed from Princeton, under a British escort, to Philadelphia, and exposed a day in a coffee-house, with the design of exciting the sympathy of the people. It was followed to the grave by at least 30,000 of the inhabitants. General Mercer, though a lion in battle, was unassuming, plain, and almost diffident in private life. He was valued and admired, as an accomplished, published, and benevolent gentleman. Some interesting anecdotes are related in the 3d chapter, 1st vol. of *General Wilkinson's Memoirs*. That writer observes:—"General Mercer, we lost, at Princeton, a chief pillar for education, talents, disposition, integrity, patriotism, was second to no man but the commander-in-chief, and was qualified to be the highest trusts of the country." General Mercer

was about fifty-six years of age when he thus perished.

MERCIA, the largest kingdom of the Saxon heptarchy, comprehended all the middle counties of England, and, as its frontiers extended to those of the other six kingdoms, as well as to Wales, it derived its name from that circumstance (Anglo-Saxon *Merk*, marches, q. v.). It was reduced by Egbert (q. v.), king of Wessex. See Turner's *Hist. of the Anglo-saxons*.

MERCIER, LOUIS SEBASTIAN, a French writer, remarkable for the eccentricity of his sentiments. He was born at Paris in 1740, and, at the age of twenty, published a volume of heroic epistles, after which he renounced poetry for criticism. In his *Essai sur l'Art dramatique*, he attacked the reputation of Corneille, Racine, and Voltaire, proposing to place their works by his own productions; and, as the comedians paid no attention to his diatribe, he published a virulent manifesto against them. In '71 appeared, under the title of *L'An 2440*, a clamatory tract, which was suppressed by authority. In 1781 was published, anonymously, the two last volumes of his *Tableau de Paris*; after which he removed to Switzerland, and at Neufchâtel printed more volumes of that work, which was favourably received, both in France and in other countries. Returning home at the beginning of the revolution, he declared himself a friend to liberty, and, in concert with Carra, published *Les Anales Politiques*, and *Chronique du Mois*,—journals which displayed both moderation and spirit. He became a member of the convention, in which he led for the detention, instead of the death of Louis '1. In 1795, he passed into the council of five hundred, and was subsequently professor of history at central school, and a member of the institute at its national. Mercier died at Paris in 1814. Among numerous works are *Mon Bonnet de Nuit* (Neufchâtel, 1783, 4 vols., 8vo); *De l'Impossibilité des systèmes de Copernic et de Newton* (1806, 8vo); and *ire contre Racine et Boileau* (1808). See Ersch's *Encyclopædie Littéraire*.

MERCURE DE FRANCE; a journal remarkable for its antiquity. It is a continuation of the *Mercurius Galant*, and forms 1800 small volumes. The *Mercurius Galant* was established in Paris by J. Donneau Visé, in 1672, and continued until 1716 (formed 571 12mo volumes.) The periodical then took the title of *Mercurius de France*, and appeared, uninterruptedly, from 1717 to 1778, in 603 volumes. Kock edited it from 1778 to 1792 (174 volumes 8vo.). It then became a daily, and sometimes a weekly paper. A new series, until 1797, comprises 17 volumes, 8vo. It was continued, though interrupted, to 1803. At a later period, the *Minerve Française* appeared, as a continuation. Another radical adopted the title *Mercurius de France*. So a continuance must necessarily give value to contents of a journal, although they may not have been of the most interesting character at the time of their publication. *Mercurius* is, in France, as well as in Germany, a very common name for radicals.

MERCURIALE; the first Wednesday after the vacation of the French parliaments. On this day they held a full session, in order to discuss the business in the administration of justice, and particularly in the course of business, and to take measures for correcting them. The first president of the crown-advocate had alternately the duty of reporting to the meeting. From the day of assembly, their speeches were called *mercurials*. The name was also given to a reproof or rebuke, and the members, on this day, received their

reprimands. See *Crown-Advocate, Parliaments, and France*.

MERCURY (called, by the Greeks, *Hermes*) was the son of Jupiter and Maia, the daughter of Atlas. According to tradition, Arcadia was his birth-place. Four hours after his birth, he left his cradle, and invented the lyre, which he made by killing a tortoise, and stringing the shell with seven strings. He then sang to it the loves of Jupiter and his mother Maia. Having concealed the lyre in his cradle, he began to seek for food; for which purpose, he went, in the evening, to Pieria, and stole fifty oxen of the sacred herd of the gods, which he drove backward and forward to confound their tracks; then, going backward himself, he drove them backward also; and, after having killed two of them near the river Alpheus, roasted them by a fire procured by rubbing two sticks together, and sacrificed a part to the gods. He concealed the remainder in a cavern. He also carefully destroyed all traces of them. The next morning Apollo missed his oxen, and went in search of them; but he could discover no traces of them until an old man of Pylos told him that he had seen a boy driving a herd of oxen in a very strange manner. Apollo now discovered, by his prophetic art, that Mercury was the thief. He hastened to Maia, and accused the infant, who pretended to be asleep, and, not terrified by the threat of the god, that he would hurl him into Tartarus, steadily maintained his innocence. Apollo, not deceived by the crafty child, carried his complaint to the god of gods. Mercury lied even to him. But Jupiter penetrated the artifice of the boy, and perceived him to be the offender; yet he was not angry with him, but, smiling good-naturedly at his cunning, ordered him to show the place where the oxen were concealed. To secure him, Apollo bound his hands; but his chains fell off, and the cattle appeared, bound together by twos. Mercury then began to play upon his newly-invented lyre, at which Apollo was so much enraptured, that he begged the instrument of the inventor, learned of him how to play on it, and gave him a whip to drive the herds, thenceforth belonging to both in common. Apollo was still more astonished when the ingenious god also gave the flute its tones. They then concluded a contract with each other: Mercury promised never to steal Apollo's lyre or bow, and never to approach his dwelling: the latter gave him in return, the golden wand of peace, the *caduceus*. The ancients represent Mercury as the herald and messenger of the gods. He conducts the souls of the departed to the lower world (whence he is called *Psychopompos*), and is therefore the herald of Pluto, and the executor of his commands. His magic wand had the power to close the eyes of mortals, to cause dreams, and wake the slumbering. The qualities requisite for a herald he possessed in the highest perfection, and bestowed them on others—grace, dignity, and insinuating manners. He was also the symbol of prudence, cunning and fraud, and even of perjury. We must remember that rude antiquity did not, as we do, associate any thing dishonourable or base with these ideas. Whoever was distinguished for artifice and deceit, as, for example, Ulysses, was a favourite of Mercury, and enjoyed his assistance. Mercury was also distinguished as the god of theft and robbery, especially when fraud and cunning were employed. The exploits of his childhood have this symbolical signification. Among the actions of his manhood, the following are examples of his cunning: He accompanied Hercules when he carried off Cerberus; delivered Jupiter from the cave into which Typhon had cast him; rescued Mars from the prison in which the Aloides, Otus and Ephialtes had confined him; killed Argus, the keeper of the unhappy

Io; assisted Perseus, when he went to kill Medusa, and lent him the helmet of Pluto, which rendered him invisible, and his winged sandals; to Nephele, the mother of Phryxus and Helle, he gave the ram with the golden fleece, upon which she carried off her children, when they were about to be sacrificed to the gods, at the instigation of their step-mother Ino. In the wars of the giants, he wore the helmet of Pluto, which rendered him invisible, and slew Hippolytus. When Typhon compelled the gods to fly before him, and conceal themselves in Egypt, he metamorphosed himself into an ibis. He is also mentioned by Homer as the patron of eloquence, and still more particularly by Hesiod. Of his inventions Homer makes no mention. Later writers ascribe to him the invention of dice, music, geometry, the interpretation of dreams, measures and weights, the arts of the palestra, letters, &c. He was also regarded as the patron of public treaties, as the guardian of roads, and as the protector of travellers. (See *Hermes*.) Fable relates many of his amours. His children were numerous; among them were Pan and Hermaphroditus. Mercury was worshipped in all the cities of Greece, but Arcadia was the chief place of his worship. His festivals were called *Hermæa*, and were solemnized in various ways. He had several temples in Rome, and his festival took place on the 15th of May (which month received its name from his mother Maia). At this festival, the merchants particularly offered him sacrifices, that he might prosper them in their trade, and render them successful in their enterprises. Art has variously represented Mercury; first, in the rude *Hermes*. (q. v.) In the monuments of the more ancient style, he appears with his beard just beginning to grow; at a later period, the prevailing representations of him were as an adroit herald and athlete, and he acquired the appearance of extreme youth. In this character, also, room was allowed to fancy. He was represented as a boy, in the prime of youth, and also in the full power of early manhood. Among the curled locks of the boy appear two projecting wings. His dress consisted of a short leather tunic. In his left hand he bears a purse, and, holding his right forefinger against his chin, smiles archly at some device in his mind. As a youth, we find him represented in a variety of attitudes, sometimes with the purse in his hand, sometimes with the *caduceus*, and sometimes with his winged cap, standing, sitting, or walking. The artists of later times placed him among the youthful and beardless gods. The most prominent traits of his character are vigour and dexterity. His short hair lies curled over his head and forehead; his ears and mouth are small; his positions, whether standing or sitting, always simple and easy; his head inclined forwards, and his look thoughtful. In his beautiful and vigorous frame, we see the inventor of gymnastics; in his attitude, air, and aspect, we see the prudence, cunning, and good nature of one who can easily gain every body, and accomplish every thing. In the representation of Mercury, the relations of corporeal beauty and mental dexterity are wonderfully preserved. He is either entirely naked, or clad only in the *chlamys*, which is not often put on with any regularity, but is merely thrown over his shoulders or wound round his arms. His head is sometimes bare; sometimes he has a pair of wings fastened on his temples, and sometimes the cap is placed on his head, to which are occasionally added wings (*petasus*). The hat, which particularly denotes a wanderer, has, in works of statuary, a flat top and narrow brim: upon vases, however, his hat is represented with wide, hanging flaps, and a pointed top. If the wings are not attached to a band about his head or hat, they are fastened either to his ankles or the soles of his feet, or to the *caduceus* alone.

Artists made the cock his symbol, on account of his vigilance, or love of fighting (a *coxa* is gymnastics); the tortoise, on account of his swiftness of lyre; the purse, because he was the god of trade; a ram and a goblet, because he was the donor of religious ceremonies and sacrifices. In some of the palm-tree, upon which his statue was seated, was the inventor of arithmetic and other arts (palm-leaves); the *Aerpe*, or sock-like shape, was because he was the slayer of Argus, on his head (only upon Alexandrine coins), to denote vigilance.

MERCURY; a planet. See the article *Pan*.  
MERCURY, or QUICKSILVER, the *hydrargyrum* of the Latins, from *hydr*, water, and *argyrum*, silver, an allusion to its fluidity and silvery appearance. Its name *quicksilver* is derived from the alchemists, who regarded this metal as silver in a fluid state, given by some inherent principle, which they hoped either to fix or expel. It was known to the ancients, even to the Greeks and Romans, who employed it as a paint, and in the extraction of the precious metals. It is distinguished from all other metals by its corrosibility, which is such that it does not take fire in state until cooled to the 30th degree below zero (Fahrenheit), and, of course, is always found in the warm climates of the earth. Its colour is white and silver bluer than that of silver. In the solid state it is imperfectly malleable; specific gravity 13.6. It is volatile, and rises in small portions at the common temperature of the atmosphere. At the temperature of 656°, it boils rapidly, and rises without fumes. When exposed to such a heat as may cause it to rise quickly in the vaporous form, a *præcipitatio* becomes converted into a red oxide, provided oxygen be present. This was formerly known to the alchemists as *precipitate per se*. A greater heat than 656°, however, revives this metallic oxide at the same time that this oxygen is again liberated. Mercury, if pure, is not tarnished in the cold by exposure to air and moisture; but if it contains other metals, the amalgam of those metals oxidizes readily, and collects as a film upon its surface. It is said to be oxidized by long agitation in a bottle half full of air and the oxide so formed was called by the alchemists *lithiops per se*; but it is very probable that the oxidation of mercury, observed under these circumstances, was solely owing to the presence of other metals. The oxides of mercury are two: the *protoxide*, which is a black powder consisting of a metal best prepared by mixing calomel brackish water with pure potassa in excess, so as to effect a decomposition as rapidly as possible. The product is then to be washed with cold water, and spontaneously in a dark place. It contains of oxygen equivalent, or 200 parts of metal, and one equivalent, or eight parts of oxygen. The *peroxide*, which is commonly known under the name of red precipitate, is prepared, as already mentioned, from the metallic agency of heat and air, or by dissolving mercuric nitric acid, and exposing the mixture to a temperature just sufficient to drive off the whole of the nitric acid. It contains double the quantity of oxygen found in the protoxide. It is a violent poison, and carries these qualities into all its combinations; whereas the protoxide is perfectly bland, and is the basis of all the useful mercurial medicines. Of the combustibles, mercury combines only with phosphorus and sulphur. The phosphure is formed by heating either of the oxides along with phosphorus in a retort filled with hydrogen gas under water, with frequent agitation, the oxide is reduced, and a phosphuret is the result. It has a black colour, is easily cut with a knife, and in the air, exhales vapours of phosphorus. There are two

sulphurets, the black and the red, or the *proto-sulphuret* and the *dento-sulphuret*. The first is formed by rubbing vigorously in a glass or porcelain mortar three parts of sulphur and one of mercury, or by adding mercury at intervals, and with agitation, to its own weight of melted sulphur. The second, which is commonly called *cinnabar*, or *vermilion*, is formed by subliming the proto-sulphuret. Large quantities of it are manufactured in Holland. The ordinary process consists in grinding together 150 pounds of sulphur and 1080 of quicksilver, and then heating the mixture in a cast-iron pot, two and a half feet in diameter and one foot deep, precautions being taken that the mixture does not take fire. The calcined Ethiops is then ground to powder, and introduced into pots capable of holding twenty-four ounces of water each, to which are attached subliming vessels, or bolt heads of earthenware. The sublimation usually takes thirty-six hours, when the sublimer is taken out of the furnace, cooled, and broken. The acids sustain an important relation to mercury. All of them either dissolve the metal or unite with its oxides. Sulphuric acid exerts little or no action upon it in the cold, but, if heat be applied, it is decomposed, the mercury is oxidized, sulphurous acid is disengaged, and the oxide combines with the remaining acid. This *proto sulphate* of mercury crystallizes in slender prisms, forming a mass, soft, and partly liquid. It is very acrid, deliquescent, and soluble in water. If it is urged with a heat gradually raised until the mass becomes dry, the metal is more highly oxidized, and a portion of the acid is dissipated. On pouring boiling water on this dry mass, it acquires a lively yellow colour, forming an insoluble powder, known by the appellation of *turbith mineral*, or yellow sulphate of mercury. The water, in this process, produces the usual effect which it has when it decomposes metallic salts. Exerting a stronger attraction to the acid than to the metallic oxide, it combines principally with the former, but, from the influence of quantity on chemical affinity, the acid carries with it a portion of the oxide, and conversely, from the operation of the same force, the oxide which is precipitated retains a portion of the acid combined with it. The neutral sulphate is thus resolved into a super-sulphate, which the water dissolves, and a sub-sulphate, which remains undissolved. This sub-sulphate is chiefly used in preparing corrosive sublimate and calomel. Nitric acid acts on mercury with facility, oxidizing it, and combining with the oxide, forming a perfect solution. The product of this action varies considerably, particularly with regard to the state of oxidation, according to the circumstances under which it is exerted. If the acid is diluted with rather more than an equal part of water, and if the action is not accelerated by heat, the proto-oxide only is formed, and the salt is the *proto-nitrate of mercury*. If the acid is less diluted, and if its action on the metal be promoted by heat, the peroxide is produced, and the compound is the *per-nitrate of mercury*. Both these solutions, when concentrated crystallise, a mass being deposited, consisting of a number of slender prisms. Both salts are corrosive, deliquescent, and soluble in water. If the solution the per-nitrate is poured into water, a partial decomposition happens, similar to that of sulphate of mercury, and a yellow insoluble sub-per-nitrate of mercury is precipitated. Nitrate of mercury is decomposed by the alkalis and earths; and in these compositions are well displayed the differences which arise from different states of oxidation of the metal. By potash, soda, or lime, added to the solution of the proto-nitrate, a precipitate of a gray colour, with a tinge of yellow, is thrown down: from the solution of the per-nitrate the precipitate is

yellow, more or less bright. These precipitates are sub-nitrates, the oxide, separated by the alkali, retaining a portion of the acid combined with it. The action of ammonia on these solutions is more peculiar. From the solution containing the mercury at a high state of oxidation, it throws down a white precipitate, which is a ternary combination of the oxide, with portions of the acid and alkali. From the solution at which the metal exists at the *minimum* of oxidation, it throws down a precipitate of a dark gray or blue colour. The gray precipitate by ammonia (*oxidum hydrargyri cinereum* of the pharmacopœias) is a preparation much used in medicine. It is a mild mercurial, and is very similar, in its operation on the system, to the mercurial preparations formed by trituration. To obtain it of uniform composition, it is necessary to use every precaution to moderate the action of the nitric acid on the metal, as by free dilution with water, and by avoiding the application of heat. A *fulminating* preparation of mercury is obtained by dissolving 100 grains in one and a half ounce by measure of nitric acid. This solution is poured cold into two ounces by measure of alcohol in a glass vessel, and heat is applied till effervescence is excited, though it ordinarily comes on at common temperatures. A white vapour undulates on the surface, and a powder is gradually precipitated, which is immediately to be collected on a filter, well washed, and cautiously dried. This powder detonates loudly by gentle heat or slight friction. It has been very much used of late as the match powder, or priming, for the percussion caps of the detonating locks of fowling pieces. Two grains and a half of it, mixed with one-sixth of that weight of gunpowder, form the quantity for one percussion cap, according to the researches of Aubert, Pelissier, and Gay-Lussac. In preparing this powder in quantities, the fulminating mercury should be moistened with thirty per cent. of water, then tritured in a mortar, and thereafter mingled with the sixth part of its weight of gunpowder. Matches of this kind resist damp very well, and take fire after several hours' immersion in water. The detonating match, or priming powder, made with chlorate of potash, sulphur, and charcoal, has the inconvenience of rusting and soiling the fowling pieces, and thence causing them to miss fire; whereas, with the above fulminating powder, a hundred shots may be discharged successively. The mercurial percussion caps are sold now in Paris for three francs and a half per thousand. The acetic and most other acids combine with the oxide of mercury, and precipitate it from its solution in the nitric acid. Muriatic acid does not act on mercury. When mercury is heated in chlorine, it burns with a pale red flame, and the substance called *corrosive sublimate* is formed. This *dento-chloride* may also be formed by mixing together equal parts of dry bi-dento-sulphate of mercury and common salt, and subliming. The corrosive sublimate rises, and incrusts the top of the vessel, in the form of a beautiful white semitransparent mass, composed of very small prismatic needles. Its specific gravity is 5.14. Its taste is acrid, styptic-metallic, and eminently disagreeable. It is a deadly poison. Twenty parts of cold water dissolve it, and less than one of boiling water. It is composed of 73.53 mercury and 26.47 chlorine. It may be recognised by the following characters: It volatilizes in white fumes, which seem to tarnish a bright copper-plate, but really communicate a coating of metallic mercury, which appears glossy white on friction. When caustic potash is made to act on it with heat in a glass tube, a red colour appears, which by gentle ignition vanishes, and metallic mercury is then found to line the upper part of the tube in minute globules. Solution of corrosive sublimate

reddens litmus paper, but changes sirup of violets to green. Bicarbonate of potash throws down from it a deep brick-red precipitate, from which metallic mercury may be procured, by heating it in a tube. Lime-water causes a deep yellow precipitate, verging on red. Water of ammonia forms a white precipitate, which becomes yellow on being heated. With sulphureted hydrogen and hydrosulphurets, a black, or blackish-brown precipitate appears. Nitrate of silver throws down the curdy precipitate characteristic of muriatic acid; and the proto-muriate often gives a white precipitate. From six to twelve grains were the mortal doses employed by Orfila, in his experiments on dogs: they died in horrible convulsions, generally in two hours; but when with a larger quantity, the whites of eight eggs were thrown into the stomach, the animals soon recovered after vomiting. The effect of this antidote is to convert the corrosive sublimate into calomel. Sulphureted hydrogen may also be employed along with emetics. The *proto-chloride* of mercury (*mercurius dulcis*, or *calomel*), is usually formed from the deuto-chloride, by triturating four parts of the latter with three of quicksilver till the globules disappear, and subjecting the mixture to a subliming heat. By levigating and edulcorating with warm water the sublimed grayish-white cake, the portion of soluble corrosive sublimate which had escaped decomposition is removed. It may also be made by adding solution of proto-nitrate of mercury to solution of common salt; the proto-chloride, or calomel precipitates. The following is the process used at Apothecaries' Hall, London:— Fifty pounds of mercury are boiled with seventy pounds of sulphuric acid to dryness, in a cast-iron vessel; sixty-two pounds of the dry salt are triturated with forty pounds and a half of mercury until the globules disappear, and thirty-four pounds of common salt are then added. This mixture is submitted to heat in earthen vessels, and from ninety-five to one hundred pounds of calomel are the result. It is washed in large quantities of distilled water, after having been ground to a fine and impalpable powder. When proto-chloride of mercury is very slowly sublimed, four-sided prisms, terminated by prisms, are obtained. It is nearly tasteless and insoluble, and is purgative in doses of five or six grains. Its specific gravity is 7.176. Exposure to air darkens its surface. It is not so volatile as the deuto-chloride. Nitric acid dissolves calomel, converting it into corrosive sublimate. Proto-chloride of mercury is composed of mercury 84.746, and chlorine 15.254. There are two *iodides* of mercury; the one yellow, the other red; both are fusible and volatile. The yellow, or *protiodide*, contains one half less iodine than the deutioidide; the latter, when crystallized, is a bright crimson. They are both decomposed by concentrated sulphuric and nitric acids. The metal is converted into an oxide, and iodine is disengaged. They are likewise decomposed by oxygen, at a red heat.

Mercury, on account of its fluidity, readily combines with most of the metals, to which it communicates more or less of its fusibility. When these metallic mixtures contain a sufficient quantity of mercury to render them soft at a mean temperature, they are called *amalgams*. It very readily combines with gold, silver, lead, tin, bismuth, and zinc; more difficultly with copper, arsenic, and antimony; and scarcely at all with platina or iron. It does not unite with nickel, manganese, or cobalt; and its action on tungsten and molybdena is not known. Looking-glasses are covered on the back-side with an amalgam of tin. (See *Silvering*.) The medicinal uses of mercury have already been alluded to. The amalgamation of the precious metals, water gilding,

the making of vermilion, the adorning of looking-glasses, the construction of barometers and thermometers, are the principal uses to which the metal is applied. Scarcely any substance is so liable to adulteration as mercury, owing to its property of dissolving completely some of the base metals. This union is so strong, that they are to say with it in vapour when distilled. It never, however, can generally be detected by its being so its tarnishing, and becoming covered with an oxide, on long exposure to the air; by its adhesion to the surface of glass; and, when shaken in water in a bottle, by the speedy formation of a white powder. Lead and tin are frequent impurities in the mercury becomes capable of taking up these, if zinc or bismuth be previously added, in order to discover lead, the mercury may be agitated with a little water, in order to exclude the superfluous of the water, and digest the mercury with a little acetic acid; this will dissolve the oxide of lead, which will be indicated by a blackish precipitate, with sulphureted water; or to the same end, add a little sulphate of soda, which will precipitate a sulphate of lead, containing seven or seventy per centum of metal. Bismuth is detected by pouring a nitric solution, prepared without heat, into distilled water; a white precipitate will appear if this metal be present. Tin is manifested in the same manner, by a weak solution of proto-nitrate of iron, which throws down a purple sediment; and lastly, exposing the metal to heat.

*Ores of Mercury.* The native mercury and sulphuret are the only two ores explored to the extraction of this metal. The first of these is found in globules, disseminated through different rocks, adhering to the sides of cavities and forming in the form of little drops, and rarely assuming a form of considerable dimensions, so as to be dug dipped up in pails; though it never accumulates in sufficient quantity to form the sole object of extraction. Occasionally it is found amalgamated with other metals, containing one third its weight of the metal in this condition, it is rarely observed crystallized into the form of the rhombic dodecahedron. The sulphuret is the common ore, which furnishes more than the mercury of commerce. It occurs, crystallized in rhomboids, and six-sided prisms and takes on a cochineal red; lustre adamantine and granular, translucent; streak scarlet-red, shining, harder than gypsum, sectile, and easily frangible. Specific gravity, 6.7 to 8.2. It also occurs massive and compact, and often blended with bituminous matter, which communicates to it a liver-brown or tawny colour, whence the name of *Argenteo-mercurialis*. The ore is very rich, and affords, by analysis, sulphur or eighty-five per centum of mercury; that which is bituminous gives eighty-one per centum. The muriate of mercury, or *hera quadrifida*, is common and presents itself in such small quantities in the mines, as scarcely to receive the attention of the miner and it is sought after only by the manufacturer. It occurs in incrustation, and rarely crystallized in quadrangular prisms, terminated by pyramids. It is translucent, with a lustre between adamantine and vitreous, and is sectile. It consists of 75 parts of mercury, 16.4 muriatic acid, and 7.6 sulphur. The ores of mercury are more frequent in countries than in primitive rocks, and are found particularly in sandstones, bituminous shales, and argillaceous rocks accompanied by organic remains. In general, mercury is a metal which cannot be used to form a wide distribution, and the mines which furnish it in quantity are few. The principal are those of Almaden, in the Austrian dominions, discovered in 1492, and which chiefly afford a bituminous sulphuret of

metal. These mines have already been explored to a depth not far from 1000 feet. They are capable of furnishing annually 6000 quintals of metal; but the Austrian government, in order to maintain the value of the metal, have limited their produce to 1500 quintals per annum. Their total produce from 1809 to 1813, a period of fifty-six months, was 1,419,425 pounds of mercury; 270,029 pounds of vermilion; 76,225 pounds of lump cinnabar; 6,400 pounds of calomel; 2,867 pounds of red precipitate, and 2,450 pounds of corrosive sublimate. The memorable conflagration of these mines in 1803 was extinguished only by filling their chambers and galleries with water, and the mercury which was sublimed during that catastrophe, occasioned the most dreadful diseases among more than 900 persons. Next to the mines of Idria come those of Almaden, in the province of Manche, in Spain, and which are nearly as rich as those of Idria. Their mean annual product is about 5000 quintals of quicksilver. These celebrated mines, near which are also those of Cuebas and Almadenejos, were known to the Romans, and, it is presumed, are those alluded to by Pliny, under the name of the mines of the territory of Sisapanus. After having been, for a great number of years, leased out to the merchants of Ausbourg, they are now explored on account of the government, and their product is exclusively applied to the amalgamation of gold and silver in the mines of Mexico and South America. The mines of the palatinate, situated upon the left bank of the Rhine, approach next in importance to those of Idria and Almaden. Their annual product is estimated at about half that of the Spanish mines. There exist in Hungary, in Bohemia, and in many other parts of Germany, small exploitations for mercury, of which the total yield is about 400 quintals per annum. The mines of Guanaca Velica, in Peru, have afforded an immense supply of quicksilver for the purposes of amalgamation in the new world. Between the years 1570 and 1800, they are said to have furnished 537,000 quintals of this metal; and their actual product is, at present, rated at 1800 quintals. The ores of mercury are found in several places in Mexico, but are nowhere wrought to any extent. In 1590, mercury was sold in Mexico at £40 10s. per cwt.; in 1750, it had diminished to £17 15s.; in 1782, a further reduction had taken place, the price then being £8 17s. 6d. The consumption was estimated in the year 1803 (for Mexico), when the mines were in full work, as being 2,000,000 pounds per annum.

MERCY, FRANÇOIS DE, one of the most distinguished generals in the thirty years' war, was born at Longwy, in Lorraine, and rose in the service of the elector of Bavaria, through the successive ranks. After having defeated general Rantsau at Tutlingen, he was appointed, with the rank of Bavarian lieutenant-general and imperial field-marshal, to the command of the combined forces, and captured Rotweil and Ueberlingen. In the succeeding year (1644), Friburg fell into his hands, and he threw up a fortified camp in its vicinity. The great Condé attacked him in this position, and, after a combat of three days, compelled him to retire. Turenne pursued him, but the retreat was so ably conducted, that the French general was unable to obtain any advantage over him. May 5 (April 25), 1645, he defeated Turenne, at Marienthal (Mergentheim), and fell, August 3, in the battle of Allersheim, near Nordingen. He was buried on the field, and a stone was raised with the inscription *Sta, viator, heroem calcas*. Rousseau, in his *Emile* (liv. iv.), very justly remarks, that the simple name of one of his victories would have been preferable to this pompous sentence, borrowed from antiquity.

MERCY, FLORIMOND CLAUDE DE, a grandson of the preceding, born in Lorraine, 1666, entered the service of the emperor Leopold, 1682, and distinguished himself as a volunteer in the defence of Vienna against the Turks. His gallantry, particularly in the battle of Zenta, 1697 (see *Eugene*), was rewarded with the rank of major. He afterwards served with equal distinction in Italy and on the Rhine. In 1705, he stormed the lines of Pfaffenhofen, and compelled the French to retreat under the cannon of Strasburg. In 1706, he covered Landau by his skilful manœuvres, and supplied it with provisions and troops. In 1707, he defeated general Vivans, at Offenburi; but, in 1709, having penetrated too far into Alsace, was entirely defeated at Rumsheim. In 1716, he commanded against the Turks, as field-marshal, and took part in the victories of Peterwardein and Belgrade. In 1719, he commanded, with equal success, in Sicily, against the Spaniards, and, during the peace, exerted himself in improving the condition of the Bannat. In 1734, he received the command in Italy, and occupied the duchy of Parma; but fell, while leading the attack, in person, on the village of Croisetta. His remains were interred at Reggio.

MERGANSER (*mergus*); a genus of aquatic birds, consisting of five species. These birds are wild and untamable, migrating, according to the season, from cold to temperate climates. They keep in flocks, the adult males usually by themselves, leaving the young with the females. They are extremely voracious, destroying immense numbers of fish. They build among grass, near fresh water: the nest is lined with down, and contains from eight to fourteen eggs. The male keeps near the nest, though the female alone incubates. They swim with the body very deep in the water, the head and neck only appearing; dive by plunging, and remain under water for a long time. They walk badly; fly well, and for a long time. Their flesh is dry, and of a bad flavour.

MERIAN, MATTHEW, senior, born at Basle, in 1593, studied at Zurich, under Dietrich Meyer, and at Oppenheim, under Theodore de Bry, settled at Frankfurt on the Maine, and died in 1651. His principal engravings consist of views of the chief cities of Europe, particularly those of Germany, with descriptions, and are remarkable for the excellence of their perspective. His other works are landscapes, historical scenes, the chase, &c.

His son Matthew, born at Basle, 1621, was a good painter of portraits. He studied at Rome, 1644, travelled in England, the Low Countries, France, &c., and died in 1687.

Maria Sibylla, a daughter of the elder Matthew, was born at Frankfurt, in 1647. She studied under her step-father Morefels, and Mignon, and was distinguished by the taste, skill, and accuracy with which she painted flowers and insects in water colours. Her zeal for this department of painting induced her to make a voyage to Surinam, for the purpose of observing the metamorphosis of the insects of that country; and, after a residence of two years, she returned with a large collection of drawings of insects, plants, and fruits on vellum. Her works are *Eruucarum Ortus*, *Alimentum*, et *Metamorphosis*; History of the Insects of Europe; and *Metamorphosis Insectorum Surinamensium*, with sixty plates. She died at Amsterdam, 1717. One of her daughters published a new edition of the last named work, which her mother was preparing at the time of her death.

MERIDA, or YUCATAN; one of the states of the Mexican confederacy. See *Yucatan*, and *Mexico*.

MERIDIAN, in astronomy (from the Latin *meri-*

*diēs*, mid-day), is a great circle of the celestial sphere, passing through the poles of the earth and the zenith and nadir, crossing the equator at right angles, and dividing the sphere into an eastern and western hemisphere. When the sun is on this circle, it is noon or mid-day, to all places situated under that meridian, whence the derivation of the word, as above stated.

*Meridian*, in geography; a corresponding terrestrial circle in the plane of the former, and which, therefore, passes through the poles of the earth. All places situated under the same meridian have their noon or mid-night at the same time; but, under different meridians, it will arrive sooner or later, according as they are situated to the eastward or westward of each other; viz. the sun will be upon that meridian soonest which is most to the eastward, and that at the rate of an hour for every fifteen degrees.

*First Meridian* is that from which all the others are reckoned, which, being totally arbitrary, has been variously chosen by different geographers. Ptolemy makes his first meridian pass through the most western of the Canary islands; others have chosen cape Verd; some the Peak of Teneriffe, others the island of Ferro, &c.; but most nations now consider that the first meridian which passes over their metropolis, or their principal observatory. Thus the British reckon from the meridian of Greenwich; the French from Paris; the Spanish from Madrid; the Americans from Washington, &c.

*Meridian of a Globe* is the brass circle in which it turns, and by which it is supported. *The Brass Meridian* is divided into 360 equal parts, called *degrees*. In the upper semicircle of the brass meridian these degrees are numbered from 0 to 90, or from the equator towards the poles, and are used for finding the latitudes of places. On the lower semicircle of the brass meridian they are numbered from 0 to 90, from the poles towards the equator, and are used in the elevation of the poles.

*Meridian Line* is a north and south line, the exact determination of which is of the greatest importance in all cases relating to astronomy, geography, dialling, &c., because on this all the other parts have their dependence. The most celebrated meridian line is that on the pavement of the church of St Petronio, in Bologna, which was drawn to the length of 120 feet, by the celebrated Cassini. Without knowing the meridian line of a place, it would be impossible to make a dial, set a clock, or measure degrees on the earth's surface. For the measurement of degrees of the meridian, see the article *Degrees, Measurement of*.

*Meridian Line*, on a dial, is the same as the 12 o'clock hour line.

*Magnetic Meridian*; a great circle passing through the magnetic poles. See *Magnetism*.

*Meridian Altitude*; the altitude of any of the heavenly bodies when they are upon the meridian.

MERINO SHEEP. See *Sheep*.

MERLIN, AMBROSE, a British writer, who flourished about the latter end of the fifth century. The accounts we have of him are so mixed up with fiction, that to disentangle his real life from the mass would be impossible. He was said to be the son of a demon and a daughter of a king of England who was a nun. His birth-place was Carmarthen, in Caledonia. He was instructed by his father in all branches of science, and received from him the power of working miracles. He was the greatest sage and mathematician of his time, the counsellor and friend of four English kings, Vortigern, Ambrosius, Uther Pendragon, and Arthur. Vortigern, at the advice of his magicians, had resolved to build an impregnable tower, in order to secure himself against the Saxons; but the foundation was scarcely laid,

when the earth opened by night and consumed a spot. The magicians informed the king, that to prevent the foundation, he must set a wall to bind of a child born without a father. After much search, the young Merlin was brought to the king, who Merlin had heard the dictum of the magicians, to disputed with them, and showed them the stone foundation of the tower was a great hole in the lake two great raging dragons, one representing the British, one white, representing the Saxons. The earth was dug open, and so near the dragons found, that they commenced a hot battle; whereupon Merlin began to weep, as he uttered prophecies respecting the future state of his land. The miracles ascribed to him are numerous. He is said to have escaped from the Saxon in a bag of glass. Instead of dying, it was supposed that he fell into a magic sleep, from which, after a long period, he would awake; and to thus foreshadow the coming of his Faery Queen. In the *Brutish* version of the *Compte de la Vie de Merlin et de ses Faits et de ses Prophecies* (2 vols., folio, on woven velvet date or place). We have also the *Life of Merlin*, surnamed Ambrosius, by T. Heywood, in *Keaton's History of Poetry*, and *Spranger's Faery Queen*, &c.

MERLON, in fortification, is that part of a parapet which is terminated by two embrasures of a battery. Its height and thickness are the same with those of the parapet; but its breadth is generally one on the inside, and six on the outside. It serves to cover those on the battery from the enemy; and is better when made of earth, well bent and cast, than when built with stones, because they fly about and wound those they should defend.

MERMAID (from the Anglo-Saxon *mere*, sea, and *maid*, a fabulous creature, which seamen have described as having the head and body of a woman with the tail of a fish. Mermaids are represented as having long green hair, breasts, and arms, and as sometimes floating on the surface of the ocean. Sometimes they give them a voice:

I heard a mermaid, on a dolphin's back,  
Uttering such dulcet and harmonious breath,  
That the rude sea grew civil at her song;  
Oberon, in *Midsummer Night's Dream*.

This reminds us of the ancient *Syrinx*, who, because she was winged and clawed. (See *Syrinx*.) Women have also been seen, if we may trust the tales. The stories have probably arisen from the appearance of Phocæ, and similar creatures.

MEROE; a city and state of ancient Egypt, in the north-easterly part of Africa, upon a fertile peninsula, surrounded by sandy deserts, and bounded by the Astapus (Bahr el Abiad), the White Nile, properly the Nile, on the west, and the Atbara (now the Tacazzu) on the east, as far as the modern province of Gojam. It now forms the district of Atbar, between 13° and 18° north latitude, with a town of the same name, and lies on the kingdom of Sennar, which constitutes a part of Nubia. The people of the ancient priestly state of Meroë, according to Herodotus, were negroes, and are the same black nation of which we have any account. They made much progress in intellectual cultivation. They had a fixed constitution, a government, law, and religion. The government was in the hands of a caste of priests, which chose a king from their number, who was obliged to live and act according to certain prescribed rules. The priests alone could doom the king to death in the name of the gods, and he must submit. It was customary for the king (ministers) of the king to share the same fate as their master, even death. Ergamenes, king of Meroë, in the third century B. C., during the reign

tolemy II., in Egypt, first made himself independent of this oppressive priesthood by murdering the its in the golden temple. Meroe was the centre of the great caravan trade between Ethiopia, Egypt, Nubia, Northern Africa, and India. Several colonies went from Meroe, and the first civilized state in the pt, that of Thebes, which, as a resort for the vases, always remained intimately connected with Meroe, and was governed by priests, must have originated thence. The priests were of a lighter complexion than the others, and were probably descended from India, from which, generally speaking, Meroe and the Ethiopian coasts must have received the first inhabitants. Ammonium (see *Ammon*, and also) was also a small priestly state, with a king, founded by Egyptians and by Ethiopians from Meroe. Meroe and Axum (in Abyssinia) which appears to have been also a colony from Meroe, remained the centre of the southern commerce till the time of the Christians. The existing monuments of their architecture, and many other vestiges of them, prove an early religious and social cultivation. Frederic Cailliaud of Nantes has given us the latest accounts of these memorials of Indian and Ethiopian antiquity in *Voyage à Méroé, au Fleuve Blanc, &c., en 1822* (Paris, 1824, in 3 parts, with engravings maps, 2 vols., folio). Cailliaud took advantage of the Nubian campaign of Ismail, the son of the Pasha of Egypt, in 1821, to ascend the Nile farther than his predecessors had done. Gau (q. v.) reached the second cataract; Brownie, in 1793, went to Cobbe, in Darfour (lat. 16° N.); Bruce went to Sennaar to the coast of the Red sea, as far as 30°; but Cailliaud penetrated into southern Nubia, following the principal branch of the Nile 2° north, 100 leagues above Sennaar, and 300 leagues farther from the southern boundary of Egypt. Gau, into a new country hitherto unknown to the geographers. He made observations and collections illustrating the physical geography and natural history, besides obtaining materials for an authentic map of the country through which he passed; but he attended particularly to the monuments and ruins of the most ancient architecture. His work, edited by Jomard, therefore forms a sequel to that of Gau, since Cailliaud begins where Gau ended. Cailliaud was well prepared for this second journey, and kept an accurate journal. With his companion Letornec he settled more than fifty points systematically, collected plants, animals, and minerals, and particularly took drawings of the remains of temples, pyramids, colossuses, bass-reliefs, and Egyptian and hieroglyphic inscriptions. He described and sketched about 100 ancient monuments, and directed, on his way to Meroe, nearly eighty pyramidal sepulchres. The most remarkable are the temples of Iaga and Soleb, the ruins of Subah (lat. 15° N.), pyramids at Parkal and Shendy (Chandy), where ancient Meroe was probably situated. Here he found the beetle worshipped by the Egyptians (*rabæus*, or *Atenhus sacer*), a gold beetle, from which it may be concluded that the Egyptians derived their worship from the Ethiopians. The latter still have about their necks the image of the *Scarabæus*. Cailliaud also found in the region of the ancient Meroe the hump-backed ox, and the true ibis, as it is delineated on the Egyptian monuments. Among more recent travellers to Nubia are the Prussian naturalists doctor Ehrenberg and doctor Hemprich, who, in 1823 et seq., under royal patronage, examined the coasts of the Red sea as far as Nubia and Sennaar. Hemprich died at Massuah, the principal port of Abyssinia, June 30, 1825. Ehrenberg returned, in 1827, to Berlin. Edward Rüppel, a native of Frankenstein on the Maine, in 1823, penetrated as far as Dou-

gola, in the upper part of Nubia, and, in 1825, returned to Cairo from an excursion in Nigritia. He then visited the coasts of the Red sea, went thence to Abyssinia, and, in June, 1827, again returned to Cairo. A Russian by the name of Ssenkowsky, who, since 1820, has travelled over some parts of the East and Africa, returned to St Petersburg in 1822, and published his travels in the Russian language, which, among many other things, probably contain good accounts of Nubia.

MEROPE; the daughter of Cypselus, king of Arcadia, and the wife of Cresphontes, king of Messene. She bore him many children, of whom the youngest was Æpytus (according to some, Telephontes). Cresphontes having made many changes in favour of the common people, the nobles conspired, and slew him, with all his children except Æpytus, whom Merope concealed, and afterwards sent to her father, by whom he was secretly educated. Polyphontes, who assumed the government in Messene, caused a search to be made for him everywhere in vain, and offered a reward to whoever should kill him. As soon as the youth was grown up, he went secretly to Messene, with the determination of revenging his father's death. He there demanded of Polyphontes the price which was set upon his own life, pretending that he had killed Æpytus. Merope, expecting a change in the government, had already sent a messenger to bring back her son. The messenger returned with the report that Æpytus had disappeared. She did not therefore doubt that the stranger was actually the murderer of her son, and she determined to kill him while he was asleep. She was on the point of executing her design, when she recognised her son, and concerted measures with him to take vengeance on Polyphontes. She pretended a reconciliation with him, and promised to reciprocate his love. Polyphontes immediately prepared a sacrifice; but, while he was at the altar, Æpytus killed him, and ascended his paternal throne. This story has been dramatised by Voltaire, Maffei, Alfieri, &c.

MEROVINGIANS; the first dynasty of Frankish kings, which ruled in the northern part of Gaul, since called *France*. They derived their name from *Merowig* (*Mervæus*), the grandfather of Hlodowig (Clovis). They ruled from 496 till 752, when they were supplanted by the Karolingians (Carlovingians). Thierry (*Lettres sur l'Histoire de France*) has shown that this revolution was a national change, the second dynasty being eastern Franks (Austrasians), who had become predominant over the Neustrians, or Western Franks, to whom the Merovingians belonged. See *France*.

MERSCH, VAN DER, leader of the Brabant patriots, in 1789, was born at Menin, and entered the French service, in which he acquired the title of the *brave Fleming*. He afterwards served in the Austrian army, in which he rose to the rank of lieutenant-colonel. In the beginning of the opposition to Austria in the Low Countries, the command of a hastily raised body of troops was given to him, with which, though undisciplined and inferior to the enemy, he made a successful attack on the imperial forces at Hoogstraaten, near Antwerp. After some other successful operations, which placed Ghent and Brussels in his hands, the chief command of the Belgian troops was intrusted to him. Party divisions soon, however, found their way into the government, and the enemies of Van der Mersch succeeded, by their intrigues, in removing him from his command, and, although they could prove nothing against him, threw him into prison. He remained in confinement until the Austrians recovered possession of the country, and died at Menin, in 1792, esteemed and regretted.

MERSEBURG; on the Saal, over which is a stone bridge, seat of government of a circle of the same

name, in the Prussian duchy of Saxony, with 8900 inhabitants. It is an old, badly built town. It has a good gymnasium, an obstetrical institute, several religious establishments, and some manufactures. The cathedral has four handsome towers, and an organ of a remarkable size. The bishop Dittmar (died 1018), one of the best historians of the middle ages, lies buried here. Merseburg is celebrated for its beer. Lon.  $12^{\circ} 0' E.$ ; lat.  $51^{\circ} 21' N.$

MERU, MOUNT, in the Hindoo cosmology and mythological geography; the sacred mountain, on whose summit resides Siva, situated in the centre of the earth, and sustaining and uniting earth, heaven, and hell. It is surrounded by seven seas, or *dwipas*, and seven seas,—the salt sea, the sea of intoxicating liquor, the sea of sugar, the sea of clarified butter, the sea of curds, the sea of milk, and the fresh water sea. Its four sides of four different colours, are directed to the four cardinal points, and watered by four rivers, issuing from a common source.

MESCHID, or MESGHID, or IMAN ALI, or MESCHED ALI; a town of Arabian Irak, ninety miles south of Bagdad; lon.  $43^{\circ} 34' E.$ ; lat.  $32^{\circ} 5' N.$ ; population, 6000. It is near a large lake, called *Rahemat*, which communicates with the Euphrates by a canal. This town was built on the spot where Ali, the cousin, friend, and one of the successors of Mohammed, was interred. His tomb is annually visited by a great number of Persian pilgrims, who esteem this point of devotion equal to a pilgrimage to Mecca.

MESCHID, or MESCHED; a city of Persia, in Chorasani; lon.  $57^{\circ} E.$ ; lat.  $37^{\circ} 35' N.$ ; population stated at 50,000. Five of its twelve quarters are now in ruins. The city is surrounded by a strong wall, seven miles in circumference, but the houses are meanly built. Velvet, of the finest quality, and fur pelisses, much esteemed, are manufactured here. There is also a manufacture of beautiful pottery. In time of peace, caravans pass continually through this town, from Bukharia, Balk, Candahar, Hindoostan, and all parts of Persia.

MESENTERY (*mesenterium*, from the Greek *mesos*, middle, and *enteron*, intestine); a membrane in the cavity of the abdomen, attached to the lumbar vertebrae, and to which the intestines adhere. Its uses are to sustain the intestines in such a manner that they may possess both mobility and firmness to support and conduct the blood-vessels, lacteals, and nerves, to fix the glands, and give an external coat to the intestines.

MESMER, FREDERIC ANTHONY; a German physician, author of the famous doctrine of animal magnetism, called also *Mesmerism*. He was born at Mersburg, in Suabia, in 1734. He first made himself known in 1766, by the publication of a thesis *De Planetarum Influ. su*, in which he maintained that the heavenly bodies exercised an influence on the bodies of animals, and especially on the nervous system, by means of a subtle fluid diffused through the universe. But this whimsical association of the Newtonian philosophy with the reveries of astrologers being too abstruse for general reception, he added the notion of curing diseases by magnetism, and went to Vienna to put his ideas in practice. Father Hell had previously performed some pretended cures by the application of magnets, and he considering Mesmer as a rival, charged him with borrowing, or rather stealing, his invention. The new empiric thought it prudent, therefore, to renounce the use of common magnets, and declare that his operations were conducted solely by means of the magnetism peculiar to animal bodies. He had little success at Vienna, and his applications to the academies of sciences at Paris and Berlin, and the

royal society of London, were treated with neglect. After an abortive attempt to cure King Ferdinand, a celebrated blind musician, by the charm of his art Mesmer quitted Vienna for Paris in 1778. There he for some time in vain endeavoured to attract the notice of men of science; but at length he succeeded in making a convert of M. Dehaen, who was long his pupil, became his rival, and when he was represented as an impostor. Mesmer had to ascend to demand from the French government the gift of a castle and estate, as a reward for his pretended discoveries; and the baron de Haen actually carried on a negotiation with the government offering him a large pecuniary reward, if he would establish a magnetic clinicum, and select two persons chosen by government, as his pupils. The latter condition induced him to reject the proposal and he removed, with some credulous patients, to Spa. A subscription was opened, to induce him to return to Paris and reveal the principles of his confessed discovery. He consequently was there gained a number of proselytes, and received 360,000 livres. Government at length appointed a committee of physicians, and members of the medical sciences, among whom was Franklin, to examine the pretensions of Mesmer; and the result of inquiries appeared in an admirable manner covered up by M. Bailly, which completely exposed the utility of animal magnetism, and the quackery of the author. He afterwards resided some time in England, under a feigned name, and then visited Germany, and, in 1799, published a new edition of his doctrine, which attracted no notice. He died at his native place, in 1815. He was the author of *Mémoire de F. A. Mesmer sur son Système en matière de Magnétisme*, &c.

MESNE; he who is lord of a manor or his tenants holding of him, yet himself lord of a manor lord.

MESNE PROCESS; an intermediate process which issues pending the suit, upon some intermediate matter. Sometimes it is put a distinction to final process, or process of merits, and then it signifies all such processes as intervene between the beginning and end of a suit.

MESOPOTAMIA (Greek, signifying the land between the rivers, called, by the Indians, *Gezira*, or the island). The Greeks called by so name the extensive region enclosed by the Tigris and Euphrates, and bounded on the north by Taurus and Masius. The northern part of the country was mountainous, and rich in grain, and pasturage; but the southern part was flat, and unfruitful. The principal cities were Nineveh or Charræ, Edessa, Zoba (Nisibis), Assack, Vodonie, and Singara. This country has always been inhabited by husbandmen, who lived a settled life, and by shepherds, who wandered from place to place. The Mesopotamians spring from the Chaldeans, the primitive inhabitants, from the Chaldeans who, in the reign of Nimrod, built the cities of Edessa and Nisibis, and from the descendants of Shem, of the tribe of Thara. The latter first settled the region around Ur Chaldeæ, and then extended in and around Haran or Charræ; but, in former times, they spread throughout the whole country, even into Chaldeæ and Syria, so that the Chaldeans were compelled either to retire before them, or submit to them. It was originally a part of Nimrod's dominion. After an interval of more than 1000 years (B. C. 2000), Kusan Rishathathian reigned in Mesopotamia, who extended his dominion over the Lydians. The Israelites, who then possessed Palestine, were compelled to pay him tribute for the space of eight years. In the golden age of the Assyrians

power (790 years B. C.), Mesopotamia was entirely subjected to that empire, and suffered the fate of its subsequent conquerors. Trajan subjected it to the dominion of Rome, A. D. 106, but the Persians did not suffer her to remain long in undisturbed possession of it. When the Arabs, in 651, established a new empire upon the ruins of the kingdom of the Sassanides, Mesopotamia was also obliged to submit to the storm. In the year 1040, it fell into the hands of the Seljooks. From that time it had many rulers, in rapid succession. Genghis Khan made himself master of it in 1218, but, in the year 1360, it fell into the hands of Tur Ali Bey. Forty years afterwards, Mesopotamia was conquered by Tamerlane, and, in 1514, Ismael Sophi incorporated it with the Persian empire. The Persians were, however, in 1554, compelled to cede more than half of it to the Turks; and though they again, in 1613, recovered the lost portion, they were unable to withstand the attacks of Amurath IV., who united this, in 1637, with many other provinces, to his empire. The present extent of this country is computed at about 36,000 square miles, with 800,000 inhabitants. The capital, Diarbekr, situated on the Tigris, with 8,000 inhabitants, a considerable manufacturing and commercial city, is the seat of a sangiac. See S. Buckingham's *Travels in Mesopotamia [Alep, Diarbekr, Mosul, Bagdad, the Ruins of Babylon, &c.]* London, 1827, quarto.

MESS, in sea language, denotes a particular company of the officers or crew of a ship, who eat, drink, and associate together, whence *messmate*, one of the number thus associated. In military language, *mess* denotes a sort of military ordinary, for the maintenance of which every officer, who takes his meals here, gives a certain proportion of his pay. These associations of officers, in the British armies, exist not merely in time of peace, but even in the field; and foreigners are surprised at the degree to which the national love of comfort prevails, even amid the fatigues of service, leading the officers to carry with them loads of table equipage, thereby adding to the cumbersome baggage of a British army. In all the descriptions of the British military life, the mess is conspicuous; and it may easily be imagined that these social meetings, when the toils of service are suspended, and the pleasures of the table are heightened by music; when the restraints of military etiquette are relaxed, and a soldier-like frankness prevails; when the young express their hopes, and the older relate their experiences,—are among the bright spots of British military life. Several armies, particularly the Prussian, have attempted, in time of peace, to imitate the British mess, but without being able to copy it fully.

MESSA DI VOCE (*Italian*) signifies, in music, a gradual swell and diminishing of the tones. It takes place in notes of long duration, especially upon *trilled* (q. v.), and in the preparation of a cadence. In the duration of the note, the gradation in the *and, crescendo, forte and decrescendo* must depend. In shorter notes, less gradation takes place. The *essa di voce* requires the singer to have his breath entirely under his control. If well executed, it has a very fine effect; but it is not to be confounded with the erroneous practice of many singers, to begin every tone *piano*, and gradually to increase in strength; neither ought it to occur too frequently.

MESSALIAN (in the Syriac), or Euchetes (in Greek, that is, *praying people*), also Enthusiasts, and Neumatists (as they called themselves); the members of a heretical sect, which arose in Mesopotamia about the year 360, and was introduced by Adelphius (one of their teachers), in the fourth century, into Syria. The Messalians insisted upon the incessant exercise

of prayer, which they considered as alone sufficient for salvation. They did not labour, but supported themselves by begging, and gave themselves up to fanciful speculation, which explains both their confused notions of Christianity, founded on Oriental mysticism, and resembling Manichæism, and also their expectation of being able by prayer to arrive at such a degree of perfection that in it all sin would be of necessity removed. With this are also connected those ascetic, and, in part, indecent excesses and strange convulsions, of which they were accused, those divine revelations and visions, of which they boasted, and their contempt of the church. Notwithstanding the opposition and denunciations of councils, emperors, and bishops, Messalians of both sexes continued to exist, although not in large numbers, among the Oriental Christians, till the end of the seventh century. The modern Messalians, or Bogomili, who are often improperly confounded with this sect, are more nearly connected with the Paulicians. (q. v.)

MESSALINA, 1, Valeria. This notorious Roman empress, the daughter of Messala Barbatus, and wife to the emperor Claudius, has left behind her the infamy of having surpassed, in licentiousness, the most abandoned women of any age. She had all the males belonging to the household of the emperor for her lovers; officers, soldiers, slaves, players—nothing was too low for her. Not satisfied with her own shame, she even compelled the most noble Roman ladies to commit, in her presence, similar excesses. Whosoever did not comply with her wishes she punished with death. She at length went so far as, during the lifetime of her husband, publicly to marry Caius Silius, a senator. Narcissus, a freedman and favourite of the emperor, formerly a paramour of the empress, discovered to Claudius, who was then absent from Rome, this new act of infamy on the part of Messalina. But Claudius delayed to punish her, and Narcissus, seeing that his own life was at stake, if the empress should succeed in recovering the favour of her weak and infatuated husband, gave orders to his friends to murder her secretly (A. D. 46).—2. Statilia Messalina; the third wife of Nero, on whose death she returned to private life. She then devoted herself to the study of eloquence and the fine arts, and acquired some celebrity.

MESSANA. See *Messina*.

MESSE CONCERTATE (*Italian*); masses in which the recitation is intermixed with choruses.

MESSE DI CAPELLA; an expression applied by the Italians to masses sung by the grand chorus. In these compositions, various fugues, double counterpoints, and other elaborate qualifications, are always required.

MESSENA; a country of ancient Greece, in the southern part of the Peloponnesus. Its capital was Messene (Mavromati), with the mountain fortress Ithome; Mothone (Modon), Korone (Coron) and Pylus (Navarino), with the stronghold Phææ, now Calamata, were its principal ports. On its southern coast lay the Messenian gulf (now the gulf of Coron). A ridge of mount Taygetus separated Messene from Sparta. Messenia is celebrated for the long struggle of its inhabitants with the Lacedæmonians, in defence of their liberty. In the first Messenian war (743—724 B. C.), the Lacedæmonians with the Athenians invaded Messenia, notwithstanding the proposal of the Messenian king to submit their differences to the arbitration of the Areopagus, or the Amphictyonic council. For twenty years, the Messenians defended themselves valiantly, under their king Aristodemus, who, in consequence of an answer of the Delphic oracle, which promised them the victory on condition of the sacrifice of a virgin of the

royal family, offered his own daughter as the victim. Her lover, to save her life, declared her to be pregnant by himself, and Aristodemus, to prove her innocence, stabbed her with his own hand, and caused her to be opened and sacrificed. The Messenians, though for some time successful, were finally obliged to submit by the loss of Ithome. About forty years after, they again rose; and thus commenced the second Messenian war (685 B. C.), which ended in their subjugation. (See *Aristomenes*.) A part of the Messenians are said to have emigrated to Sicily; and there to have founded Messina (see *Messina*), on the site of the ancient Zancle (668 B. C.) After 200 years of servitude, the Helots (q. v.) and Messenians took up arms. This third Messenian war lasted ten years (465–455 B. C.), and resulted in the expulsion of the Messenians from the Peloponnesus. Epaminondas restored them. They rebuilt Messene (369 B. C.), and maintained their independence till the country was conquered by the Romans. The Messenians remained true to their customs, manners, and language, through all changes of fortune. Delavigne has called his elegies *Messenienes*. In modern Greece as organised since the revolution, two of the seven departments of the Morea, in the south-western part of the peninsula, have received the names of *Upper Messenia* and *Lower Messenia*.

MESSENIUS, JOHN, born at Wadstena, in East Gothland, in 1584, was a Swedish historian. He was in the confidence of the great Gustavus Adolphus, and became professor of law and politics at Upsal. His fame exposed him to envy, and his enemies accused him, in 1615, of corresponding secretly with the German emperor Sigismund, on which he was sentenced to imprisonment for life. He died in confinement, in 1637. Of his writings, the principal is *Joan. Messenii Scandia* (not Scandia) *illustrata, seu Chronologia de Rebus Scandiae, hoc est Sueciae, Daniae, Norvegiae, &c.* (Stockholm, 1710, 14 vols., folio). His son Arnold was executed in 1651, on account of a libel against the queen and the senate. This libel was written by John, son of Arnold, who was then but seventeen years old. The father, however, had been accessory to it. John shared his fate.

MESSIAH; a Hebrew word, signifying the anointed; in the Greek translation *χριστος*, whence *Christ*. In the Old Testament, the word is applied to the whole Jewish people, to the priests, to the kings ("the Lord's anointed"—in the original, "Messiah"), and even to Gentile kings. In the books of the prophets, however, it began to be applied, by way of eminence, to the Saviour and Redeemer of the Jewish nation, and, in this sense, is used in the New Testament, with the extension of its meaning so as to signify the Saviour of all men. The Jews deny that the Messiah is yet come, and still expect the restoration of their state and nation from his arrival. See *Jesus*, and *Jesus*.

MESSIER, CHARLES, an astronomer, born at Randonviller, in Lorraine, in 1739, went to Paris at the age of twenty, and was employed by the astronomer Delille, in copying and drawing maps. Delille, who was struck with his zeal in the study of astronomy, obtained a situation for him, and, in 1758, the observation of the comet, which then occupied the attention of astronomers, was intrusted to him. He was one of the first to discover the comet whose return Halley had predicted in 1759; and he carefully observed the newly discovered planet Uranus. A telescope, a quadrant, and a pendulum, were his only instruments. His sight was remarkably keen, and enabled him to discover objects of search before other observers. The revolution deprived him of his former appointments, but he continued his observations

through the reign of terror, and was afterwards appointed a member of the institute, of the bureau of longitude, and of the legion of honour. He died in 1817, at the age of eighty-six. His observations are contained in the *Mémoires de l'académie* and in the *Connaissance des Temps*.

MESSINA (anciently *Messana*), a city on the eastern coast of Sicily, lying on the sea, and the *Pharos of Messina*, with a safe and commodious harbour; lat. 38° 11' N.; lon. 15° 34' E. harbour of an archbishop. The streets are broad, well out, and paved with lava, cut into black and white square. Since the earthquake of 1783, the town have been rebuilt, of fewer stories. The population is 55,000; thirty convents and about sixty schools, four seminaries of education, several hospitals for the poor, hospitals, and *monti di pietà*, a seminary, a royal and an episcopal palace, are among the public buildings. It has an extensive transit trade between Italy and the Levant, and exports silk, wax, fruits, wool, &c. The cathedral is dedicated to the virgin, who is the patroness of the city, under the title of *Madonna della Lettera*, and contains a letter in the hand-writing of the virgin to the Madonna, a lock of her hair, an arm of St. Paul, and the skull of Mary Magdalen! The city was ravaged by a plague in 1743, and almost entirely destroyed by an earthquake in 1783. See *Sicily*.

MESTIZOS, or METIS (Spanish, mixed), countries where Spanish Europeans have united or intermingled with the natives, the descendants are called *Mestizos*. In Mexico the European Spaniards were called *Chapetones*, or *Gachupanes*. The pure descendants of Europeans are called *mestizo* (q. v.); in similar countries. The *Mestizo* is distinguished as having a transparent skin, a thin hard nose, hands and feet, and a certain obliquity of the eye. If a Metis marry with a white, the fruit of the union differs but slightly from a European.

MESTO (*Italian*); a term signifying distress and melancholy style of performance.

MESTRE DE CAMP; formerly the title of the commanding officer of a regiment of cavalry in the French service. He was distinguished by the appellation on account of there being a colonel-general in the cavalry. The chief of a regiment of other was also formerly so called.

MESUE; a name given to the author of some ancient Arabic works on medicine, which were translated into Latin. They are founded on the principles of Galen, and enjoyed great authority for a time, in the middle ages, and were commented upon down to the sixteenth century. There is much uncertainty respecting the name itself, and the life of the author. It seems necessary to suppose the existence of two physicians of this name, an Arabian who was body physician to the famous caliph Harun al Rashid (q. v.), and to several other caliphs, and died at Bagdad about A. D. 851. Harun al Rashid, and his successor, Almansur, employed him to translate several works from the Arabic. The younger Mesue was born in the eleventh century. He is said to have been a Christian, and a pupil of Avicenna. His works on medicine, translated into Latin, were common text books in the medical schools of the middle ages, and were commented upon as late as the seventh century.

MESURADO, CARL. See *Litharia*.

META; a Greek preposition (*meta*) of a great variety of meanings. It is used in numerous compound words, which have been adapted to English, and, in this case, generally means *with*, *over*, *after*.

METAL; the most numerous class of substances pointed chemical bodies, distinguished by the

lowing general characters: 1. They possess a peculiar lustre, which continues in the streak and in their smallest fragments. 2. They are fusible by heat, and in fusion retain their lustre and opacity. 3. They are all (except selenium) good conductors both of electricity and caloric. 4. Many of them may be extended under the hammer, and are called *malleable*; or under the rolling press, and are called *laminable*; or drawn into wire, and are called *ductile*. 5. When their saline combinations are electrized, the metals separate at the negative pole. 6. When exposed to the action of oxygen, chlorine, or iodine, at an elevated temperature, they generally take fire, and combining with one or other of these three elementary dissolvents, in definite proportions, are converted into earthy, or saline-looking bodies, devoid of the metallic lustre and ductility, called *oxides*, *chlorides*, or *iodides*. 7. They are capable of combining in their melted state with each other, in almost every proportion, constituting alloys. 8. Most of them combine, in definite proportions, with sulphur and phosphorus, forming bodies frequently of a semi-metallic lustre; and others unite with hydrogen, carbon and boron, giving rise to peculiar gaseous or solid compounds. Their names are as follows: 1. platinum, 2. gold, 3. silver, 4. palladium, 5. mercury, 6. copper, 7. iron, 8. tin, 9. lead, 10. nickel, 11. cadmium, 12. zinc, 13. bismuth, 14. antimony, 15. manganese, 16. cobalt, 17. tellurium, 18. arsenic, 19. chromium, 20. molybdenum, 21. tungsten, 22. columbium, 23. tantalum, 24. osmium, 25. rhodium, 26. iridium, 27. rhenium, 28. titanium, 29. cerium, 30. potassium, 31. sodium, 32. lithium, 33. calcium, 34. barium, 35. strontium, 36. magnesium, 37. yttrium, 38. glucinum, 39. aluminium, 40. zirconium, 41. silicium, 42. thorium.\* The first twelve are malleable, and so are the 30th, 31st, and 32d, in their congealed state. The first 16 yield oxides, which are neutral salifiable bases. The metals 17, 18, 19, 20, 21, 22, and 23 are acidifiable by combination with oxygen. Of the oxides of the rest, up to the 30th, little is known. The remaining metals form, with oxygen, the alkaline and earthy bases.

**METALLIQUES**; a kind of Austrian stocks, so called because the interest is paid in the precious metals, and not, like the interest of other stocks, in paper money. The name was afterwards used also in other countries, for instance, in Russia, for stocks of a similar kind.

**METALLOID**, in chemistry; a name given at first to the metals which have been obtained from the fixed alkalis and some of the earths. These bodies, having been found to be completely metallic, are now classed with the other metals, and no distinction is necessary.

**METALLURGY, METALLURGIC CHEMISTRY**, is that part of chemistry which teaches the combinations and analyses of metals. It has been much cultivated of late.

**METAMORPHOSIS** (from the Greek *μετα*, over, and *μορφη*, the form); a change of the form, used also for an entire change of the subject. The active imagination of nations in an early stage of history, indulges itself in representing metamorphoses of men, beasts, plants, stones, &c., and these productions of youthful imagination enter into their religion, philosophy, poetry (generally at first identical). Surrounded by the constant metamorphoses of nature, and seeking, as man always does, to connect effects and causes, yet unable, from his limited knowledge, to satisfy his desires, he is led to ascribe any changes, which riper ages find to be the con-

sequences of eternal laws, to sudden metamorphoses. To these he resorts to explain the mysteries of his present condition (which perplex the mind of man in the infancy of society as well as in advanced cultivation), and, by a series of metamorphoses, accounts for the undefinable connexion between man, nature and providence. To all this we must add the great interest which attends the story of metamorphoses. Even in this reflecting age, in which cool understanding seems to have acquired the ascendancy, who can read, without interest, the tales of strange transformations contained in the Arabian Nights—those wild productions of a creative imagination? Of the metamorphoses of the Greek mythology, while some startle the sober taste of our age, others belong to the sweetest productions of poetry. The popular belief in metamorphoses has by no means subsided entirely in all Christian countries. In natural history, the word *metamorphosis* is used sometimes for any change in the organization of matter, as, for instance, the transformation of food or rain into animal or vegetable organic substances, but more particularly for those sudden changes in the form of things, which are obvious and interesting even to ordinary observation, as the change of the pupa into a butterfly.

**METAPHOR** (Greek, *μεταφορα*, from *μετα*, a preposition often signifying in compound words, over, and *φορεω*, I carry); a figure of rhetoric, by which a word is transferred from the subject to which it properly belongs, and applied to another which has some similitude to its proper subject, with a view to give impressiveness to the latter. The metaphor may be merely in an epithet or an auxiliary term, as "winged haste," the "spring of life," &c., or in the main subject of a sentence, as when a hero is called a *lion*, a minister a *pillar of the state*, &c. In respect to the points of comparison, the metaphor may either put something animate or intellectual for something inanimate and material; for instance, "the wrath of the sea," "the bountiful earth," to represent nature as if endowed with will; or, *vice versa*, may substitute the physical for the spiritual, as, "the stars of his merits will shine from the night of the grave." As the impressions which we receive through the senses are the liveliest, the designation of things spiritual by images taken from the material world may often produce a striking effect. Thirdly, a metaphor may consist in the transfer of a term from one thing to another, falling under the same great division of material or spiritual, but substituting the more familiar for the less, as when we speak of the "silver moon." Brevity and power are the characteristic excellencies of the metaphor; novelty shows the original wit. Unexpected contrast may produce an effect sublime and ridiculous in the highest degree. Jean Paul, in his *Vorschule der Aesthetik* says, "The metaphor is the proof of the unity of both worlds (spiritual and physical.) The metaphors of all nations are similar, and none calls error light, or truth darkness." Liveliness of conception, comprehensiveness of view, and activity of imagination, are necessary to produce good metaphors, which often produce great effects, sometimes to the prejudice of sober reasoning. He who wishes to study metaphors must read the Old Testament and Shakspeare. A slight consideration will show us how constantly we speak in metaphors, and that we convey most abstract ideas by metaphors of the second kind; thus, He is *cold* towards me, He is *large minded*, &c. It is maintained by many, that all language began by the designation of objects and actions affecting the senses, and that when the mind began to abstract, man was obliged to use his stock of words for abstract ideas, so that all words, if we had the means to trace them, would be found to refer originally to

\* To this list we must now add vanadium, a new metal lately discovered by Sestrom, director of the iron mines of Falun, Scandinavia.

things material, which, it cannot be denied, is often the case. In the speculative sciences, morals, metaphysics, politics, &c., metaphors, instead of being confined to the rank of illustrations, have often been treated as if they had an independent meaning, and have been made the foundation of reasonings. No philosophy deserves this reproach more severely than the most recent philosophy of Germany, which often takes ingenious metaphors as explanations of truth.

**METAPHYSICS.** What am I? What is all that surrounds me? What is mind, soul, existence, perception, feeling, thought? What is evil? What is time, space, cause, effect? What is truth? What is necessity? What is freedom? Can we know any thing with certainty? Questions of this character are continually suggesting themselves to the mind of man. It is one of his distinguishing characteristics to look for causes, and to establish relations among the numberless phenomena around him, and within him; to separate the generic from the special, and to reduce the whole system of things to harmonious order. His acquisitions and advancement are all owing to this disposition, ineradicably planted in his soul by his Creator. The rudest speculations of uncivilized man, and the profoundest systems of philosophy, are alike proofs that this desire cannot be extinguished, this anxious feeling cannot be lulled into apathy. All investigations relating to these great questions belong to what has been called, though arbitrarily, *metaphysics*. Such speculations it is neither possible nor desirable to check, though they may result in but distant approximations to truth. Revealed religion does not attempt to repress them, and even if the end of the whole should be that the search was vain, this itself would be a fact of the highest interest. A man who condemns metaphysics must think his own nature unworthy of examination. Metaphysical inquiries, indeed, have often been disfigured with overstrained subtilty and revolting sophistry, and too often arbitrary analogies, bold comparisons, and unmeaning mysticism have claimed and received homage as having unlocked the long hidden truth; but the same has taken place in regard to religion and politics, and all the great subjects which strongly stir the soul of man. In an historical point of view, all these aberrations, and even absurdities, mournful as they may be, are interesting. Among the writings of Aristotle, on natural subjects, are some which treat particularly of the original causes of all existence. When the various treatises of that philosopher were first arranged by his commentators, the latter received a place after the others, and, not having a special title, were designated in the older manuscripts as *in prima via physica*, that is, *after the treatises on nature*; and of this the schoolmen formed the barbarous word *metaphysica*; and as the subjects which Aristotle treats in these chapters are purely speculative, metaphysics was considered the science of general speculation, and of things placed beyond the reach of the senses. This science was not new; its elements were spread through all philosophical systems; and that which bears the name of Aristotle, being but a collection of considerations on the principles of things, on general terms, axioms, causes, the properties of existence, substance, matter, motion, space, time, God, the immaterial and eternal intelligences who preside over the movement of the heavenly spheres, forms but part of it; for *metaphysics* comprehends every thing which can occupy the human mind. God, nature, the soul, and all the conceptions which result from the rational exercise of our faculties. Few philosophers have embraced the whole of the vast domain of metaphysics; generally they have attached themselves to one of its parts, and have treated it accord-

ing to their different genius. Some have submitted themselves to the promptings of a busy and creative imagination; others have devoted themselves to a cool analysis; some have employed themselves in speculation, others in observation; and a superior observation, some have confined themselves merely to facts perceptible by the senses; and some to phenomena within us, moral and intellectual. It does not mean that any class has excelled and excels exclusively in either of these ways, but each to take a favourite path, to which the others were strangers. Thus the Oriental philosophy observes ideas more freely, analyses not at all, and imagines causes. It creates and sets in action suppositions which suggest mysterious causes and arbitrary analogies and peoples space with spirits standing between us and men. The dogma of the two principles, and the system of emanations, form the basis of the Oriental philosophy. Traces of these notions may appear in the metaphysics of Pythagoras and Plato. Aristotle, in the treatises above mentioned, presents what other philosophers have not required subjects lying beyond the reach of our senses, as often only hints at what is to be sought, without declaring that it is found. The great authors which Aristotle enjoyed in the middle ages, and a little actual knowledge respecting the laws of existence, induced his pretended followers to turn to his philosophical fragments what they thought a connected and well founded system, which served as a canon for the philosophy of the time. Even the most commentators of Aristotle directed their endeavours to this point; but metaphysics, as an independent science, was developed by the substance of the middle ages (Thomas Aquinas, Duns Scotus, William Occam, and others), and was cultivated to what this word can be given to their use of *metaphysics* (science) so much the more as all other sciences have been forgotten. Not until the seventeenth century was the metaphysics of the scholastics corrected by the introduction of a critical spirit of investigation. Lord Bacon, More, Hobbes, Bayle, and England; Th. Campanella, in Italy; Descartes, in France, as adversaries of the Aristotelian metaphysics. More details and a continuation of the historical sketch will be found in the article *Philosophy, Intellectual*, as well as some account of the most important systems of metaphysics. It has become customary to designate the theoretical principles of any branch of knowledge as the metaphysics of a science. The French, in particular, have considered metaphysics in this light, and have had the habit of despising abstract speculation, though a different spirit seems to have arisen among the latest philosophical writers.

**METAPONTUS**; a son of *Sisyphus*, who was Theban. See *Thebes*.

**METASTASIO**, PIETRO ANTONIO DOMENICO BUONAVENTURA; born at Anagni, 1734. His name was Trapassi, and his father was a country soldier. His poetical talents were early awakened, particularly by the reading of Tasso, and while a child, were displayed in making rhymes, and improvisations: the latter, however, he was obliged to renounce, on account of his excessive nervous excitement. The celebrated *Caetano*, who accidentally became acquainted with his name, took him under his protection, called him, (by a corruption of his name into Greek) *Metastasio*, paid gratification to his education, and, on his death, in 1782, left him his whole estate. The young poet, long placed in an easy condition, devoted himself to his favourite study, and, under the guidance of the celebrated singer Maria *Rossini* (afterwards *de' garelli*), created the modern Italian opera. He is

already produced an opera, *Il Giustino*, in his fourteenth year. In 1724, he began his career as a dramatic poet, with the *Didone abbandonata*, which was brought out at Naples with Sarti's music, and in which he is thought to have depicted his own connexion with Romanina. His success was such that Charles VI. invited him to Vienna in 1729, and appointed him poet laureate (*poeta cesareo*) with a pension of 4000 guilders. Thenceforward no gala took place at court which was not graced by his verses. Ferdinand VI. of Spain, who was delighted with his operas, in which Farinelli (q. v.) performed, sent the poet a flattering token of approbation. Metastasio constantly declined all the distinctions which Charles VI. and Maria Theresa were desirous to confer on him, and died in 1782. Pius VI., who was then at Vienna, visited him in person, and sent him his apostolical benediction in *articulo mortis*. The most important of Metastasio's works are his operas and musical cantatas, which have appeared in numerous editions. A ninth edition of his *Opere drammatiche* was published in Venice in 1748; a better edition is that of Turin (1757, 14 vols.). His complete works, published in Venice (1781, 16 vols.) contain his life. His *Opere postume* appeared at Vienna (1795, 3 vols.). Metastasio's purity, clearness, elegance, and grace of style, the harmony, sweetness, ease, and expressive rhythm of his *arie*, *ariosos*, and songs, have rendered him a classic among the Italians. No poet, perhaps, has ever possessed in a higher degree the power of embracing the most essential circumstances of a poetical situation in a narrow compass. The songs, with which his personages retire, are almost always the most concise and natural expression of the state of the feelings. His representations of the passions are, however, general; his pathos equally destitute of individual character, and of general contemplation. He is throughout musical, and never picturesque. His melodies are light and pleasing, but are frequently repeated with little variation: when one has read several of his pieces, he is acquainted with all. The gallantry of his heroes and the fondness of his heroines are, perhaps, less to be blamed than the choice of subjects whose serious character makes rifling out of place. His tragic attempts failed. His astonishing success through all Europe, and particularly at courts, was owing partly to his being out of office, but in manner, a court poet. brilliant and superficial, arraying prosaic thoughts in a poetical style, always preserving a courtly elegance, with a constant observance of the conventional proprieties of high life, he could not fail to please in the courtly world. Few of his operas have maintained a place on the stage, on account of the change in the musical taste.

**METASTASIS**, in medicine; the transfer of a disease from one part of the body to another, or such a alteration as is succeeded by a solution.

**METAURUS**; a town with a small river of the same name in the country of the Bruttii. The river Metaurus falls into the Adriatic.

**METELIN**. See *Lesbos*.

**METELLA**; the wife of Sylla.

**METELLI**; the surname of the family of the æmili, at Rome, the most known of whom were a general, who defeated the Achæans, took Thebes, and invaded Macedonia, &c.; *Q. Cecilius*, who rendered himself illustrious by his successes against Mithridates, the Numidian king, from which he was surnamed *Numidicus*. He took, in this expedition, the celebrated Marius (q. v.) as his lieutenant, and soon had cause to repent of the confidence he had placed in him. Marius raised himself to power by effacing the character of his benefactor, and Metel-

lus was recalled to Rome, and accused of extortion and ill-management. Marius was appointed his successor to finish the Numidian war, and Metellus was acquitted of the crimes laid to his charge before the tribunal of the Roman knights, who observed that the probity of his whole life, and the greatness of his exploits, were stronger proofs of his innocence than the most powerful arguments.—Another, who saved from the flames the Palladium, when Vesta's temple was on fire. He was then high priest. He lost his sight and one of his arms in doing it, and the senate, to reward his zeal and piety, permitted him always to be drawn to the senate-house in a chariot, an honour which no one had ever before enjoyed. He also gained a great victory over the Carthaginians, &c.—*Q. Cecilius*, a general who conquered Crete and Macedonia, and was surnamed *Macedonicus*.

**METEMPSYCHOSIS** (Greek, from *μετα*, beyond, or, in, and *ψυχή*, I animate); transmigration; the passage of the soul from one body to another.—*Metempsychosis* (from *μετα*, beyond, and *συνεμαρτυρῶ*, I embody) has a similar meaning. Generally the doctrine of transmigration of souls implies some change in the soul itself for better or worse, for purification or punishment. See *Transmigration of Souls*.

**METEMPTOSIS**, (from *μετα*, after, and *εμπετο*, I fall); a term in chronology expressing the solar equation necessary to prevent the new moon from happening a day too late.—*Proemptionsis* signifies the lunar equation necessary to prevent the new moon from happening too soon.

**METEOR**. (Greek, *μετεωρα*, in the air.) The term *meteors* is often applied to all the phenomena which take place in the atmosphere, but is sometimes restricted to the appearance of luminous bodies flying or floating in the atmosphere, or in a more elevated region, including those brilliant globes or masses of matter which are occasionally seen moving rapidly through our atmosphere, and which throw off with loud explosions fragments that reach the earth, and are called *falling stones*; also those fireballs which are usually denominated *falling stars*, supposed to be owing to gelatinous matter, inflated by phosphureted hydrogen gas (see *Falling Stars*); also the lights which appear over moist grounds and burial grounds, called *ignes fatui*, which are ascribed to the same cause. Falling stars appear under a variety of circumstances, but particularly in autumn and spring, when the sky is clear. Their size and brilliancy are variable. They always move with great celerity. They are higher than the region of the clouds, because they are never seen in a cloudy sky. Electricity, spontaneous combustion of matter in the atmosphere, or the incandescence of little globes of a nature similar to that of the bolides, are the agents to which philosophers in general, though without sufficient reasons, attribute the origin of these meteors, with the true nature of which we shall not become acquainted without more numerous and exact observations. Meteors, in the most general sense of the word, may be reduced to four classes—*igneous* or *fiery* meteors, including, besides those above mentioned, lightning, St Elmo's fire; *luminous* meteors, as the rainbow, haloes, aurora borealis, zodiacal light, parhelia, or mock-suns, paraselenes, or mock-moons; *aqueous* meteors,—dew, hoar frost, mist, clouds, rain, snow, hail, &c.; and *aerial* meteors, as winds, water-spouts. It will be seen that these phenomena are of very different natures, and owing to different causes. The only connexion between them is that of a common medium, and we therefore refer to the separate articles for information concerning them; also to *Electricity*. See also the articles *Meteoric Stones*, and *Meteorology*.

**METEORIC IRON.** See *Iron, Native, and Meteoric Stones.*

**METEORIC STONES, or AEROLITES,** are solid, semi-metallic substances, which fall from the atmosphere. The descent of such bodies had been long reported; but the fact was not considered authentic till within a few years. The larger stones have been seen as luminous bodies moving with great velocity, descending in oblique directions, and frequently with a loud, hissing noise, resembling that of a mortar shell when projected from a piece of ordnance; they are sometimes surrounded with a flame, tapering off to a narrow stream at the hinder part, are heard to explode, and seen to fly in pieces. Of course, these appearances have been observed only in the night; when the stones have fallen in the daytime, the meteor has not been observed, but the report and the shower of stones only have been noticed. The same meteoric mass has often been seen over a great extent of country; in some instances, a hundred miles in breadth, and five hundred in length, which implies that they must have had a great elevation. Indeed, from various calculations, it appears, that during the time in which they are visible, their perpendicular altitude is generally from twenty to a hundred miles; and their diameter has, in some instances, been estimated to be at least half a mile. Their velocity is astonishing. Though rarely visible for more than a minute, yet they are seen to traverse many degrees in the heavens. Their rate of motion cannot, according to calculation, be generally less than 300 miles in a minute. From the dimensions of these moving bodies, which certainly have not been overrated, since they have been known to illuminate, at once, a region of one or two hundred miles in extent, we are warranted in the conclusion that the stones which come to us from them, form but a very small portion of their bulk, while the main body holds on its way through the regions of the heavens. The velocity with which the pieces strike the earth is very great, frequently penetrating to a considerable depth, and when taken up, they have been found, in some cases, still hot, and bearing evident marks of recent fusion. Such falls have happened in cloudy as well as in clear weather, which leads to the belief that they are wholly unconnected with the state of the atmosphere. The most remarkable circumstance respecting them is, that they invariably resemble each other in certain easily cognizable characters, both as respects their external properties and chemical composition, so as to render it possible for a mineralogist or a chemist to recognize them with certainty, though he should have no information of their origin or fall. Those specimens in which earthy matter preponderates, resemble pretty closely certain varieties of the trachytic rocks, or ancient lavas, but they invariably contain disseminated through their substance, an alloy of iron and nickel, which has as yet never been discovered among the productions of our earth. The earthy minerals of which they are composed, are felspar, olivine and augite—the former greatly preponderating; and of metallic substances, besides the native iron, magnetic iron pyrites is a frequent ingredient. The alloy of iron and nickel often contains chrome, manganese and cobalt in minute proportions. This alloy varies in the proportion which it bears to the earthy matters, in stones which have fallen at different times: sometimes it is scarcely to be detected without the aid of the microscope; at other times it forms more than one half the bulk of the stone, and immense masses are found consisting entirely of native iron:—such masses are called *meteoric iron*, while the expression *meteoric stones* is applied more strictly to those in which the earthy minerals prepon-

derate. These last are invariably round, or a little outside, with a thin, black crust, and have a general a spherical figure, in which we often observe indentations, similar to those which are produced by a mass that has been impressed with a hammer. These constant characters, as respects form, and chemical and mechanical composition, strongly point to a common origin, and have given rise to a variety of hypotheses to account for their phenomena. Some are inclined to ascribe them to volcanic action, others to extraterrestrial, and others to lunar volcanoes. They are again being supposed to be concretions formed in the regions of our atmosphere; while others have imagined them as small planets revolving about the earth, which, coming in contact with our atmosphere, take fire from the resistance and friction which they meet with in passing through it. We are inclined to the first supposition, viz., that these stones proceed from terrestrial volcanoes, it will be sufficient to show that no remarkable eruption has been known to have happened at or near the time of their fall, and that such bodies have been found at the distance of thousands of miles from any known volcano. Had the immense force that would be necessary to project bodies of such enormous dimensions into the air, and are known to possess, far exceeds any force that can conceive of, not to notice the want of analogy between meteoric stones and ordinary volcanic eruptions. As to the theory that they proceed from volcanoes in the moon, it has a greater appearance of probability. The same force that would project a body from the moon to the earth, would not be exerted at the earth's surface, and the body to the distance of ten miles, is compared to the superior gravity of our planet and the density of the atmosphere. It is computed that a body projected from a favourable spot on the moon's surface, say the centre of her disk opposite to earth, would have a velocity about four times that commonly given to a cannon ball, or 8220 feet per second, and would pass it beyond the centre of attraction, and would enter into the sphere of the earth's attraction, where it must necessarily either fall to the surface, or circulate about us as a satellite. A body projected from the moon to the earth, would take 27½ days in its passage; which is not so long but that it may retain its heat, particularly as it is difficult to escape, not to say that it might acquire a fresh accumulation of heat, by passing through the denser part of our atmosphere. Besides, eruptions resembling those of our volcanoes, have been frequently observed in the moon; and her atmosphere is extremely rare, presenting but little resistance to projected bodies. This theory might perhaps be troubled if we had to account for these showers of stones which come to our earth's surface; but there, it has been estimated, that a very trifling part of the main mass of stones as they descend, and which are believed to be in some instances more than a mile in circumference. And since it is conceived that we experience a fall of these stones every few months in some part of the world, it is obvious that at that rate the mass of the moon must soon be shot away. For this all. Among a number of bodies, therefore, falling from the moon, it is not probable, that 10,000 would have precisely that direction and rate of motion which would be requisite to cause them to pass through our atmosphere, without falling to the

\* Since the discovery of Sir H. Davy, that the carbonaceous tallic oxide, it has been suggested that the mass of these stones may originally exist in the meteor in the form of a solid, and that when the body arrives within our atmosphere, a cold and violent combustion is produced by the strong affinity of the metals to oxygen.

ground. With regard to the theory of these bodies being concretions formed in the air, there is one principal objection, viz., that the velocity with which they strike the earth, estimated by the depth to which they have been known to penetrate, is so great as to indicate their having fallen from heights far exceeding the limits of the terrestrial atmosphere. The remaining theory especially that modification of it which conceives these meteoric masses to be terrestrial comets, appears encumbered with fewer difficulties than either of the others. The solar comets, it is well known, revolve round the sun in very eccentric orbits. In one part of their revolution, they sometimes come so near as almost to strike his body. They then move off, far beyond the orbits of all the planets; and in some instances are gone hundreds of years, before they return. The earth, it is imagined, in like manner, is furnished with its system of comets, whose size and periods of revolution are proportioned to the comparative smallness of the primary body about which they revolve, and which, like the solar comets, fly off in very elliptical orbits; and during the greatest part of their circuit are too far distant to be visible. In their approach to the earth, they all within our atmosphere; by friction of the air they are heated, and highly electrified, and the electricity is discharged with a very violent report, accompanied with the detachment of a portion of the mass, which descends in fragments to the earth. This hypothesis certainly accounts, in a very happy manner, for most of the phenomena attending the fall of bolides. The velocity of the meteor corresponds with the motion of a terrestrial comet, passing through the atmosphere in an elliptical orbit. A body moving near the earth with a velocity less than three hundred miles in a minute, must fall to its surface by the power of gravitation. If it move in a direction parallel to the horizon, more than four hundred and thirty miles in a minute, it will fly off in the curve of a hyperbola; and will never return, unless disturbed in its motion by some other body besides the earth. Within these two limits of three hundred miles on the one hand, and of four hundred and thirty on the other (some allowance being made for the resistance of the air and the motion of the earth), the body will revolve in an ellipsis, returning in regular periods. Now, the velocity of the meteors, which have been observed, has generally been estimated to be rather more than three hundred miles in a minute. In some instances it is perhaps too great to suffer the body ever to return; but in most cases, it is calculated to be such as would be necessary in describing the lower part of an elliptical orbit.—Various lists of the periods, places, and appearances of these showers of stones have been given from time to time in the scientific journals. One of the latest and most complete is that published in the first volume of the *Edinburgh Phil. Journ.*, compiled partly from a printed list by Chladni, and partly from a manuscript of Mr Allan, read some years ago at the Royal society of Edinburgh.

METEOROLOGY (from *μετεωρος*, raised in the air, and *λογος*, discourse); the science which treats of the phenomena which occur in the atmosphere, of their causes and effects. Men, in all conditions of society, are led by motives of necessity or comfort to study the indications of the weather in the different appearances of the skies. The mariner, the shepherd, the husbandman, the hunter, have the strongest motives to examine closely every varying appearance which may precede more important changes. The result of these observations forms a body of maxims, in which facts are often stated correctly, but mixed with erroneous deductions and superstitious notions, such as the credulity of ignorant people

always renders them ready to adopt. Hence the disposition to refer the ordinary changes of the weather to the influence of the moon, and even the stars, and to look for signs of approaching convulsions, even in the moral world, in horrid comets and strange meteors. The progress of science, which tends to separate the casual precursors from the real causes of phenomena, refutes these false reasonings, dissipates the empty terrors to which they give rise, and aims, by more patient, long continued, and wide extended observations, to deduce the general rules by which the phenomena of the atmosphere appear to be regulated. Meteorology borrows from chemistry her analysis to determine the composition of the air itself, and of the substances which it contains, and by which it is acted upon; the manner in which the different processes of evaporation, freezing, thawing, &c., go on, and how they affect the state of the atmosphere; the action of these invisible agents, light, heat, electricity, &c., and their tremendous effects. From physics meteorology takes the mechanical action of these and similar powers and substances, the weight and velocity of the air, the laws of the reflection, refraction, and motion of light, &c. By these aids this science explains the formation, fall, or deposition of hail, snow, rain, dew, and frost, (see these articles, and those on *Clouds*, *Evaporation*, *Freezing*, and *Caloric*); the action of thunder and lightning (see *Electricity*); the prevalence and properties of certain winds (q. v.); the effect of the position of a country and the nature of its surface on its climate and productions (see *Climate*, *Temperature*, and *Mountains*); the nature and causes of meteors (see *Meteors*, and *Meteoric Stones*), &c. To prepare the way for these and similar inquiries, it is necessary previously to determine the extent and constitution of the medium in which the phenomena take place (see *Air*, and *Atmosphere*), and to indicate with precision, and observe with minuteness and accuracy, its precise condition at the time of their occurrence, by philosophical instruments. Some of these have long been known, but others are either of recent origin, or have received a more delicate construction from recent observers. The ordinary observations are generally confined to the weight and temperature of the air (see *Barometer*, and *Thermometer*); but other data are important, and have of late years received more attention than formerly. The dryness or humidity of the atmosphere (see *Hygrometer*); its brightness, or degree of illumination (see *Photometer*); the tint or shade of the cerulean hue of the sky (determined by the cyanometer, invented by Saussure); the variable disposition to chill the surface of the earth by impressions of cold transmitted from the higher regions (determined by the *æthrioscope*),—are all to be taken into consideration. The daily evaporation from the ground is to be measured by the anemometer; the quantity of rain which falls is to be registered by the ombrometer, or rain-gauge (q. v.); the amount of dew deposited should be observed (see *Drosometer*), and the direction, force and velocity of the wind indicated by the anemometer and anemoscope. (See Saussure's *Essais sur l'Hygrométrie*; De Luc's *Idées sur la Météorologie*; Cotte's *Traité de Météorologie*; Lampadius's *Grundriss der Atmosphärologie*; article *Meteorology* in the *Encyclopædia Metropolitana* (1830, second division); Daniell's *Meteorological Essays and Observations*).

The value of a meteorological register depends on the accuracy with which it is kept. The observations should be made in a place rather elevated, and exposed freely on all sides to the aspect of the sky, and should be repeated either at equal intervals during the day and night, or, at least, at those hours which represent most nearly the mean state

of the atmosphere. The position and exposure of the place should also be made known. These requisites are seldom attained, and very few registers of the weather are entitled to much confidence. Accurate observations, made in all parts of the world, and in a regular and scientific manner, are yet necessary for the systematic classification of all meteorological phenomena into a complete science.

**METHOD**; a convenient arrangement of things, proceedings, or ideas; in logic and rhetoric, the art or rule of disposing ideas in such a manner that they may be easily comprehended, either in order to discover the truth, or to demonstrate it to others. Method is essential to science, and gives to our knowledge its scientific character. Scientific authors make use of different methods, according to the object which they have in view. The apparently strictest is the mathematical, which is capable of giving the greatest possible clearness to its theorems by a series of explanations and deductions; but it ought to be observed that this method is only adapted to a science which has to do with numbers and magnitudes, and has had unfortunate consequences when nothing was considered true but what could be mathematically proved, and when the mathematical method was applied to intellectual philosophy. Methods have made epochs in philosophy, proceeding from the spirit of the systems to which they were applied. Thus there are the *sceptic* method (see *Scepticism*), the *critical* method (see *Kant*), and the *dogmatic* method, which, in philosophy, is the method that starts from acknowledged general principles,—all of which are limited and partial. The truly philosophical method is determined by the nature of the science. As to the way of proceeding, the method may be analytical (i. e. it starts from particular cases, and seeks from them to deduce general causes) or synthetic (i. e. it infers the consequences from the causes); but it must always proceed from elementary principles admitted by all, with logical strictness, in order to remain scientific. The popular method starts from the well known and the individual, and is generally analytical. Orators, both lay and clerical, and teachers of youth, make use of this less scientific method. As to external form, the teacher may speak uninterruptedly (this is adapted for adults and academical lectures), or proceed by way of interrogation. In those branches the elements of which lie in the operations of human reason, as in morals, mathematics, and religion, the catechetical method will be found best, because it addresses the reason or heart of the pupil directly, and by questions calls into action the powers of his understanding. The catechetical method deserves the name of Socratic only when the teacher limits himself to directing, by his questions, the course of the pupil's thoughts, but allows the conclusions to be formed by the operation of the scholar's own mind. Every art and science requires its own method of teaching, which, indeed, should be accommodated to the individual characters of the teacher and pupil. In order to teach the first elements to many pupils, Lancaster's method will be always found useful. (See *Mutual Instruction*.) Pestalozzi strives, in his method, whatever the branch of instruction may be, always to keep in view the elevation of the whole being, the strengthening of all the powers, and, as far as possible, to make the pupil's own powers co-operate in the work of instruction. (See *Pestalozzi*.) A mistaken benevolence has at times undertaken to make all study amusing, and to beguile the pupil into knowledge without the necessity of laborious exertion on his part. Such a method, however, tends to prevent the development of the facul-

ties, and to unfit the mind to cope with difficulties. Private instruction requires different methods from public instruction; in fact, circumstances will constantly vary the methods of a skilled teacher.

**METHODISTS**; those defenders of the Papal church who, in the seventeenth century, strove to bring to a close the controversy with the Protestants, by new methods of reasoning. A serious religious sect which arose in the bosom of the English church in the early part of the eighteenth century. Some young men at Oxford united themselves together, in 1729, for the purpose of strengthening each other's pious resolutions, and observing to religious services with strictness. They went particularly to a more rigid compliance with the precept of the New Testament than was usual in the church, and devoted themselves to works of love, such as instructing poor children, visiting the prison, &c. Their more worldly fellow-students, among other names indicative of their peculiarities, called the *Methodists*, on account of their methodical observance of the rules of religion and the regularity of their lives. This name was adopted by themselves and has since been continued to their followers. The members of this small society, the principal was John Wesley (q. v.), the founder, his brother Charles and George Whitefield (q. v.), who joined in 1735. In 1735, Wesley went out to Georgia, engage in the conversion of the heathens. There he remained two years, and, becoming separated from some of the Moravian Brothers, who were much more with their severe simplicity and pious devotion (See *United Brethren*.) He then visited America after his return to England, and determined to set up his own society somewhat after the one plan Whitefield's preaching had already prepared the people for this undertaking. Wesley founded a small society in London, which held its meetings in a private house, without any disputation at the time, to secede from the church. But the clergy of the establishment having refused their pulpits to the Methodist preachers who endeavoured to gain on their hearers to their society, and the numbers of auditors being too great to be accommodated in a church, they began to preach in the open street, and organise a separate church on the primitive apostolical model. The peculiar character of the preaching, which was distinguished from the philosophical indifference of that of the established clergy by its vehemence, religious enthusiasm, and popular style, and which dwelt more on the full and deeper of man, on the atonement, on the redemption from the merits of a crucified Saviour, on repentance and regeneration, with all the eloquence which a sincere zeal could inspire, had a great effect in increasing numbers of the society. Whitefield, the holiest and most zealous apostle of Methodism, in eloquence, courage, and fire the Paul of his sect, often collected hearers to the number of 12,000 in the fields, churches, and even at fairs, and, by the clamours of his eloquence and the terrors of his denunciations, produced such an effect upon his audience, that many of them were thrown into convulsions, and, amidst cries of groans of anguish, were turned to flesh and bones at the spot. These sudden conversions were considered the outpourings of grace, and came to be regarded by the Methodists as desirable results of their preaching. They soon, however, gave up the practice of field-preaching, and built houses of worship (chapels), partly to protect themselves from exposure to the weather, and partly to avoid the outrages which they experienced from the rabble. Although they suffered much from the violence of the populace, as the government made no opposition, they succeeded to the regular establishment of their churches.

stitution, which was modelled on the plan of the Moravian Brothers, but divided into two distinct parties, the Wesleys, or Arminians, and the Whitefieldians, or Calvinists. Their liturgy was that of the established church, with some alterations. It appears, from the Sunday service of the Methodists of 1826, that the offices for the ordination of priests and deacons, and for the consecration of bishops, are altered into forms for the ordination of deacons, elders, and superintendents; the thirty-nine articles, by omissions, reduced to twenty-five; the Nicene and Athanasian creeds are rejected, the apostles' creed only being retained; and the apocryphal books of the Old Testament are rejected. In 1797, the *New Connexion*, as it is called, arose out of a separation from the Wesleyan establishment, on grounds of church discipline and government, and not of doctrine. Alexander Kilham was their head and founder. The steps by which the Wesleyan Methodists became a distinct religious body might have been anticipated. The societies collected in London and other places were divided into little companies of from ten to twenty persons, called *classes*, and even in charge to a *leader*. The leader presided in weekly meeting of his class for spiritual conversation and prayer, and received their contributions. General meetings of the society were called *body bands*; and, as the persons who were employed to preach to them soon became regular preachers, the country was divided into *circuits*, consisting of the societies of a certain district. These circuits were under two or more preachers, one of whom was at the head of the circuit, with the name of *superintendent*. The conference consists of a certain number of the preachers, who meet annually to discuss the affairs of the connexion. The distinctive character of Methodism is to be sought for, not so much in its doctrines as in the application of them, which it endeavours to make the purpose of producing strong excitement; and those whom it has awakened to a sense of their sins, subjects to a course of discipline intended to unite them closely with the connexion. The fruits of Whitfield's preaching were, perhaps, not less than those of Wesley's, his followers being about as numerous in England as those of the great patriarch of Methodism. The rise of Methodism, though it cannot be denied to have been attended with some regularities and extravagances, was a revival of religion in England. Since the reformation there had been no such efforts made in the cause of religion; preaching so awakening, so little sectarian; no preachers with more zeal, singleness of purpose, and power of exhortation. It awoke the slumbering church from its lukewarmness, and dissenters to more bold and united efforts of Christian zeal. It addressed the ignorant, the poor, the hardened, in such a manner as to interest their feelings and command their attention. It has done, and is doing, much to instruct as well as to excite them. It made its way at first through persecution and outrage, and, after spreading over the native country, it has established missions in the most distant parts of the old and new world, among the slaves of the West Indies and the savages of the South Sea. See Southey's and Moore's *Life of Wesley*; Crowther's *Portraiture of Methodism*; Gillie's *Life of Whitfield*; the works of Wesley and Whitfield.

At an early period of the history of the connexion, the attention of Mr Wesley was directed to the British colonies of North America. In the Southern and Middle States, where sufficient provision had not been made to supply the spiritual wants of an increasing population, Methodism was particularly calculated to be eminently useful. It was introduced into those parts by preachers ordained by Wesley, and has

spread extensively. Some difference in discipline and government was introduced into the American connexion, among which that of the Episcopal government was the principal. The first Methodist society was established at New York, in 1766, by preachers from Ireland, and after the revolution, the first bishop was consecrated. There are, however, some modifications in the church discipline of the Methodists in different parts of the Union.

METIS (Greek, *μῆτις*, wisdom); the mother of Minerva, daughter of Oceanus and Tethys, the wisest of gods and men. (See *Jupiter* and *Minerva*.) Ritter thinks that the name of the Palus Mæotis is derived from her, and places her sanctuary at the mouth of the Borysthenes, where she was worshipped as the great mother.

METO or METON, was a celebrated mathematician of Athens, who flourished 432 years B. C. In the first year of the eighty-seventh Olympiad, he observed the solstice at Athens, and published his cycle of nineteen years, by which he endeavoured to adjust the course of the sun and moon, and to make the lunar and solar years begin at the same point of time. This is called the *golden number*, from its great use in the calendar. Meton was living about 412 B. C., for, when the Athenian fleet was sent to Sicily, he escaped a share in that disastrous expedition by counterfeiting insanity.

METONYMY; a figure in rhetoric, by which the name of an idea or thing is substituted for that of another, to which it has a certain relation. Such relations are *substance and quality, cause and effect, precedence and subsequence*, &c.; thus if we say, the tears of "joy," instead of the "joyous person," or respect for "gray hair," instead of "old age," or "olive-branch" for "peace," "stage" for the whole establishment connected with theatrical performances, &c. It is one of the most common figures in rhetoric.

METOPE (*μῆτα*, between, and *ὀπή*, a hole), in architecture; the interval or square space between the triglyphs, in the Doric frieze. The ancients were in the habit of ornamenting these parts of their buildings with carved works, or with paintings representing the heads of oxen, vessels, and other articles used in heathen sacrifices. The difficulty of disposing the triglyphs and metopes in symmetrical proportion may have been the cause of their omission in the Ionic and Corinthian orders.

METOPOSCOPY (from the Greek *μῆτα*, the forehead, and *σκοπία*, I observe); the pretended art of divining from the wrinkles of the forehead. The Romans, believing in every kind of divination, practised this, but not so much as the people of the middle ages. It seems singular that metoposcopy never was so much in vogue as chiromancy (q. v.), though there might be some possibility of divining, in part, the character of a man from his forehead and its wrinkles, while the lines in the hand have no connexion with it.

METRE; the French unit of measure. See *France*, division *Decimal System*.

METRE, in versification. See *Prosody* and *Rhythm*.

METROPOLITAN is the Greek name of an archbishop. The chief place of a province is called, in Greek, *metropolis*, and, as the bishops of the chief places, or capitals, were distinguished by superior rank (see *Bishop*), they also received a distinguished title. The metropolitan is above the bishop, but below the patriarch. The title of patriarch, however, is in use only in the Eastern churches. *Metropolitan church* is the archiepiscopal church.

METZ (anciently *Divodurum*; later, *Mediomatrici*, and *Mettæ*); a strongly fortified city, in the western

part of France, on the Moselle, thirty leagues north-west from Strasburg, sixty-one north-east from Paris; population, 45,276; lat. 49° 7' N.; lon. 6° 11' E. It is the seat of military, religious, and civil authorities, and contains numerous literary, scientific, and charitable institutions. It is a military place of the first class, highly important both for offensive and defensive measures. Its fortifications are very extensive, and constructed on the modern system, under the direction of Vauban and Belle-Isle. Besides manufactures of cotton, woollen, silk, &c., it has numerous and extensive public works in the war department. It is a very old place, founded at an early period by the Gauls, and adorned by the Romans with fine monuments. It was a free city of the German empire, from the eleventh century, but was occupied by the French troops, in 1552, and confirmed to France in 1648. About a league from the city, are the ruins of a Roman aqueduct, called, by the people, the *devil's bridge*. In 1822, some remains of antiquity were discovered in the ancient citadel, which have been described by Devilly (Metz, 1823.)

METZU, GABRIEL, a painter, born at Leyden, in 1615, lived in Amsterdam, where he died in 1658. His models were Douw, Terburg, and Mieris. His style, however, was nobler. He painted subjects from common life,—fruit-women, chemists in the laboratory, physicians attending the sick, &c. His manner is free and pleasing, and his imitation of nature true. His colouring was admirable. A lady tuning her lute, and another washing her hands in a silver basin held by her woman, are among his best pieces. His works are scarce, as he spent much time on them, and highly valued.

MEUDON; a village and castle, two leagues from Versailles, and the same distance from Paris. The old castle, built in the fifteenth century, and which, in the seventeenth, belonged to Louvois, was demolished in 1804. The *château*, built by Louis XIV., is situated on a rising ground, and commands a view of Paris, the Seine, and the environs. There is a fine terrace in front, and a small park planted by Lenoux. Napoleon improved the works, and assigned it as the residence of his son, while at the breast. During the expedition to Russia, the empress resided there.

MEULEN, ANTONY FRANCIS VAN DER, a battle painter, born at Brussels, 1634, was a pupil of Peter Snayers. Some of his compositions, having been carried to France, attracted the notice of Lebrun, and Colbert invited the young artist to Paris, with a pension of 2000 livres, and a residence at the Gobelins manufactory. His talents as a battle painter recommended him to Louis XIV., who always took him on his expeditions, and often pointed out the subjects which he desired him to represent. The painter had thus an opportunity of perfecting himself in his department of the art, and is considered, on account of his truth of expression, one of the best battle painters. He was also distinguished in the representation of scenes from common life, and in landscape painting. Among his most celebrated works, are the entrance of Louis XIV. into a conquered city; the entrance of the same prince into Arras; the siege of Maestricht; a horseman with a glass in his hand speaking to a young girl, who is tuning her guitar, &c. He also executed many excellent views of the royal *châteaux* in France. The expression of his horses is particularly admired, and Lebrun intrusted to him the execution of the horses in his paintings of the battles of Alexander. Van der Meulen died in 1690. The most celebrated engravers of his time executed a series of 152 engravings from his works, among which those of his pupil Baudouin, which now form the sixteenth, seventeenth,

and eighteenth volumes of the great collection called *Cabinet du Roi*, are distinguished.

MEUNG, or MEUN, JOHN DE, a French poet, surnamed, from his lameness, *Cagneux*, was born at Meung sur Loire, about 1250. He was well educated, and, by his poetical talents and other endowments, made himself a favourite at the court of Philip le Bel. He was satirically inclined, and exercised his wit upon the ladies of the court, who were so often against him, that a party of them seized him, and caused to give him a severe flogging; but he was soon in his assistance, and he escaped chastisement by being the most unchaste to give the first blow. He died about 1322, directing, by his will, that he should be buried in the church of the Dominicans at Paris, leaving to that order a heavy chest, not to be opened until after the funeral. The friars, expecting a treasure, opened the chest, but found only some old man, scrawled with sums and figures. In revenge, he disinterred the body; but the paragonage of Paris obliged them to bury it again with great honour. His principal work was his continuation of the *Roman de la Rose*, begun by William de Lorris, which comprises more than three parts of the whole. It is so poetical as the other, but has more extent and knowledge of the world. He was also the author of a translation of Boethius's *de Consolatione*, the work of Abelard; a work on the Resurrection of the dead; and a satirical piece, styled the *Century of John de Meung*, prefixed to Langlet du Fresnoy's edition of the *Roman de la Rose*, &c.

MEURSIUS, JOHN, a Dutch critic, born at Losdun, near the Hague. At sixteen, when a student in the university of Leyden, he published his first work, an edition of Lycophron's *Cassandra*. He was afterwards selected by the celebrated Barnevelt, as travelling tutor to his sons, whom he accompanied over great part of the continent. On his return to Holland, after a ten years' absence (1627), he was elected professor of history and of Greek in Leiden, with the title of historiographer to the states general. The fall of Barnevelt (q. v.) obliged him to resign his situation; and, accepting an invitation of the court of Denmark, he proceeded to Copenhagen. Here he soon became established at the university, erected for the education of the young nobles of Sora, in a similar post to that which he had occupied in Holland. His works are a *History of Athens*; the *Athenian Archons*; (On the people of Athens); On the Festivals of the Greeks; On the Dates of the Ancients; new editions of several classical *History of Denmark*, &c. The only complete edition of his works is that of Florence, in twelve volumes, 1743. Meursius died in 1659, leaving a son who died at an early age, in 1653, the author of several valuable antiquarian treatises.

MEURTHE; a department in the north of France (See *Lorraine*, and *Department*). The chief town, Nancy.

MEUSE, in Dutch, *Mosa*, (Mosa; a navigable river, which rises in the department of (see Marne) Champagne), in France, passes through the provinces of Namur, Liege, and Luxemburg, separates those of Guelderland and Holland from French Flanders, and divides, at Gorcum, into two branches, the northern and southern, which empty into the North sea by several mouths. It passes by Namur, Liege, Maestricht, Ruremonde, Venloo, Gorcum, Roerdrich, and Rotterdam, in the Low Countries.

MEUSE, a department in the north of France with 306,339 inhabitants; chief place, Bar-le-Duc. See *Lorraine*, and *Department*.

MEUSEL, JOHN GEORGE, was born in 1712, at Fyrichtshof, in Franconia, and, in 1764, received the university of Gottingen; in 1768, that of Bonn.

where he lectured until he was appointed, in 1769, professor of history in the university of Erfurt. From 1780, he lived in Erlangen, where he died Sept. 19, 1820, having continued active, in lecturing and publishing, almost to his death. He wrote statistical and historical works, and compiled several collections relating to the history of literature, literary men, and the arts. His *Gelehrtes Deutschland* (5th ed., Lemgo, 1796, et seq.—the 21st vol. was edited by Ersch (q. v.), Lemgo, 1827); his *Lexicon* of all the German Authors who died from 1750 to 1800 (Leipsic, 1802, et seq.); his new edition and *supplement* of Struvius's *Bibliotheca Historica*, 21 vols., not finished, are proofs of his accuracy and industry. In the department of the fine arts, he prepared several valuable works. In the department of statistics, he wrote *Anleitung zur Kenntniss der Europäischen Staatenhistorie* (5th ed., Leipsic, 1816); *Literatur der Statistik* (Leipsic, 1806—7, 2 vols.); and *Lehrbuch der Statistik* (3d ed., Leipsic, 1805). He was as happy as an historian, being oppressed by the immense mass of his materials.

MEXICAL, or MESCAL; a spirituous drink, extracted from the aloe (*Magvey, Agave Mexicana*), which is consumed in large quantities by the Mexicans. It is also called *aguardiente de Magvey*. See *Pulque*.

MEXICO. The republic of the United States of Mexico (*Estados Unidos Mexicanos*), which comprises the former viceroyalty of New Spain, is bounded E. by the gulf of Mexico and Louisiana, W. by the Pacific ocean, N. by the United States of North America, and S. by Guatemala. It lies between 87° and 124° E. lon., and 15° and 42° N. lat., extending over 27 degrees of latitude, or 1876 miles from north to south. Its greatest breadth is in lat. 30°, according to Humboldt, 364 leagues (25 to a degree). Our acquaintance with a great portion of the country is very imperfect, and, even in those parts which have been most attentively examined, few of the positions are accurately determined. Almost the whole of the immense region lying north of 28°, comprising 14 degrees of latitude, is uninhabited by whites, and has never been explored. Humboldt calculates the superficial area at 118,478 square leagues of 25 to a degree; but this estimate does not include the space between the northern extremity of New Mexico and Sonora, and the boundary line of the United States. About one third of this territory lies within the torrid zone, but the peculiar geological structure of the republic exerts the most striking influence upon the climate. The Cordillera of Mexico separates into two branches, which, diverging to the north-east and north-west, form, as it were, the declivities of an elevated platform, or table-land, which, in the more central parts, is raised to an elevation of 7000 feet above the level of the sea, and extends to the north as far as the limits of the torrid zone. This remarkable elevation modifies the effect of the geographical position of the country in such a manner that, while the towns on the central plateau enjoy a mild temperature, those on the eastern and western coasts are exposed to a torrid sun, and the intervening space is filled with almost every modification of heat. In ascending from the low country, the climates succeed each other in layers, and in two days the whole scale of vegetation is presented to view. Again above this table-land rise ridges, or single prominences, in which the same appearances are exhibited. Durango is situated 6848 feet above the level of the sea; Zacatecas, 8169; Catorce, 9254; to the south, Jalapa, 4335; Perote, 7724; La Puebla, 7200; Cuernavaca, 5428; to the west, Valladolid, 6434; Guanajuato, 6825; Queretaro, 6362; in the centre Mexico is situated

in a large valley, or basin, 7000 feet above the sea. Some of the *haciendas*, or residences, are about 10,000 feet high, and, in some instances, carriage roads pass over still more elevated positions. The principal summits are, Popocatepetl, 17,884 feet; Orizava, 17,373; Cerra de la Leona, near Catorce, 10,645; and Istaccihuatl, 15,704. There are five volcanoes in activity, all near the nineteenth parallel of latitude—Orizava, Popocatepetl, Tustla, Colima, and Jorullo; earthquakes are frequent, but not destructive. The inhabitants designate these successive climates by appropriate names; the low, hot country is called *tierra caliente*; the higher regions, *tierra fria* (cold country); and the intermediate regions, *tierra templada* (temperate country). Our division of the year into four periods, is there unknown, the only distinction being into the rainy season (*estacion de las aguas*), which commences about the end of May, and lasts four months, and the dry season (*el estio*), which comprises the rest of the year. Mexico suffers for want of water. The rivers are few and insignificant, if we except the Colorado, the del Norte, and the Grande. The lakes, which abound, appear to diminish gradually; the principal are, Chapala, Zumpango, S. Christoval, Tezcuco, &c., in the valley of Mexico; Cayman and Parras, in the Bolson de Mapimi; and the Timpanogos, further north. Among the various productions are maize and other corn, the banana, manioc, tropical fruits, cotton, coffee, sugar, tobacco, indigo, vanilla, cochineal, &c. Maize is produced in almost every part of the country, and in great abundance; its flour forms the chief food of the bulk of the inhabitants. Wheat succeeds very well on the table-land, but in the *tierra caliente*, the ear will not form, and the difficulty of communication between the coast and upper country is such, that the former may be supplied at a cheaper rate from the United States of North America. Sugar is raised in great quantities; enough is raised on the plateau, for the supply of its inhabitants, and the producers on the coast depend upon a foreign market; but, since 1822, the amount produced has much diminished. Coffee has been more recently introduced; the use of it has not been general in the interior till within a few years; extensive plantations were laid out in 1818 and 1819, near Cordova and Orizava, to which constant additions have been since made. Cotton was found among the indigenous productions of Mexico, and was generally used by the inhabitants. Up to the close of the last century, the annual amount of the cotton manufactures was estimated at 5,000,000 dollars. They have, however, gradually disappeared, but the raw material may be an important article of export, if properly attended to. The domestic animals are the same as in other parts of North America. The wool of the Mexican sheep is of an inferior quality. It has recently been discovered that the silk worm is indigenous in some parts of the country, and the silk produced is of an excellent quality, similar to that of the *bombyx mori* of China. The cultivation of the mulberry, and the breeding of silk worms, were introduced by Cortes, but were afterwards prohibited by the mother country. The total agricultural produce of Mexico was estimated, by Humboldt, at 29,000,000 dollars. The amount of the mineral productions has been differently estimated. Mr Ward calculates the total annual produce, from 1796 till 1810, at about 24,000,000 dollars, of which 22,000,000 were exported. The registered coinage, in that period, was 342,114,285 dollars. In a second period of fifteen years (1811 to 1825 inclusive), the total amount of coinage was only 153,276,972 dollars, the capital invested in mining having been much dimin-

ished by the emigration of capitalists during the revolution. The whole amount of circulating medium, in 1810, is estimated by Mr Ward to have been about 72,000,000 dollars, and the average annual exports, since 1810, at 13,587,052. Mexico will not probably, at least during the present century, become a manufacturing country, her mineral and agricultural wealth being sufficient to obtain for her all the necessary articles from other countries. Neither will she be a great maritime power. The Mexican ports on the Atlantic side are most of them insecure, and many of them are mere roadsteads. On the western coast there is, however, a series of magnificent ports, from Acapulco to Guaymas, many of which have never yet been entered. The commercial intercourse, on the western side, is much less important than that of the eastern coast, most of the countries with which it can be maintained on the Pacific (Columbia, Peru, Chile, China, and Calcutta), producing nearly the same agricultural articles. Hides, tallow, and wheat are, however, exported in considerable quantities. The returns are so imperfect, and the state of the country has been so fluctuating, that it is not easy to determine any thing with regard to the amount of the exports and imports, for any recent period.

The Spanish colony of Mexico was, for a long time, divided as follows: 1. the kingdom of Mexico; 2. the kingdom of New Galicia; 3. the new kingdom of Leon; 4. the colony of New Santander; 5. the province of Texas; 6. the province of Cohahuila; 7. province of New Biscay; 8. province of Sonora; 9. province of New Mexico; 10. province of Old and New California. In 1776, a new division was established, into, 1. the viceroyalty of New Spain, consisting of the intendancies of Mexico, Puebla, Veracruz, Oaxaca, Merida or Yucatan, Valladolid, Guadalajara, Zacatecas, Guanajuato, S. Luis-Potosi, and the two provinces of Old California and New California; 2. the internal provinces depending on the viceroyalty (*Provincias internas del Virreynato*), comprising the province of the new kingdom of Leon, and the province of New Santander, and, 3. the internal provinces dependent on the governor of Chihuahua (*Provincias internas de la comandancia general*) consisting of the intendancies of New Biscay, or Durango, and Sonora, and the provinces of Cohahuila, Texas, and New Mexico. This republic is now divided into nineteen states and five territories. The states are, Yucatan, or Merida, Tabasco, Las Chiapas, Oaxaca, Veracruz, Tamaulipas (New Santander), San Luis-Potosi, New Leon, Cohahuila and Texas, La Puebla, Mexico, Valladolid (Mechoacan), Guadalajara (Xalisco), Sonora and Cinaloa, Queretaro, Guanajuato, Zacatecas, Durango, Chihuahua. Old and New California, Colima, Tlascala and New Mexico are territories, their population not being sufficient to enable them to return members to the congress. The first census, which was taken in 1793, gave a population of 4,483,529. As the natives suspected the object to be taxation, this number was probably below the truth. Humboldt thinks that it exceeded 5,000,000, and estimated the number, in 1803, at 6,500,000, which agreed very well with the results of the census of 1806. Ward estimates it at about 8,000,000, in 1827. Previous to the expulsion of the Spaniards, in 1829, the population was composed of Europeans (Chapetones or Gachupines); Creoles, or native whites of pure European descent; Indians, or the indigenous races; Mestizoes, or a mixed breed of whites and Indians; Mulattoes, or descendants of whites and negroes; Zambos, or Chinos (Chinese), descendants of Negroes and Indians; and African Negroes. The descendants of Mulattoes and whites were called *quarte*

*roons*; and those of a quarter-Indian and a white, *quateroons*. These distinctions were imposed by the colonial policy of Spain, for the purpose of keeping up a rivalry of castes; and the king had the privilege of conferring the honours of whiteness upon an individual of any colour, by a decree of the monarch, *que se tenga por blanco* (that he should be held as a white). The revolution, which divided the population into Europeans and Americans, has endeavored to efface these prejudices. The principle of the white population is the table land, west of the centre of which the Indians are likewise found. The northern frontier is inhabited chiefly by Indians, while the coasts are principally occupied by Zambos and Zambos. The Indians form about one-fifth of the whole population, and are divided into a great number of tribes, whose manners, language, degree of civilization, &c., are widely different. Their costumes, of course, vary with the various tribes. In the annexed cuts, the first a Mexican priest, the others a male and female native, may be given as specimens of ordinary dress.



No less than twenty languages, entirely distinct from each other, are found among them, and of some of them grammars and dictionaries have been compiled. The Catholic religion is the religion of the state. No other is tolerated. The old ecclesiastical divisions are retained, forming one archbishopric (that of Mexico), and nine bishoprics, comprising 1073 parishes. The clergy is composed of about 8000 individuals, including 4000 monks and nuns, in 206 convents. The clergy are not well educated, and the great mass of the Mexican population is illiterate.

te of deplorable ignorance. The policy of the other country was calculated to keep down all that portion of the inhabitants who now form the population of the republic. All civil, military, and ecclesiastical dignities were in the hands of Europeans, any attempt towards instructing even the higher classes was discountenanced. The natural sciences were taught, and have been cultivated with some success. The moral state of the country is also far from being favourable. An attempt was made, at a time, to establish a navy, and, in January, 1827, consisted of one ship of the line, two frigates, five vessels and brigs, and a few smaller vessels; but this force has not been kept up. The army, in 1827, consisted of 58,955 men, of whom 32,161 were actually under arms. The confusion which prevailed for some time in the country, renders it impossible to give much statistical information of recent date. The revenue, under the old government, was 20,000,000 dollars; during the revolution, it became exceedingly embarrassed, and did not exceed 4,000,000 or 5,000,000 dollars. In 1825, it was 10,500,000 dollars, and the expenditure was only 10,000,000. Several loans were made in 1823, and succeeding years, but at an enormous cost of interest.

Under the government of Spain, Mexico was one of the four great viceroyalties of Spanish America. The viceroy was endowed with all the prerogatives of the king. The only checks upon him were the *audencia*, or investigation into his conduct on his return home, and the *audencia*, composed of Europeans, and of which he was himself president. The *recopilacion de las leyes de las Indias* was the name given to the heterogeneous mass of decrees by which the colonies were governed. Special *fueros*, or privileges, were conferred on different professional and corporate bodies, which rendered the confusion complete. All the higher offices, in church and state, were Europeans. A system of dilapidation, beginning with the chiefs, extended through all the offices of government, and a monstrous corruption pervaded the whole administration. The colony was not allowed to manufacture any article which could be supplied by the mother country, the whole trade was confined to a single port in Spain, and all foreigners were rigidly excluded. Books were prohibited, schools discouraged or suppressed, and every measure taken to prevent information from being spread among the inhabitants. The present form of government is that of a federal republic (*república representativa popular federal*), each member of which manages its own internal concerns. The legislative power is vested in a congress, divided into two chambers, the house of representatives (*cámara de diputados*), and a senate (*senado*). The former is composed of members elected for two years, one for every 100,000 inhabitants. The senate is composed of two senators for each state, elected by the state legislatures, the one first named for four years, and the other for two years. The congress is a high court of impeachment, and its powers are to maintain the union, regulate commerce, promote information, open roads and canals, lay taxes and imposts, declare war, approve treaties, &c. The supreme executive power is vested in a president, chosen by the legislatures of the states for four years. He has powers very similar to those of the president of the United States. The council of government (*consejo de gobierno*) exists only during the intervals of the sessions of congress, and is composed of one senator from each state, with the vice-president of the republic at the head. Its duties are to watch over the observance of the federative act and the federal laws, to

advise the president to call out the militia, to approve the nomination of officers, &c. For the despatch of business, the government is divided into departments, with secretaries at their head. The judicial power is lodged in a supreme tribunal of justice, and in inferior courts, as determined by congress. The supreme court takes cognizance of all matters between different states, or individuals of different states, admiralty cases, treason, construction of the constitution, &c. It may itself be called to account, by a tribunal constituted for the purpose by the chamber of deputies. The states are organized in a similar manner, with much the same powers and rights as those of the North American Union.—See *Acta Constitutiva* (Jan. 31, 1824), y *Constitucion Federal de los Estados Unidos Mexicanos* (Mexico, 1828). This constitution was sanctioned Oct. 4, 1824. For information on subjects connected with Mexico, see Bullock's *Six Months' Residence, &c.*, in 1823; Hall's *Journal on the Coasts of Chile, Peru and Mexico*, in 1820—22; Lyon's *Journal of a Residence in Mexico*; Beaufoy's *Sketches*; Poinsett's *Notes*; the works of Robison, Brackenridge, and Hardy; Ward's *Mexico* (2d ed., London, 1829); Humboldt's *Essai Politique sur le Royaume de la Nouvelle Espagne*; 2d ed., 1828.

*History.* Numerous remains of antiquity which have been discovered in different parts of the country testify to the state of civilization at which the natives had arrived previous to the arrival of the Spaniards. In 1519, Cortes discovered the country, and having landed on the western coast, founded the city of Veracruz, and penetrated into the country of Anahuac, occupied by the Aztecs. Montezuma then reigned over the country. The capital Tenochtitlan, bore the title of *Mexico*, which signifies the residence of the god of war, and which was finally extended to the whole region. (See *Mexico, Antiquities of*.) After the death of Montezuma, the capital was taken by the Spaniards (1521), and the whole country fell into their hands. Cortes called it *New Spain*, and was created captain-general, but, in 1535, was displaced by a viceroy. We have already given some account of the colonial policy of Spain, and the condition of the colony under the Spanish dominion. Such was the condition of the country for three centuries (see Robertson's *History of America*; Clavigero's *Historia Antica del Mexico*, translated into English; Solis's *Historia de la Conquista de Mexico*; new edition, with notes, Madrid, 1825), when the events of 1808 in the Spanish peninsula led to a change in the state of affairs. The Mexicans were, in general, loyally disposed to their sovereign, but the assumption of authority by a new body, the cortes, and their unwise and inconsistent proceedings tended to alienate their feelings of attachment. Don Jose Iturrigaray, the viceroy, in order to conciliate the Americans, proposed to constitute a junta, formed of representatives from each province, and composed equally of natives and Europeans, which should organize a provisional government. The latter, however, fearful of losing some of their former superiority, arrested the viceroy, and sent him out of the country. The new viceroy, Venegas, displayed an offensive partiality for the Spaniards, and exasperated the Creoles by the severity of his measures. An extensive conspiracy was organized, and the insurrection broke out in September, 1810. A priest, Hidalgo, a man of strong mind and great firmness, put himself at the head of the insurgents; but, after some fighting, and the commission of great atrocities on both sides, Hidalgo was captured and put to death in 1811. Morelos, a priest in the southern part of the country, who had been named captain-general of the south-west by Hidalgo, had meanwhile raised a considera-

ble force, and, meeting with a series of successes, he advanced (in January, 1812) to within a short distance of the capital. In this expedition, Victoria first distinguished himself. Morelos was obliged to retire, but captured Oaxaca and Acapulco. A national congress was assembled at Chilpancingo, September, 1813, which declared Mexico independent. The forces of the insurgents were afterwards almost annihilated by Iturbide, and Morelos was himself shot in 1815. Victoria retired to the mountains, where he remained concealed eighteen months. Guerrero alone maintained a small force in the south. In 1817, general Mina landed with a small body of foreigners, and gained some temporary success; but he was made prisoner in July of that year, and shot. Thus in 1819 all the insurgent chiefs had been pardoned or executed, except Guerrero. In 1820, the cortes having ordered the sale of the church property, Apodaca, the viceroy, refused to acknowledge the cortes; he employed Iturbide to reduce Guerrero, but that general joined the insurgent chief, proposed the plan of Iguala, and proclaimed the independence of his country, February 24, 1821. At this time, the constitutional viceroy, O'Donoghue, arrived in the country, and concluded with Iturbide the peace of Cordova, by which it was stipulated that the Spanish army should evacuate Mexico. The viceroy and Iturbide were associated in the government, and the army was called the *army of the three guarantees*, the objects to be maintained being the independence of Mexico as a separate monarchy under a Bourbon prince, the maintenance of the Catholic religion, and the union of all classes. A congress was assembled February 24, 1822, to settle the principles of the constitution. But the cortes having declared the past proceedings null, Iturbide caused himself to be proclaimed emperor May 18, 1822, under the title of *Augustin the First*. A powerful party opposed the new state of things. After a bloody struggle, the emperor offered to abdicate in March, 1823, and was allowed to depart for Europe. A new form of government, on federal republican principles, was now established. Iturbide returned to the country in 1824, but was immediately arrested and shot. On the banishment of the emperor, a *poder ejecutivo*, or executive, was formed, consisting of Victoria, Bravo, and Negrete, and, in 1824, the constitution was adopted and proclaimed. Victoria was chosen president and Bravo vice-president of the new republic. The first constitutional congress convened January 1, 1825, and held an extraordinary session in August of the same year. In December (20th), the castle of Ulloa was surrendered by the Spaniards, and the whole Mexican soil was now delivered from European hands. The prospect of tranquillity which was held out by the complete liberation of the country and organization of the government was soon interrupted by the violence of parties. The animosity of the Escoceses and Yorkinos resulted in acts of outrage and bloodshed, and the land has been distracted with civil war. The Escoceses (Scotch) was a masonic society of Scottish origin, composed of large proprietors and persons of distinction, who were mostly men of moderate principles, but decidedly favourable to the cause of independence. Many of them had, at one time, been in favour of a Spanish prince as constitutional king of Mexico, and they were therefore often styled *Borbonistas* by their adversaries. The Yorkinos constituted a masonic society, which derived its origin from a masonic lodge in New York, through the agency of Mr Poinsett, American minister at Mexico. These two political parties (for such they had become) were arrayed against each other on occasion of the choice of the second president in 1828, and also differed as to the policy

to be pursued in the treatment of the Spanish who resided in the country. The Yorkinos being in favour of their entire expulsion from the country, the result of the election, after an intense contest, was the triumph of the Escoceses party, who elected general Pedraza, was chosen, by a majority of two votes, over general Guerrero, the Yorkinos electing General Santana, at the head of a new party, declared that this vote was not in conformity with the will of the majority, and proclaimed himself president. This movement was unavailing, as another was soon organized, and an insurrection demanded the expulsion of the Spaniards. After fighting, the government was obliged to quit, and general Pedraza, to avoid bloodshed, invited his friends to submit, and expressed his intention to leave the country. Guerrero was accordingly inaugurated president in April, 1829, and he passed ordering all Spanish residents to quit the country. In the summer of 1829, an expedition was fitted out in the Havana, under the command of general Barradas, to undertake the conquest of the Mexican republic. A force of 8000 men was sent at Tampico July 27, but on the 10th of August surrendered to general Santana. But the danger of a foreign invasion were no sooner past than dissensions were again renewed. Guerrero had been invested with dictatorial powers on the plea of the invaders, was unwilling to resign them, and this was made a pretext for the opposition to be contented. Bustamante, the vice-president, set himself at the head of a body of troops in January 1829, and issued a proclamation denouncing abuses of the executive. He immediately moved upon the capital, and was joined by the troops of Guerrero, finding himself deserted, abandoned his presidency, and Bustamante was elected as his successor. In the latter part of 1829 disturbances commenced, and a civil war was Guerrero, who was made prisoner in February, 1830, was condemned to death for having usurped the established government, and shot. After this period, Bustamante remained at the head of the government, as vice-president. Besides the previously referred to, the reader may consult Carlos Maria Bestamonte's *Cuadro Historico-Mendibila's Resumen Historico de la Revolucion de los Estados Unidos Mexicanos*, extracted from *El*.

*Antiquities*. Our knowledge of the antiquities of the country since called Mexico, is derived in part from the Mexican pictures, many of which were destroyed by the Spaniards. There are also chronological histories, and copies of some of them were made by native Mexicans at the time of the destruction of the originals. The greatest of these was a celebrated table in the possession of Benjamin Gongora, professor of mathematics in the university of Mexico, in 1698. The original is now a copy of undoubted authenticity, preserved by Humboldt, has given an account. It begins with the deluge of Coxcoc, or, according to the cosmogony, the fourth destruction of the world. Coxcoc, with his wife, was saved from death by their descendants received the gift of four families arrived in Mexico. According to a Mexican author, who wrote some years after the first age, *Thamandax*, a giant, lasted 5206 years; the second, *Thamandax*, or age of fire, 4804; the third, *Thamandax*, or age of winds, 4010; the fourth, or age of the present, described in the above-mentioned painting, 5000 years. The Toltecs migrated from a country of Mexico, in A. D. 544, and in 1064, their monarchy was destroyed. The Aztecs arrived from Aztlan in 1178, and, in 1325, founded the

lan, or the city of Mexico. Clavigero enumerates the collections of paintings which have been preserved; they were executed on skins, cotton cloth, and the leaves of the maguery or agave. At the time of the arrival of the Spaniards, the Aztecs had attained such a degree of civilization that the right of private property was understood, cities built, professions and distinctions of rank existed, the arts were cultivated with considerable success, &c. among the most remarkable monuments of architecture are the *teocallis*, or pyramids. The pyramid of Cholula comprises a square, of 1773 feet, and is 177 feet high. It is formed of unburned bricks and clay, and is attributed to the Toltecs, who preceded the Aztecs in the country. The object is unknown. About two miles from Puebla are a number of pyramids, described by Humboldt. The first, the house of the sun, has a base of 682 feet in length, and is 10 feet high. The second, or house of the moon, is 10 feet high. They are both truncated, as is that of Cholula, and are also of Toltec origin. A group of little pyramids surrounds them, which are supposed to have been tombs. In the wall of the cathedral at Mexico is fixed a circular stone, covered with hieroglyphical figures, by which the Aztecs designated the months. Near it is a second stone, on which human sacrifices were performed. In the Dominican convent is a large idol, representing a serpent devouring a human victim. Mr Bullock obtained leave to examine another, which was concealed under the gallery of the university; it represented a goddess of war, and was six feet nine inches high, and nine feet nine inches broad, and was composed of a deformed human figure, a tiger, and a rattlesnake. For information on the subject of this article, the reader may consult the works of Robertson, Clavigero, Humboldt, &c., mentioned in the article *Mexico*; also Ranking's *Conquest of Peru* and *Mexico* by the Mongols (London, 1827), and *Antiquities of Mexico* (7 vols., folio, London, 1830), containing facsimiles of the Mexican paintings in the royal libraries of Paris, Dresden, Berlin, the imperial library of Vienna, the Vatican, the Bodleian library, Oxford, &c., with indited Mexican stories.

*Mexico*, or *Mejico*, one of the states of the Mexican confederacy, with a population of about 1,000,000 inhabitants, is divided into eight districts; between 19° 30' and 20° N. lat., and 102° 50' and 107° 20' W. lon. It lies principally on the central plateau; its western coasts on the Pacific are low. It is bounded north by Queretaro, east by Puebla, south and south-west by the Pacific, and west by Valladolid.

Its capital is Tezcuco, Mexico, the chief city, having been declared a federal city. The magnificent port of Acapulco lies on its western coast. A great number of valuable mines lie within its territories, and its rich soil yields a valuable agricultural produce. The legislative assembly is composed of sixteen deputies; and the districts are placed each under a prefect, whose duty it is to establish village schools, form a census, &c. Its constitution was adopted in 1827. The former intendancy of Mexico comprised the states of Mexico and Queretaro.

*Mexico, New*; a territory of the Mexican confederacy, lying north of the state of Chihuahua, between 36° and 38° N. lat., 107° 50' and 111° 50' E. lon. It is traversed by the Rio del Norte, which flows into the gulf of Mexico. The population is not more than 100,000, of whom about half are Indians; capital, Santa Fe.

*Mexico*, formerly *Tenochtitlan*, capital of the Mexican confederacy, see of an archbishop, lies 7400 feet above the level of the sea; lat. 19° 25' 45" N.; lon. 98° 45' 30" W. The streets are broad, airy, and run

at right angles; the houses spacious, but low, rarely exceeding one story, with flat roofs; it is the most magnificent city of America, and among the capitals of Europe, there are few that can support a comparison with it. It is situated at about an equal distance from Veracruz and Acapulco, in an extensive valley, surrounded with lofty mountains, and containing several lakes, among which are Tezcuco and Xochimilco. It is on the site of the ancient city of Tenochtitlan, but the waters of lake Tezcuco, on which it borders, have so far subsided that the islands on which the old city was built are now confounded with the main land. The three causeys which connected them still remain, and four have since been built, which are well paved, and bordered with trees, forming avenues to the city. Humboldt estimated the population, in 1803, at 137,000; Poinsett, in 1822, at between 150 and 160,000, and later estimates have stated it at 168,000. The principal public buildings are the cathedral, about 500 feet in length, the palace of government, the college of mines, a noble building, but now somewhat dilapidated; the mint, with a front of 360 feet by 250 feet in depth, the Franciscan and Dominican convents, &c. There are, besides, forty-eight convents, hospitals, churches, theatres, &c. The public walks are the Alameda, and the Pasco. The rides to the Chapultepec, or summer palace of the viceroy Galvez, beautifully situated on an eminence, near which is an aqueduct of 900 arches, and to Tacubaya, a village about four miles from the capital, which contains the country residence of the archbishop, are very pleasant. The canal of Chalco, which extends from the lake of that name to the capital, is covered, morning and evening, with canoes of the peasants, conveying fruits, flowers, and vegetables, to market; near it are the remains of the Chinampas, or floating gardens, which are surrounded with a broad ditch, and are now, if they were not always, firmly fixed. The inhabitants display a good deal of splendour in their dress and equipages, but many of the wealthiest have been obliged to leave the country by the warts of the revolution. The lazaroni population, which, in 1824, amounted to 20,000 individuals, called by the Mexicans *leperos*, is described by Ward as presenting a most disgusting appearance of filth and rags. Measures have since been taken by the government to reform them, by compelling them to labour. Mexico enjoys a mild climate, and a pure and healthy atmosphere: it is subject to inundations from the lakes, and numerous works, such as canals, dikes, &c., have been erected as a protection against such a calamity. Tenochtitlan was founded by the Aztecs, in 1325, and was a rich, flourishing, populous, and active city, the seat of government and of religion, at the time of its discovery by the Spaniards. It was taken by Cortez, in 1521, after a siege of seventy-five days, and a most dreadful slaughter of the inhabitants. The besiegers razed the buildings as they advanced, in order to approach the principal quarter with safety. The ancient city was thus entirely destroyed, and the present city arose on its ruins.

*Mexico, Gulf of*; a large bay or gulf of the Atlantic, extending north and south, from the coast of Florida to the coast of Tabasco and Yucatan, about 600 miles, and from the island of Cuba westward to the coast of Mexico, about 700 miles. Cuba divides it into two straits, one to the south, between cape Antonio and cape Catoche, forty-five leagues wide, through which it communicates with the Caribbean sea, and another to the north, forty leagues in width, called the *gulf* or *strait of Florida*. It receives the waters of the del Norte, Sabine, and Mississippi. The Mexican ports on this gulf are mere roadsteads. The principal are Tampico, and Veracruz. Havana and

Pensacola are magnificent harbours. The principal current in the gulf is the Gulf stream, which takes its name from that circumstance; it is produced by the equatorial current from east to west, enters the gulf between the capes Antonio and Catorce, winds round its shores, and flows out by the channel of Florida, where Humboldt found its velocity to be five feet a second, against a strong north wind. See *Current*.

MEYER, JONAS DANIEL, born at Arnheim, in Guelderland, 1780, studied at Amsterdam and Leyden. He was at first an advocate in Amsterdam, in 1811 et seq., occupied several important judicial offices, and, in 1817, retired to private life. Doctor Meyer is a distinguished writer on law, politics, and legislation. His *Espit, Origine et Progrès des Institutions judiciaires*, &c. (Hague, 1819—23, six vols.) is a valuable work. He has recently published a work *On Codification*, particularly in England.

MEZZO; an Italian adjective, which means *half*, and is often used in musical language, as *mezzo forte*, *mezzo piano*, *mezzo voce*, which imply nearly the same thing, viz., a middle degree of piano or soft—*Mezzo soprano*; a pitch of voice between the soprano or treble and counter-tenor.

MEZZOTINTO. See *Engraving*.

MI; one of the six monosyllables adapted by Guido to his hexachords, and which was applied to the third and seventh notes of the natural diatonic scale.

MIAMI OF THE LAKES. See *Maumee*.

MIAMI; a river of Ohio, which rises in Hardin county, and runs south-westerly into the Ohio river at the south-west corner of the state. Its length is about 100 miles. Its navigation is not easy, but it affords numerous sites for mills and manufactories.

MIAMI, LITTLE; a river which rises in Madison county, Ohio, and runs in a south-westerly direction about 100 miles, and falls into the Ohio river seven miles above Cincinnati. It is one of the best mill-streams in this state, but affords little navigation.

MIASMA (from the Greek *μῆμα*, any thing polluting); a term used in the doctrine of contagious and epidemic diseases, with different meanings. Some authors use it precisely like *contagion*; with others it signifies the contagious matter of chronic diseases; with others, that contagious matter which collects in the atmosphere—flying contagion. Some understand by *miasma*, the vehicle of contagion; for instance, the pus of small-pox, which contains the proper contagious matter. *Miasma* also signifies certain matter, in the atmosphere, owing its origin to putrefied animal or vegetable bodies, or to the exhalation of animal bodies, and producing specific diseases. It would be well to contradistinguish *miasma* from *contagion*, and designate by the former term all the poisonous matter of diseases, which is not generated in living animal bodies, but has, in some other way, entered the atmospheric air. One of the most powerful correctors of miasmatic effluvia is chloride of lime, which is getting much into use among navigators and other persons exposed to such effluvia.

MICAH, the sixth of the minor prophets, was a Morasthite, of the tribe of Judah. He prophesied in the reigns of Jotham, Ahas, and Hezekiah, from 749 to 679 B. C. Nothing is known of his life or death. His prophecy is directed against Samaria and Jerusalem, whose sufferings, he declares, shall be greater than those of Babylon and the other gentile cities. The village of the Saviour's birth is designated by him (v. 2)—“But thou, Bethlehem Ephrathah, little among the thousands of Judah, out of thee shall come forth a ruler in Israel, whose generation is of old, from everlasting.” His style is pure and correct, his

images bold, his denunciations not of empty bitterness.

MICHAEL (Hebrew, *for who is equal to God*) spoken of in Daniel (x. 13 and xi. 12), as one of the “chief princes,” and the “great prince of Jude” (ver. 9), he is called the “angel who is disputed with the devil about the body of Man” in the Revelation (xii. 7), it is said “then we saw heaven: Michael and his angels fought against the dragon.” From this expression, it has been stated that he was the chief of the celestial hosts; as it is in this character that the Catholic church ascribes to him religious honours. Milton (vi.) calls him “celestial armies prince,” and “prince of angels” attributes to him the command of the host of heaven in the war with Satan.

MICHAEL, St (S. Michael), the subject of Azores, was discovered in 1444, and taken possession of by Cabral, in the name of Portugal, as it was power it now belongs; lat. 37° 50' N.; in 39° W.; twenty-five leagues S. E. from Terceira. The interior it is mountainous, some of the peaks rising to a height of more than 7000 feet, and some of volcanic origin. Earthquakes are frequent, the soil is in many places composed of volcanic ducts. In the valleys it is fertile, and produces potatoes, oranges, grapes, peaches, and pears. The coasts abound with fish, and there are many hot springs in the interior. The climate is mild and agreeable. The commerce is considerable, principally with Britain, Portugal, and the United States. The population is about 80,000; capital, Ponta da Gada. (See *Azores*, and *Portugal*). See also Voster's *Description of St Michael*, 1801. In Aug (1831), the troops of donna Maria took possession of St Michael.

MICHAELIS, JOHN DAVID; professor at Göttingen, a celebrated theologian and Orientalist, born Halle, Feb. 27, 1717, where his father Jonas Benedict, was a distinguished professor of the two branches. John David received his first instruction from his father, and afterwards studied at the university of Halle. After taking his degree, he went on a journey to England and Holland, whence he had connections with several learned universities at London and Oxford, and in Leyden. After he returned to his native country, he prosecuted his studies with arduousness, and, in consequence of the death of Jakob Ludwig, was intrusted with the preparation of a catalogue raisonné of the Halle university library. Through the influence of the baron von Münchhausen, Michaelis, in 1743, was made professor of philosophy at Göttingen, where in 1751, he was appointed, by Haller, to draw up the constitution of the new society of sciences, of which he was secretary-director, until some differences with one of his colleagues induced him to resign his post and leave society. From 1753 to 1770, he was one of the editors of the Göttingen Literary Notices, and from 1771 to 1783, was librarian to the university. After the death of Gesner (1761), he undertook the duties of the philological seminary, from which as an eminent philologists have proceeded. During the troubles of the seven years' war, Michaelis was employed in making preparations for an expedition into Arabia, which was afterwards not taken by Niebuhr, and which contributed to important explanations to obscure passages of scripture. He died in 1791. His labours in this criticism and history are of great value. His posthumous works are *Mosaisches Recht* (6 vols., second edition 5 vols., 1776—80, translated into English, under the title of *Commentaries on the Laws of Moses*), and *Introduction to the Study of the Old and New Testament* (the latter has been translated by Morrell). See

*um Geogr. Hebræorum*; Translations of the Old and New Testaments, with grammatical and lexicographical productions. Heyne and Eichhorn have enriched tributes to his memory, and he himself left an autobiography.

MICHAUX, ANDRÉ, a celebrated traveller and botanist, born at Sartory, near Versailles, in 1746, is early led by the example of his father and his own inclinations to devote himself to agricultural pursuits, but at the same time did not neglect to cultivate the sciences and polite literature. The loss of his wife, soon after an early marriage, interrupted his prospects of domestic happiness, and carried him to Paris, where he became acquainted with Lemonnier, and acquired a taste for botany. He attended the lectures of Jussieu, and, in 1780, visited Auvergne, the Pyrenees and Spain, in company with Delamarck and Thouin, on a botanical excursion. In 1782, Lemonnier obtained for him permission to accompany Rousseau, who was appointed Persian consul, to Persia, and after spending two years in those parts, Michaux returned with a fine collection of plants and seeds. In 1785, he was sent to America for the purpose of sending out trees and shrubs for the establishment at Rambouillet, landed at New York, visited New Jersey, Pennsylvania, and Maryland. In 1787, he formed a new establishment at Charleston for the procuring and preserving plants, and visited Georgia, Florida, the Bahamas, &c. In 1792, he examined the more northern parts of the continent, to the vicinity of Hudson's bay. The two gardens which he had established at New York and Charleston were now in a flourishing condition, and he done much towards advancing arboriculture in the United States. Soon after his return to Philadelphia, Michaux was sent to Louisiana by the French government on a public mission, and in July, 1803, crossed the Alleghenies, and descended the Ohio. The project in relation to which he had been at having been abandoned, he returned, in December, to Philadelphia, by the way of Virginia. The next year, he again crossed the mountains, and examined the western parts of the United States. The difficulties which he had to encounter in these expeditions may be easily imagined. In 1796, he returned to Europe, was shipwrecked on the coast of Ireland, but saved the greater part of his valuable collection, and, on his arrival in Paris, found that out of 30,000 stocks which he had sent out to Rambouillet, only a very small number had escaped the ravages of the revolution. Michaux was unable to claim the arrears of his salary for seven years, or employment from the government, and occupied himself in preparing materials for his works on North America. In 1800, however, he was attached to the expedition of Baudin to New Holland; but, on visiting Teneriffe and the Isle of France, he left party, and went to Madagascar, where he soon died of a fever (November, 1802). His works *Histoire des Chênes de l'Amérique Septentrionale* Paris, 1801, folio, with thirty-six plates, representing thirty species and sixteen varieties; and *Flora californiana* (2 vols., 8vo, 1803, with fifty-two plates, comprising 1700 plants, and about forty new genera).

MICHAUX, FRANÇOIS ANDRÉ, son of the preceding, is the author of the *North American Sylva* (5 vols., 8vo, Philadelphia, 1817, 150 coloured engravings); and of *Travels in Ohio, Kentucky, and Tennessee* (London, 1805.)

MICHEL ANGELO, or MICHELANGELO. See *Michelangelo*.

MICHIGAN; a territory of the United States of America. This territory may be viewed in two aspects—one, as presented by its political limits,

established by the acts of congress of January, 1805, and April, 1818; the other as exhibited by the natural boundaries by which it will probably be defined when it enters the confederacy; and known by the appropriate and more usual designation of *Michigan Proper*. The whole extent of country called *Michigan*, lies between 41° 38' 58" and 48° 37' N. lat., and 82° 15', and nearly 95° W. lon. from Greenwich. That portion lying W. of 87° 10' lon., comprises the extensive district attached to Michigan, and contemplated to be set off and organised as a new territory. This latter region, bordering east on lake Michigan, north on lake Superior (nearly half of which it embraces), and the chain of small lakes connecting that Mediterranean with the heads of the Mississippi, and west and north-west on the Upper Mississippi, has been little explored. Judging from known portions of it, however, it must gradually assume, as its resources are developed by the progress of improvement, great interest and importance. The country included between the Fox and Wisconsin rivers, and the western shore of lake Michigan, bears a highly inviting character. The soil is a rich, black alluvial, irrigated by innumerable veins of water. The face of the country is unbroken by hills of any magnitude. From its northern extremity south to the Milwaukee and the heads of Rock river, it is covered with a dense forest, opening, as traced farther down to the southern bend of lake Michigan, into fertile and extensive prairies. It is not marked by that sterility which usually distinguishes mineral regions. Explorers have noticed, as a feature of geological interest, the entire absence of pebbles upon the surface of these prairies, and to a depth of two or three feet. The succeeding stratum is of clay. More than 36,000,000 pounds of lead were yielded, by the mining district, from the autumn of 1824 to that of 1829. The southern shore of lake Superior affords strong indication of copper. By the treaty of Prairie du Chien, 1829, the United States purchased of the Winnebagoes, Chippewas, Ottawas, and Potawatamies, a tract of about 6,000,000 acres of land, of which 2,300,000 are supposed to be within the limits of the contemplated territory. About 132,000 in the vicinity of Green bay have also been ceded. The former cession comprehends nearly all the mining district of the Upper Mississippi. It is occupied principally by the Winnebago, Chippewa, and Sioux tribes of Indians. The white population, confined chiefly to Green bay and the mining district, is estimated at 6000. Military posts are established at Green bay, Prairie du Chien, fort Snelling, on the St. Peters, and Fort Winnebago, at the portage of the Fox and Wisconsin rivers. Settlements are formed, more or less extensive, at Green bay; Pembina, on Red river of lake Winnepeg; Prairie du Chien, on the Mississippi, and the lead mine, bounding on the Mississippi and Wisconsin.

*Michigan Proper* lies between 41° 38' 58" and 46° 50' N. lat., and 82° 15' and 87° 10' W. lon., and is bounded N. by lake Superior, E. by St. Mary's river, lake Huron, St. Clair river, lake St. Clair, Detroit river, and lake Erie; S. by Ohio and Indiana; and W. by a line dividing lake Michigan N. and S. to Big Beaver island; and thence running due N., to the national boundary in lake Superior. These limits comprehend about 60,500 square miles, of which a third, perhaps, is covered with water. They comprise two peninsulas—the larger, being the peninsula of Michigan, bounded E. by lakes Erie, St. Clair, and Huron, and W. by lake Michigan, containing about 36,000 square miles; the smaller bounded S. by the straits of Mackinac, E. by the river St. Mary, N. by lake Superior; containing about 2000 square miles. The former is about 280

miles long, N. and S., and from 180 to 200 broad, E. and W. From the base of the peninsula, as far N. as Grand and Saginaw rivers, the country has been ceded by the Indians. The jurisdiction of Michigan extends over all the territory of the United States E. of the Mississippi and N. of Illinois. As generally indicating its geological and mineralogical character, we may remark, that the rock is covered with a bed of alluvial earth, from 30 to 150 feet deep. The rocks belong to the secondary class. The strata, in the southern part of the territory, are supposed to dip S. E. at an angle of about  $4^{\circ}$  with the horizon. Ferriferous sand rock, saliferous rock, and mill-stone grit, are found alternating on the surface, at various points in the middle and western parts of the peninsula. Salt springs occur on the branches of many of the interior rivers. Bog iron ore, lead ore, gypsum and bituminous coal are found, though in inconsiderable quantities. Peat is abundant in many parts of the territory. The face of the country is generally level or gently undulating. A strip of table land, stretching N. and S., and assuming, as it is traced N., the character of a ridge, divides the waters emptying eastward into lakes Erie, St Clair, and Huron, from those passing westward into lake Michigan. Its elevation is estimated to be 300 feet above the level of the lakes. South of a line drawn due W. from the southern extremity of lake Huron, the country consists of open land, known by the name of *Oak plains*. The soil is a loam, with varying proportions of clay. It becomes fertile by cultivation, and is good farm land. In the country bordering on the Kalamazoo and St Joseph rivers, prairies of a black, rich, alluvial soil and unusual productiveness, frequently occur. The northern part of the peninsula is in the occupation of Indians, and has been little explored, except along the borders. The land is in many places more elevated than that farther south, and is covered with the trees usually found in those latitudes. The Indians raise corn in abundance. The peninsula between the straits of Mackinac and lake Superior, as far as is known, resembles, in its soil, forests, form and climate, the northern part of the peninsula of Michigan. In the southern part of the territory, the climate is temperate; in the northern, cold. Snow falls at Detroit from six to eighteen inches deep, and remains two or three weeks. The transition from the cold of spring to the heat of summer is rapid; from summer to winter, gradual and prolonged. As general characteristics, the spring is wet and backward; summer, dry; autumn, mild; winter, cold and dry. The average temperature is, in the spring,  $50^{\circ}$  of Fahrenheit; summer,  $80^{\circ}$ ; winter,  $20^{\circ}$ ; autumn,  $60^{\circ}$  to  $65^{\circ}$ . The rivers, with the exception of St Mary's, St Clair, and Detroit, which form connecting links in the great chain of lakes, are small. They rise near the dividing ridge, and run, with a rapid current, E. or W. Their numerous branches furnish abundance of mill-seats in all parts of the country. From the greater proximity of the ridge to the eastern border of the peninsula, the streams running E. are of course shorter than those which take a contrary direction. They are also, in general, smaller, and navigable to less extent. Thunder bay river, emptying into Thunder bay, and Cheboygan river, into the straits of Mackinac, are the only considerable streams N. of Saginaw bay.

The animal and vegetable productions are such as are usually found in the same latitudes. Game, fish, and aquatic birds, are in great abundance and variety. The civil divisions of the territory are those of counties and townships. The legislative power is vested in a governor and council; the latter elected biennially, and restricted to annual sessions of sixty

days each; the executive, in a governor elected for terms of three years; the judicial system, a supreme court, consisting of three judges, who are elected for four years; circuit courts, held by two associate judges; and subordinate jurisdictions, consisting of magistrates, &c. Detroit is the seat of government. It is situated on the right bank of the river, about 16 miles from lake Erie, and seven from which it contains about 3000 inhabitants. With every facility for becoming a place of important transaction, Detroit has hitherto depended on the pecuniary support afforded by the far trade for the maintenance of public moneys, while a military post, as a liberal appropriations by government to its objects. The impulse and effect produced by the settlement and cultivation of the surrounding country was wanting. This, though recent a Michigan commenced, and is rapidly increasing. A tide of immigration has set in. The prospect of prosperity once in view, their results will soon be shown there, as they have already been shown elsewhere. The population of Michigan exceeds 40,000. Regular settlements were first made in the beginning of the last century. The present, under the dominion of the French, was uniting the civil and military authority in the person of a "commandant." Lands were held of the king, and undergrants, temporary or permanent, were made by his governor-general, to which lands he was usually incident. The rules regulating the right of property, particularly in regard to the marriage relation, succession, and divorce, were those of French customary law, called *coutume de Paris*, as far as applicable to the circumstances of the case. These were abrogated, as to further acquire the territory, in 1810. In 1763, the French possessions in Canada were ceded to England, by the treaty of Paris, 1763, the country was ceded to the United States. From this period to the present, the government ceased to exercise a criminal jurisdiction over it. In 1796, under Jay's treaty of 1794, possession of these upper points was decreed to the American government. The North-western territory was ceded by Virginia, New York, Maryland, and Connecticut to the United States, and the congress passed an ordinance for its government, amended in 1789, to adapt it to the new government of the United States, which had taken effect in interim. A delegate to congress is elected from whom may debate, but not vote. The qualifications necessary to suffrage are—to be a free white male; age; citizenship; a year's residence in the territory; payment of a county or territorial tax. By the articles of compact, slavery is prohibited. The number of Indians within the peninsula is estimated at 9000; within the territory of Michigan at 60,000. Those in the peninsula are Chippewas, Potawatamies and Ottawas, and are kindred tribes. The Potawatamies live on reservations of land in the territory. The Ottawas and Chippewas of Thunder bay, Saginaw, and river on Sable, are all on the peninsula north and west of a line drawn from the Grand to the source of Thunder bay river. They are hunters and trappers. The Ottawas are the most agricultural in their habits, and a few of the tribe have a flourishing settlement at L'Anse-au-Loup on the western coast of lake Huron. The tribes of St Clair river and lake, rivers Detroit, Raisin, and Platteville bay, at the mouth of the last, are settled by French inhabitants. They are back of land on the borders of these rivers, 20 miles broad. They are civil, honest, industrious, and industrious, with little education, and more deficient in enterprise.

MICHIGAN, LAKE; one of the five great lakes

the northern part of the United States, and wholly within the territory of these states. It has the Michigan Territory on the east, Indiana on the south, and is connected on the north-east with lake Huron, by the strait of Mackinac. Its length is nearly three hundred miles, its breadth about sixty miles, and its average depth about 900 feet. The distance from the southern extremity to the Mississippi is 161 miles. Lon.  $84^{\circ} 40'$  to  $87^{\circ} 8' W.$ ; lat.  $41^{\circ} 15'$  to  $45^{\circ} 35' N.$  It contains, according to Hutchins, 10,868,000 acres. The waters are clear and wholesome, and contain many kinds of fish. In the north-west part there are two large bays, Noquet's and Green.

MICHILIMACKINAC, or MACKINAC; a post-town and military post in Michigan. It is situated upon an island in the strait connecting lake Huron and lake Michigan; the best authorities now give to the town and island the name *Mackinac*, and to the county of which the town is the capital, and the strait in which it is situated, that of *Mackinac*. The common pronunciation is *Mack-i-naw*, and the name is not unfrequently written in this manner. The island is about nine miles in circuit. The population of the county, in 1830, was 877. It is much resorted to by fur traders, and during the summer is visited by thousands of Indians, on their way to Drummond's island. On a cliff above the town is the fort. Lon.  $84^{\circ} 40' W.$ ; lat.  $45^{\circ} 54' N.$

MICHILIMACKINAC, STRAITS OF; a channel connecting lake Michigan with lake Huron, forty miles long from east to west, and four miles wide in the narrowest part.

MICKLE, WILLIAM JULIUS, an English poet, the son of a Presbyterian clergyman, was born in Dumfriesshire, Scotland, in 1734, and received his education at Edinburgh. At first he engaged in business as a brewer, but not succeeding, he devoted himself to literature, and removing to London, was noticed by Lord Lyttleton. In 1765, he was employed as corrector of the press in the Clarendon printing-office at Oxford, where he published a poem entitled the *Comubine*, in imitation of Spenser, republished with the title of *Sir Martyn*. He afterwards edited Pearch's *Collection of Poems*, 4 vols. supplementary to that of Dodsley. In 1775, appeared his principal production, a translation of the *Lusiad* of Camoens. Preambled to the poem is a historical and critical introduction, including a life of Camoens; and the work itself is executed in a manner highly creditable to the talents of the translator. In 1778, Mr Mickle accompanied commodore Johnson as his secretary on a mission to Lisbon; and died in 1788. His poetical works were published collectively, in 3 vols. 8vo, 1807, with a biographical memoir.

MICROMETER; an instrument fitted to telescopes in the focus of the object-glass, for measuring small angles or distances, as the apparent diameters of the planets, &c. Various forms have been given to this instrument by different authors, and various claims have been urged for the honour of the invention. It seems, however, to belong to Gascoigne, an Englishman, though it is doubtful whether Huygens did not also invent the one which he used, without any knowledge of that of the former. Under all the forms of this instrument, the principle of operation is the same, which is, that it moves a fine wire parallel to itself, in the plane of the picture of an object, formed in the focus of the telescope; and with such accuracy as to measure with the greatest precision the perpendicular distance from a fixed wire in the same plane, by which means the apparent diameters of the planets, and other small angles, are exactly determined. This may be illustrated as follows:—Let a planet be viewed through a telescope, and when the parallel wires are opened to such a distance

as to appear to touch exactly the two opposite extremities of the disc of the planet, it is obvious that the perpendicular distance between the wires is then equal to the diameter of the object in the focus of the object-glass.

MICROSCOPE. The history of the microscope is veiled in considerable obscurity, and among the moderns the discovery of this instrument has been claimed by several individuals. The ancients appear to have been acquainted with it in one of its forms; for Seneca says, "Letters, though minute and obscure, appear larger and clearer through a glass bubble filled with water." In the middle ages this knowledge was lost. The invention of the modern instrument is attributed by the celebrated Dutch mathematician Huygens, to a countryman of his, named Drebell, who constructed them about 1621, or thirty-one years after the invention of the telescope. Borelli attributes it to Jansen, the reputed contriver of the telescope; Viviani to Galileo. The first microscope, consisting of two double convex lenses, seems to have been made by F. Fontana, a Neapolitan, who dates his invention from 1618. The numerous forms of microscopes may be included under the heads of single, compound refracting and compound reflecting microscopes. The theory of the *single microscope* may be thus explained. We all know that at a small distance we see more distinctly than at a large. If we look at two men, one 200 feet distant, the other 100 feet, the former will appear only half the height of the latter, or the angle which the latter subtends to the eye of the observer will be twice that subtended by the former. Hence we must conclude, that the nearer we can bring an object to the eye, the larger it will appear. Now if to render the parts of a minute object distinguishable, we bring it very near the eye (suppose within one or two inches), it will become very indistinct and confused, in consequence of the great divergence of the rays of light from the object, and the power of the crystalline lens of the eye not being sufficient to collect the rays whereby an image of the object may be formed on the retina at the proper distance on the back of the eye. Now if we employ a single microscope, which consists of a convex lens usually made of glass (though any other transparent substance would have the same power in a greater or less degree), and mounted in a brass setting, and place it between the object and the eye, the former being in the focus of the glass, the diverging rays from the object will be refracted and rendered parallel by the lens, and thus we shall obtain a distinct and near view of the object. The increase of apparent magnitude obtained by the employment of lenses, is proportioned to the difference of the distance of an object from the lens and the distance when seen without its assistance. This latter distance (the distance of distinct vision of minute objects with the naked eye) varies in different persons, and at different periods of life. Some measure therefore must be assumed as a standard, before we can express the amplifying power of a lens so as mutually to have the same idea of the magnitude of an object. Some authors adopt ten inches as the standard of the focus of the eye, under ordinary circumstances, and its decimal character makes it a convenient multiplier or divisor. With this decimal standard we can determine the magnifying power of lenses of any focal length, or formed of any substance (media). Thus if we have a lens which requires for distinct vision the object to be one inch from its centre (in a double convex), we must divide the standard ten by one which will give ten as the magnifying power. If the lens require the object to be 1-25th of an inch distant, its magnifying power will be 250. We have called the magnifying power in the first instance ten, because the length of

the object is increased ten times; but as its breadth is also increased ten times, the real magnifying power of the lens is ten times ten, or a hundred. The common form of the magnifiers employed for microscopes is double-convex, and they should be made as thin as possible; for the wandering and spreading out of the rays proceeding from an object when refracted by the lens with spherical surfaces, whereby an indistinctness is produced in its image, will be decreased, as the square of the thickness of the lens employed, and the loss of light in passing through the lens is less in proportion as it is thin.—Within a few years diamonds have been formed into lenses in consequence of their high refractive power, whereby we can obtain lenses of any degree of magnifying power with comparatively shallow curves, and as the dispersion of colour in this substance is as low as in water, the lens is nearly achromatic. Next to the diamond the sapphire possesses all the powers requisite for the formation of perfect magnifiers, and presents less difficulty in their construction; hence the expense of employing it is considerably less.

M. M. Trecoart and Oberhausen lately presented to the Academy of Sciences at Paris, microscopic lenses formed of diamond, sapphire, and ruby, all ground to the same curvature. The diamond lens magnifies 210 times, and with a compound eyeglass, the power is extended to 245; the power of the sapphire, with the same eye-piece, is 255; and that of the ruby 235. The grinding and polishing of these lenses is very laborious. The polishing of the diamond occupied twenty-four hours, the wheel making not less than 200 revolutions per second.

A *compound refracting microscope* is an instrument consisting of two or more convex lenses, by one of which an enlarged image of the object is formed, and then by means of the other employed as an eyeglass, a magnified representation of the enlarged image is obtained. The distance at which the two lenses of a compound microscope are placed from each other must always exceed the sum of their focal lengths, in order that the image may be formed by the object-glass in the interior focus of the eyeglass. Compound microscopes have been constructed of almost all possible dimensions, from a few inches in length to that of twenty feet; but from experience it appears that whenever their magnitude is augmented beyond a certain point, the effect is diminished, though we suppose the amplifying power of both microscopes the same.

The *solar microscope* consists of a common microscope connected with a reflector and condenser, the former being used to throw the sun's light on the latter, by which it is condensed to illuminate the object placed in its focus. This object is also in the focus of the microscopic lens on the other side of it, which transmits a magnified image of it to a wall or screen (sometimes a combination of two magnifying lenses is used). The magnifying power will be greater in proportion as the focal distance of the object-glass, compared with the distance of the wall or screen from the object-glass is less. The principle of the *lucernal microscope* is the same, except that a lamp is used instead of the sun to illuminate the object; this lamp is enclosed in a lantern, to screen the light from the observers.

**MICROCOSM** (from *μικρος*, little, and *κοσμος*, the universe); the name given to man in the times when astrology flourished, as it was supposed that his organisation accurately corresponded to the organisation of the universe, called in this case *macrocosmos* (from *μακρος*, meaning great, and *κοσμος*, the universe). The different parts and limbs of man were made to correspond to the different parts of the universe; and engravings are found in works of

that time, in which man stands in the centre of the universe, surrounded by lines indicating the various connexions of the heavenly bodies with his limbs. This idea owes its origin partly to the supposition which early ages attributed to the position of man in the universe. The earth is at first supposed conceived of as the centre of the universe, its mountains are a mere dome over the earth, its groves, its rivers, and man, the present lord of the earth, is considered actually the lord of all the creation. The relations between him and the vast cosmical phenomena are then imagined. But the progress of science makes man modest. It shows him that he belongs only to one period of a small part. *Microcosm* is still used in a figurative sense for man.

**MICROSCOPICAL ANIMALS, or ANIMALCULES.** See *Animalcula*.

**MIDAS**, the son of Gordias and Cylax, was a ancient king of Phrygia, of whom many tales are related. His story has the anatomy of a *novella*. While he was yet in the cradle, the gods put on his mouth, and the soothsayers prophesied that he would acquire great riches. When he was king, Bacchus was travelling through Phrygia, passing on his way, and strayed to the court of the king. He hospitably entertained him, and conducted him to Bacchus, who permitted Midas to choose whatever recompense he pleased. Midas requested that every thing he touched might become gold, and a god granted his wish. But when even his food was transformed into gold at his touch, he begged Bacchus to take back the fatal privilege. The god commanded him to go up the river Pactolus and dip his head in the sources of the stream, and the words to bathe in it. The property of transforming every thing into gold was then transferred to the waters of the Pactolus. Pan and Apollo granted Midas and Timolus their empires as a token of reward. Midas gave to the satyrs of Pan his influence over the lyre of Apollo, and was himself rewarded by the latter with a pair of antlers, thus the phrase *corns of Midas*, often bestowed upon extravagant critics. Midas now exerted himself to remove this ornament of his head by his royal cap, but he was obliged to uncover his head under the hand of his hair-dresser; and, although the king swore secrecy upon the severest penalty, yet the news weighed upon the barber so heavily that, to undeceive his mind, he dug a hole in the ground, and crept in it, "king Midas has antlers' corns," and then covered up the hole. Soon after words spring up on this spot, which, when moved by the wind, murmured the words of the barber. Thus the curse was divulged.

**MIDDLE AGES**; that period in the history of Europe, which begins with the final destruction of the Roman empire, and, by some historians, is considered to end with the reformation; by others, with the discovery of America; by others, with the conquest of Constantinople; and again, by some, with the invention of the art of printing; all of which may be right, according to the special purpose of the historian. In general, it may be said, the middle ages embrace that period of history in which the feudal system was established and developed, from the most prominent events which mark the way to its overthrow, though its consequences and influence are still very observable in the states of Europe (See *Feudal System*, and *Chivalry*). The first centuries of the middle ages are often treated as a *barbarism*—a name which they certainly deserve. However, the destruction of the Roman empire by the irruption of barbarous tribes, is often over lamented, and the beneficial consequences of it overlooked. True it is, that many of the super-

tions, which had cost mankind ages of toil and labour, were lost in the general wreck, and only regained by the efforts of many successive generations; the flowers of civilization were trampled under foot by barbarous warriors; the civil development of society suffered a most severe shock; those nations to which Roman civilization had extended previous to the great invasion of the Teutonic tribes, were thrown back, in a great measure, to their primeval barbarism,\* and the unruly passion for individual independence in the northern tribes, greatly retarded the development of public and private law, and, in some countries, has entirely prevented a regular civil constitution. Though we admit all this, we ask whether those who deplore the irruption of the barbarians, are well aware of the enormous degree to which Roman civilization had degenerated? While, however, the injury which the world suffered from the destruction of Roman civilization has been often over-rated, there is, on the other hand, a class of persons who laud the condition of Europe during the rudeness of the feudal ages, in a spirit of romantic exaggeration, much like that of certain philosophers, who have treated the savage state as that best fitted to nourish and preserve virtue, the one showing guarantee of history, the other of man. Any one may speculate as he pleases on such subjects, but such speculations are foreign to the spirit of history, whose proper office is to state facts, and show the influence of past ages on the succeeding. The feudal system filled Europe with powerful barons, possessing large landed estates, and commanding the services of numerous armed adherents, and with inferior lords, protected by the former. They were all possessors of land, with arms perpetually in their hands, too proud to follow any laws except those of honour, which they had themselves created, and despising all men of peaceful occupations as ignoble, refused to obey and to serve. If, therefore, the classes not belonging to the military caste wished to preserve their independence, they could succeed only by union, which would afford them the means of mutual protection, and enable them to exercise their various callings unmolested, and thereby acquire wealth in money and goods, which would serve as a counterpoise to the landed possessions of the feudal aristocracy.

This necessity gave rise to cities. Small cultivators, at first under the protection and superintendence of the counts, bishops, and abbots, to whom they subsequently became so formidable, arose, and attained (particularly in the eleventh century) through their own industry and skill, to a state of prosperity, which enabled them to purchase their freedom, and soon to obtain it by force. They did not remain stationary; but small states began to grow into great ones; and the most of them became so old as to acknowledge no superior except the highest authority of the country to which they belonged. Strong, high walls, impenetrable by the rude military art of the time, secured, in conjunction with the valour of the citizens, the freedom of the cities, and protected them from the tyrants of the land; well-ordered civil institutions preserved peace and prosperity within, and were secured by the wealth acquired by trade and manufacturing industry. Many of the nobility themselves, attracted by the good order and prosperity of the cities, established themselves there, and were ambitious of obtaining the offices of government in these commonwealths.

In fact, they soon usurped the exclusive possession of them, in many of the cities. The looser the social organization in any state, and the more intolerable the pride of the nobility, the greater became the prosperity and power of the cities, which grew, at length, so great that, in Germany and Italy, these republics were formidable even to the emperor. In Arragon, the third estate was fully developed as early as the twelfth century. In England the cities, in conjunction with the barons, obtained the *Magna Charta*, in 1215, and, in France, they increased, in consequence, from the circumstance that Louis the Fat and his successors, particularly Philip the Fair, 200 years after him, found it their best policy to protect them against the nobility, and thereby increase their own means of resisting that order. But the cities of these countries never attained the importance of those of Germany and Italy. What single cities could not accomplish, was effected by the union of several; as the league of the Lombard cities in Italy; the Hanseatic, Rhenish, and Suabian leagues in Germany (see *Italy*, and *Hanseatic League*), appeared, at the same time, as great and formidable powers. Under the protection of such associations, and sheltered by the walls of the cities, all arts and trades, and every kind of civilization, made rapid progress. Many of the important inventions, which we now prize so highly, originated among the citizens of these small free states, or were suggested by their active commercial and manufacturing spirit.

With constitutions similar to those of antiquity, the same spirit appeared to be awakened; all the virtues and vices of Athens, Sparta, and Rome, are found in the free states of Italy, where even the climate resembled that of the republics which had perished 1500 years before. There was the same love of country, strict morals, and valour, the same (but more violent) party contests, the same changes of administration and ambitious intrigues, the same (though differently directed) love of arts and knowledge. But the communities were not exempt from the influence of the domineering spirit of the times, which they opposed. The overwhelming power of individuals, so dangerous to all free states, became, through this spirit, doubly formidable, and compelled the oppressed portion of the citizens, in the same distress which had given rise to their parent city, to have recourse to the same means of relief. They bound themselves together for the protection of their rights. Such associations, usually formed among people of the same trade, and having for their object, next to security from external enemies, the maintenance of internal order in these stormy times, were called *corporations*, or *guilds*, and were under the direction of a master. The strictest regulations appeared necessary for the attainment of this object. No one, without serving an apprenticeship of years, and advancing through certain degrees, could become a member. At a later period, admission into the corporation was purchased by individuals who did not follow the business of the members, but wished to share in the advantages of the associations. For in the fourteenth century, the corporations became so powerful as to obtain almost exclusive possession of the government of the cities, which until this period, the nobility had mostly retained in their own hands. The corporations now taught them that, as they contributed not to the prosperity of the city by their industry, it did not become them to govern it. The nobility, so far as they continued in the city after this removal from power, preserved themselves in close connexion, and those who resided in the country formed confederacies against the power of the cities. Associations which, to the best men, appeared the only means of security from the disorders of

\* These nations, in point of civil institutions, had undoubtedly advanced much beyond the German tribes, whom the histories of Arminius (which preserved them independent of Rome) had, at the same time, prevented from receiving the benefits of the Roman law and social organization.

the time, became so universal, that, almost everywhere, persons of the same trade or profession were closely united, and had certain laws and regulations among themselves. Knowledge itself, in the universities, was obliged to do homage to this spirit, and the liberal arts themselves, in the latter part of the middle ages, were fettered by the restraints of corporations (see *Master-singers*), so that knowledge as well as arts was prevented from attaining that perfection which the secure life of the city seemed to promise them; for nothing more impeded their progress than that pedantry, those prescriptive and compulsory rules, that idolatrous veneration for old institutions, which are inseparable from such associations.

So also the most remarkable institution of that time, its characteristic production—chivalry—exhibited all the peculiarities of the corporations. War was the profession of the nobles. No one of their order, who was not a knight, could bear a lance or command cavalry; and the services of years, as an attendant or squire, were necessary to entitle even one of the highest order to be dubbed a knight. But squire, knight, and baron were all inspired with the same spirit of honour, pride, love, and devotion. The religious zeal of the middle ages produced actions almost inconceivable to the cooler spirit of our time. We see hundreds of youths and maidens, in the flower of their age, shutting themselves up in gloomy walls, or retiring to wild deserts, and spending their lives in prayer and penance; we yearly see thousands barefoot and fasting, travelling many hundred miles, over sea and land, to pray at the grave of their Master; we see hundreds of thousands thronging thither, from age to age, with the cross and sword, at the risk of life, to deliver the Holy Land from the pollution of infidels.

This enthusiastic spirit was peculiarly suitable to soften the ferocity of the age; but ambitious men artfully turned it to their own selfish purposes. Intolerance, the destruction of the Jews and heretics, the luxurious splendour of the papal court, and the all-embracing system of the hierarchy, were the unhappy fruits of this mistaken spirit. In opposition to the secular power, resting on the feudal system, and supported only by armies of vassals, the pope formed, from the archbishops, bishops and priests, still more from the generals of religious orders, provincials, abbots and monks, an immense army, invincible through its power over the conscience, and through the spiritual weapons which belonged to it and to its head. From the general belief in his possession of the power to make happy and unhappy in both worlds, to bind and loose for eternity, the pope ruled, with absolute sway, the minds of Christians. All the kings of the West acknowledged him as the living vicegerent of Christ. Many were vassals to him; many tributary; almost all obedient and subject to him, or, in a short time, victims of a vain resistance. At the time in which little idea was entertained of restraining princes by constitutional laws, and when the spirit of the times allowed them to dare whatever they could do, it was an inestimable advantage that the pope aided the people for centuries in opposition to their usurpations; but the luxury, cruelty, ambition, and hostility to the diffusion of knowledge, which pervaded the clergy, from the pope down to the lowest mendicant friar, has left a deep stain upon these times. In vain did men like Arnold of Brescia and the Waldenses, Wickliffe, Huss, and their followers, endeavour to overthrow the hierarchy by reminding the people of the simplicity and purity of the primitive church. They found their contemporaries accustomed to the supremacy of the church, not yet ripe for freedom of mind, and inattentive to their reasonances; and

their noble endeavours, in a great measure, failed. The hierarchy was able to erect new barriers against new enemies; mendicant orders and the inquisition were instituted to prevent the dangerous spirit of the thirteenth century from entering the kingdom of darkness; excommunications and smothered heresies Christendom in terror; till at length, when the spirit of the times, the diffusion of a freer spirit of investigation, the establishment of a more rational civil monarchies, and the cooling of religious enthusiasm, announced that the middle ages were drawing to a close, Luther proclaimed that Europe would no longer be held in leading-strings.

The ages of which we have been speaking a life of battles and adventures, of pride and duty; devotion and love, must have borne peculiar marks. The knights were particularly disposed to pursue views by lives spent between battle and love, pomp and religious exercises. Hence we see them first appearing among the knights in the twelfth century. In southern France, where chivalry was first established, we see the first sparks of modern poetry. The Provençal Troubadours, who were pally sung at the court of Berengarius of Valencia are the founders of it. Soon after them, the French Trouvères (*ministres*) and the German Minnesingers sang in their mother tongue; the Italians, at first from mistrust of their vulgar tongue, in the Provençal; and the English, from the same cause, in the French language. But the *ministres* were first among the latter also, a national poetry; and the Italians, at a later period, after the French had brought the Tuscan dialect into honour, obtained the improvement of it, a high poetic form. In fact, the Catalonian poetry was the source as the French, but the Castilian and Portuguese borrowed much from the Arabians. With lyric poetry the epic was also developed in great beauty and power in Spain, its indefinite longing for something more elevated, than the realities of earth, creates a romantic. See *Romantic*.

The romantic epics of the middle ages are confined to three cycles of stories. Italy, France, a stranger to these, but her great Dante was over them all, and stood high above them, though in tone of love and devotion which predominates in a poem sprung from the character of the time. The first of these cycles of stories is the truly German *Nibelungen*, and the stories of Siegfried, Dietrich of Berne, Otus, Hagen, and other heroes of the time of the migration of the nations, which belong to a cycle to these stories stand the equality and tales of the British king Arthur, his Round Table, and the legends which, in accordance with old British or Celtic tales, were sung in France, and afterwards by German minstrels, and to which *Titurel*, *Parsifal*, *Parzival*, *Lohengrin*, *Gawan*, *Durand of Brabant*, the *Enchanter Merlin*, and others belong. To the two was added a third, originally French, cycle of stories, of *Charlemagne* and his Peers, of whom the *Enchanter Malegys*, and the *Four Sons of Aymon*. The romance of *Amadis de Gaul* belongs peculiarly to the Spanish, and to neither of these or collections. See *Chivalry*.

Besides these subjects, the poetic apparatus of the middle ages seized upon the historic events of ancient and modern times, particularly the deeds of Alexander the Great, and the crusades, fabricating upon the true history, and even upon the subjects of the epics of Homer and Virgil, for new poems and songs. But whether from political causes, or, as we believe, from the downfall of chivalry, and from an increasing spirit of reflection, the last occasion of the middle

ages were highly unfavourable to poetry. The voice of the minstrel was almost entirely silent in Germany, France, and Spain, even in the fourteenth century; but Italy had now its Petrarch and Boccaccio, and England its Chaucer. In the thirteenth century, there was not a story in the cycles above-mentioned, which was not eagerly sung by many poets; and more than 1400 love songs, by 136 poets of this century, are contained in the Manesse collection alone (see *Manesse*); but hardly a single poet appeared among the knights, after the fourteenth century.

The epic poems of former times gave place to prose romances, in which their stories were diluted, and the lyric poetry, in France and Germany, fell into the rude hands of the Master-singers (q. v.), who, by a studied observance of rules, preserved its formal existence. So did it continue till the fifteenth century, which, attentive only to the great events that were in preparation, and the struggles which preceded them, and actuated by the spirit of reflection from which they proceeded, was far removed from that free flow of feeling which had given birth to the poetry of the past time. It was not till the end of the middle ages, when the early spirit of poetry lived only in remembrance, that Ariosto took the stories of Charlemagne's peers from the nursery, and gave them new dignity. Spain and England received a new national poetry from Cervantes and Shakspeare. But how great is the difference between these creative geniuses, complete masters of their subjects, who poured forth their whole souls in their poetry, so that we know not which most to admire, the feeling which inspires, the fancy which adorns, or the understanding which regulates them, and whose humorous (often ironically) tone proclaims them the offspring of modern times, and those simple poets of the middle ages, who took the world as it was, and were rather the organs of the spirit of poetry in the people than independent poets!

Among the arts of the middle ages, architecture was distinguished by its peculiar character. In the noblest buildings of antiquity, the form of the first rude dwelling-houses is not to be mistaken; they appear only as the ornamented forms of abodes which necessity created, and can only be called fine buildings; but the Gothic architecture of the middle age was founded on a deep and great conception. This conception, which appears in the union of the grandeur of great masses with the most finished delicacy of parts, was the representation of the world. The other arts, which, in the fourteenth and fifteenth centuries, came from Greece into the Western world, attained their greatest splendour, in the middle ages, upon the Lower Rhine and in Italy. See *German Painting, and Italian Art*.

The weak side of the middle ages is the scientific. The youthful spirit of the time, bent upon action, could not devote itself to a sedentary life and continued study. The efforts of Charlemagne, to encourage science and instruct the people, hardly produced any effect beyond his life; for they were not in the spirit of the time. Several centuries after him, the German tribes considered no knowledge of use, but that of managing the lance and the steed. The barbarism was so great, that most of the laity, even the most distinguished, could scarcely read or write. He who was instructed in these, was considered a distinguished scholar, and he who obtained more knowledge, particularly in mathematics or natural science, exposed himself to the danger of being burned as a sorcerer. But the monks, by their retired situation, and the leisure which they enjoyed, as well as by the necessity of some knowledge of the Latin language, which the Roman Catholic ritual required, were driven to a more literary employment, to which they

were educated in the schools of the cathedrals and convents. But their literary labours were confined to the copying of the old writers, particularly the fathers of the church, and to accounts of the occurrences of the times in meagre chronicles. Nevertheless we are indebted to them. Through their activity the valuable remains of ancient times, materials and incitements to new improvements, have been, in a great measure, preserved to us; and from their annals we gather our only knowledge of the events and manners of that time. Moreover, the Latin literature, which was common to all the people of the West, not merely in the affairs of the church, but in science and public transactions, produced a certain agreement in their general character, which contributed much to promote intercourse and improvement.

The East has no middle age, like that of Europe; yet the introduction of Mohammedanism and the Arabic literature, make epochs there. But as the spirit of man is hostile to a partial development, in the eleventh century the need of thinking was again felt in Europe; the taste for knowledge awoke, here and there, partly by means of the monasteries, but afterwards through the arts and industry which prevailed in the cities; study was encouraged by Henry II. of England, the Hohenstaufen, St Louis, the Alphonso, and other intellectual princes. From these times (the periods of Lanfranc, Abelard, John of Salisbury, and others), the middle ages produced distinguished individuals, whom the coldness of their contemporaries in the cause of science only urged to a more ardent pursuit of it. Meantime the necessity was felt of defending the doctrines of the church against unbelief and heresy. This led to the sharpening of the intellect by dialectics; hence the church dogmatics, or theology, was formed, from which philosophy at length proceeded. As, in scholastic theology, the dogmas of the church were early received as authority; so, in the domain of laws, the Roman code soon obtained a complete ascendancy; and the juriconsults of that time were never weary in studying it, learning it by heart, and explaining it by glossaries and illustrations. The students of philosophy pursued the same course with the subtle Aristotle, for whom the middle ages, although acquainted with him only through Arabic translations, or *refracmentos*, had an unbounded respect. Unfortunately, however, for the progress of philosophy, these commentaries, glosses and abridgments, occasioned the neglect of the original. When the union of scholars, in particular places, gave birth to universities, these received the stamp of the time, both in the corporate character which was given them, and the absorbing interest which was taken in the study of dialectics. Only jurisprudence, theology, and what was called *philosophy* (which was, in fact, the art of disputing with subtilty upon every subject), were taught; and these sciences, especially since the middle of the twelfth century, had degenerated into a mere tinkling of scholastic sophistry. Medicine, as regards any useful purpose, was taught, at this time, only by some Arabs, and students of Salerno who had been instructed by them; in other respects, it was a slave of astrology, and an object of speculation to ignorant impostors, principally of the Jewish nation. Philology flourished in the time of Lanfranc and Abelard, but was again forgotten in the eleventh and twelfth centuries. Notwithstanding the unprofitable character of what was taught at this time, teachers stood in high esteem, and the highest academic rank was considered equal to knighthood. The universities, on their side, showed themselves worthy such honour by their independence of pope and prince. With all its worthlessness, the disputatious spirit of the time had

this good effect, that truths were advanced and maintained in the universities, which were alarming to the vigilant hierarchy; and Luther's theses, in Wittenberg, contributed in no small degree to bring on the reformation, and thereby to the shedding of new light upon science. Yet the reformation did not (as many are inclined to believe) give the first signal for higher intellectual endeavours and freedom of thought; it was rather produced by this striving and this freedom, which had originated some centuries before, with the flight of the Greek scholars from Constantinople, and the invention of the art of printing, had been encouraged by the lovers of science among the princes of Italy, and had shone forth, even in Germany, in the brotherhood of Deventer, in Wessel, Erasmus, Celsus, Reuchlin, and others. But with the appearance of these men, with the rise of the sun of the new day, the romantic twilight of the middle ages faded away.

We shall now give briefly the chief epochs of the history of the middle ages, leaving more copious details to the articles on particular countries and men. The formation of separate Germanic states succeeded the general irruption of the barbarians, and was followed, after some hundred years, by the universal monarchy of Charlemagne. This had only a short continuance; but it left the idea of the unity of the whole of Christendom under a spiritual head, and under the temporal protection of the newly-revived Roman empire—an idea which had a powerful influence during the whole of the middle ages. New modifications of the European states after the fall of the Carolingians: the devastations of new tribes of barbarians; of the Saracens in the south, of the Normans in the north and west, and the Hungarians in the east, all of whom, at length, became subject to the Germanic power. Colonies of the Normans in France, Italy, and England. From these romantic adventurers especially proceeded the spirit of chivalry which made its way through all Europe. Christianity gained a footing among the Slavonian tribes. Struggles between the spiritual and secular power convulsed Christendom. The idea of their unity, as well as of knighthood, is ennobled in the crusades, whose success these discords frustrated. Origin of the cities and of the third estate. Commerce with the East, by means of Italy and the Hanse towns. Corruption of the clergy, at two epochs, after Charlemagne and after Gregory VII. Mendicant orders, and the inquisition. Decline of the imperial dignity in Germany and Italy. Desolation of these countries by private warfare. Other kingdoms are now enabled to obtain more solidity. The flourishing of new arts and knowledge. Universities. The popes humbled by their dependence upon France and the great schism. Councils at Constance and Basle. Subjection of the Greek empire; hence the formidableness of the Turkish power to the west of Europe; and hence, also, the diffusion of learning by the fugitive scholars of Constantinople. Printing. The discovery of the New World, and of a way by sea to the East Indies. Reformation. See Hallam's *View of the State of Europe during the Middle Ages* (3d edit., London, 1822); Berrington's *Literary History of the Middle Ages*, etc. (London, 1814); Sismondi's *Hist. des Républiques Italiennes* (3d edit., Paris, 1825); Ruh's *Handbuch der Geschichte des Mittelalters* (Berlin, 1818); Rehm's *Handbuch der Geschichte des Mittelalters* (Marb., 1821 seq., 2 vols.).

MIDDLEBURG; capital of the province of Zealand, kingdom of Holland, situated in the centre of the island of Walcheren; lon. 3° 37' E.; lat. 51° 30' N.; population, 13,200. The town-house was formerly a rich and celebrated abbey, founded in the

year 1256. It has six Calvinist churches and an atheneum or academy, which also carry the same course of instruction as an university. The foundations of Middleburg were formerly very strong, but are not now kept in repair. It grows in a circular mound of earth, divided into basins and surrounded by a broad and deep ditch to the islands.

MIDDLETON, CONYERS, a learned lawyer, divine and polemical writer, was born at *at* 1683, and was the son of an Episcopalian. He became a student, and afterwards a member of Trinity college, Cambridge, in which manner he attracted some notice by his quarrel with the celebrated doctor Bentley (q. v.), the master of the college. In 1724, he visited Italy, and on his return, published a tract, designed to show that the medical profession was held in little esteem by the ancient Romans; and, in 1729, appeared to leave from Rome, on the conformity between pagan and paganism. Not long after, he obtained the *wardian* professorship of mineralogy, which he held till 1734, when he was chosen librarian to the university. In 1735, he published a Dissertation concerning the Origin of Printing in England, his greatest literary undertaking was the *History of the Life of M. T. Cicero* (2 vols., 4to, 1741), in which he displays an intimate acquaintance with the subject, accompanied with a degree of elegance in style and language which entitle him to rank among the principal modern historians of England. In 1743, he published the *Epistles of M. T. Cicero to Brutus*, and of Brutus to Cicero, with the Latin Text and English Notes, a prefatory Dissertation, &c. In 1747, doctor Middleton published his *Inquiry into the Miraculous Powers which are supposed to have subsisted in the Christian Church from the earliest Ages through several successive centuries*. This treatise brought on the author a reputation of infidelity, and occasioned a warm controversy, which was continued after his death, &c. His miscellaneous works have been published in 3 vols., 4to, and 5 vols., 8vo.

MIDDLESEX; the smallest county (except the land) in England, yet the most important, as containing within its limits the metropolis of the British empire, is bounded on the north by Hertfordshire, the south by the river Thames, which separates it from the county of Surrey; on the west by Berkshire, from which it is separated by the river Colne; and on the east by Essex, from which it is divided by the river Lea. Its length from east to south-west, is about twenty-three miles; in breadth it does not exceed fifteen. The soil is supposed to be derived from the Middle Saxon people inhabiting it lying between the east and south Saxons. The prevailing soil of Middlesex are loam and clay; much of the city and vicinity of London has been dug up for building. A great portion of the country is used as gardens, nurseries, and pasture-grounds; and the hay-making, the Middlesex farmers are said to be superior to any in the island. Middlesex contains 197 parishes, two cities (London and Westminster) and six market towns. It returns eight members to parliament; namely, two for the county, four for the city of London, and two for Westminster. Population, in 1801, 818,129; in 1831, 1,338,341.

MIDIANITES; an Arabian tribe mentioned in the Old Testament, as the descendants of Midian, of Abraham by Keturah (Gen. xxv. 2), and descended as engaged at an early period in a commerce with Egypt. They dwelt in the land of Madian (Petra), to the south-east of Canaan. One per-

of them inhabited the country to the west of mount Sinai; another portion dwelt on the east of the Dead Sea. The Midianitish women having entered the Jewish camp and seduced the Israelites, Moses was ordered by the Lord to send 12,000 men into their country, and cut off all the inhabitants, except the women. This order was executed, and the victory brought off a rich booty of 32,000 virgins, 675,000 sheep, 72,000 oxen, and 61,000 asses.

MIDWIFERY is the art of aiding and facilitating childbirth, and of providing for the preservation of the health and life of the mother during and after her delivery. It is founded on physiological and pathological sciences. Midwifery, in some form, has been employed from the most ancient times, even among the rudest nations, although it was at first very defective, and consisted, probably, only in the most obvious and indispensable manual applications and aids. Even in the most cultivated nations of antiquity, this art was in a low state. The Israelites had their midwives. The first accounts of scientific male midwifery are to be found among the Greeks of the age of Hippocrates (who died 357 B. C.). From the writings of that period, we learn that the obstetrical art had then reached a higher degree of cultivation among the Greeks than in most parts of Europe during the last century. Notwithstanding, there was much that was wrong and injudicious in their system, and only a small part of the proper means of assistance was made use of. They often contented themselves with invoking Ilithyia, the goddess of childbirth. Among the Romans, midwifery was confined to a few simple aids, and sacrificing to Juno Lucina, and other deities who presided over childbirth. It was not till a later period, that the Roman women mutually employed midwives; but, in difficult cases, the physicians were called in. These were either Greeks living in Rome, under the dominion of the Roman emperors, or they drew their knowledge chiefly from Greek authors. To this epoch belong particularly Soranus (100 A. D.) and Muscilion, who composed the first manual of midwifery which has come down to us. In the middle ages the science was very much neglected: it was confined to the cutting of the foetus from the body of the mother, in case of her death before delivery. In consequence of the injudicious interference of the popes, who conferred the professorships in the newly established schools on the monks, and gave them the privilege of practising physic, while they strictly prohibited the practice of surgery and anatomy, both to the physicians and lay (1215), the obstetric art became more confined to internal and superstitious applications, and, indeed, generally sank into the hands of women, monks, peasants, and other ignorant persons. When they had exhausted their medical skill, the saints were invoked, images and relics were hung upon the woman in labour, &c. The art continued in this state till the sixteenth century. At this time, the improvements in printing and engraving gradually introduced a better era, since the surviving works of the Greeks, Romans and Arabians were multiplied, the intellectual intercourse among men became more general, and the spirit of inquiry was awakened, and found a new field. At this period, the business of midwifery was so exclusively in the hands of women, that it was disgraceful for a man to engage in it. Such an undertaking was considered as an abominable attempt on the virtue and honour of the female sex, and he who ventured upon it, as a magician. In Amsterdam, in 1521, one Veites was condemned for his offence to the flames. Several books, however, were published for the better instruction of midwives in their profession. The first was by Eucharius Rossius, at Worms, called the *Rose-Garden for Midwives*

and *Pregnant Women* (1513). The science of anatomy, which was now more freely studied and patronised, also contributed much to the improvement of midwifery, in which Vesalius, in Padua (1543), particularly distinguished himself. The physicians and surgeons turned their attention only to the theoretical part of the science, but the latter gradually proceeded to the practice of it, by performing the Cæsarean operation on women who had died in childbirth (which was now not only permitted, but commanded by law), and gradually undertaking other operations on women pregnant and in labour. Francis Roussel, a surgeon in Paris, published a treatise, in 1581, in which he brought several proofs of the possibility of safely performing the Cæsarean operation on the living mother, and it was he who first gave this operation its present name. After the publication of this treatise, the operation was frequently performed on the living subject, both in and out of France, and sometimes even when it was not unavoidably necessary. Pinseau, a surgeon in Paris, first suggested, in 1580, the section of the pubes, by the observations which he communicated on the separation which takes place between the bones of the pelvis, for the purpose of facilitating birth, when made difficult by the extreme narrowness of the pelvis. In Germany, midwifery long remained in an imperfect state: the midwives were generally ignorant, and men were seldom employed; while, in France and Italy, it was already a common thing to call in the aid of physicians and surgeons. A surgeon of Paris, Clement, distinguished in the practice of midwifery, who had attended La Vallere, the mistress of Louis XIV., in her delivery, first received the name of *accoucheur* as a title of honour. The surgeons were so well pleased with the name, that they gradually adopted it as a general appellation. Henry of Deventer, a surgeon of Holland, was the first who, in 1701, endeavoured to establish midwifery on scientific principles. In France, where the art had risen to higher perfection than in other countries, a school for midwives was established in the *Hôtel Dieu*, in 1745. The history of the origin and invention of the forceps, that highly useful instrument in midwifery, is involved in some obscurity. Between 1600 and 1670, Chamberlen, a London surgeon, professed to have invented an instrument with which he was able to terminate the most difficult labours without injuring either the mother or child; but he kept this discovery to himself, and, in 1688, went to Amsterdam, where he sold it to certain practitioners, who turned it to their profit. It was thus kept secret among certain persons for a long time. At last, Palfyn, a famous anatomist and surgeon of Ghent, in Flanders, got some knowledge of the instrument, and caused one to be made, 1723. Some species of forceps appear to have been known even in the time of Hippocrates; but the merit of Chamberlen's invention consisted in making the blades separable, and capable of being locked together after having been introduced into the vagina, and placed one on each side of the head of the child. It was afterwards very much improved, especially by Levret, in Paris, 1747, Plevier, in Amsterdam, 1750, and Smellie, in London, 1752. The art of midwifery was also perfected by the writings and instructions of these men. Germany, too, produced several men of eminence in this department of the medical art, who were not only famous for their operative skill, but contributed much to the advancement of midwifery by their observations, and to the diffusion of correct principles on the subject by their lectures and writings. The establishment of several schools of midwifery also facilitated the study of the art, and brought it to the degree of perfection which it now boasts. Those physicians of recent date, who

have contributed most to this art in Germany, are the two Starks in Jena, Osiander, in Göttingen, Siebold in Wurnburg, Wigand, Nagele, Boer, Jorg, &c. The course now adopted seems to be the true one, viz. by the cultivation of all the branches of knowledge connected with this department, to determine the cases in which art may and ought to be passive, and leave the work to nature, and those in which nature is insufficient to accomplish the delivery alone, or at least without injury to the mother or child.

**MIERIS, FRANCIS**, a very celebrated painter of the Dutch school, was the son of a jeweller at Leyden, where he was born in 1635. He was the pupil of Vliet, Gerard Douw, and Van den Tempel, and he is generally considered as the principal scholar of the second. His works consist of portraits, and scenes in common life. He possessed the delicate finish of Gerard Douw, with more taste in his designs; his colouring, too, is more clear, and his touch more spirited. He usually worked for a ducat an hour; but, through his intemperance, he always remained in poverty. One of his finest productions was the picture of a young lady fainting, a physician attempting to recover her, and an old woman standing by; and for this 3000 florins were vainly offered by the grand duke of Tuscany. An engraving from this painting will be found in the "Republic of Letters," a literary miscellany, published at Glasgow, in 1832. Mieris died at Leyden, in 1681.—He had two sons, —*John*, the elder, who gave great promise of excellence, but died in 1690, at Rome; the younger *William Mieris*, was the pupil of his father, and adopted his style, in which he showed great talent. He died in 1741.—His son, *Francis Mieris*, the younger, was also a painter, but was not very successful. He published several works relating to the history of the Low Countries, and the lives of their sovereigns.

**MIGNARD, PIERRE**; a French painter, born at Troyes, in 1610. His father discovering early indications of his talent for painting, placed him, when eleven years old, at Bourges, in the school of Jean Boucher; and the young artist next studied the works of Primaticcio, Rosso, and Nicolo dell' Abbate, in Fontainebleau. He afterwards became a pupil of the celebrated Vouet, and, in 1636, went to Rome, where he formed himself by the study of the masterpieces of Raphael and Titian. His historical paintings and portraits, among which were those of Urban VIII. and Alexander VII., soon gained him reputation; and he also painted a great number of portraits in Venice. In 1658, Colbert engaged him to return to France in the service of Louis XIV., and Mignard was placed at the head of the academy of St Luke, and, after the death of Lebrun, with whom he was constantly at war, became chief painter to his majesty. At this time, he executed one of the greatest fresco paintings which France possesses—the dome of the Val-de-Grace. It represents the region of the blessed: in the centre of a great number of saints, martyrs, prophets, &c., is queen Anne (of Austria) presenting to God the model of the new church. He also adorned the palace of St Cloud with numerous mythological paintings, executed several works at Versailles, and painted portraits, &c. Besides the posts already mentioned, the direction of the royal collections of art, of the academy of painting, and of the Gobelins manufactory, was conferred on him. He continued actively engaged in his art until his death, in 1695. In respect to invention and composition, Mignard is not entitled to rank among profound and original geniuses; yet the grace and loveliness which characterise his works, particularly his Madonnas, the brilliancy and harmony of his col-

ouring, and the ease of his pen, are his defects. His talent for imitation of other masters was remarkable; he discovered in that power, among them, his rival Lebrun, and his superior in the manner of Guido.

**MIGRATION OF ANIMALS**. The migration of animals, that is, the travelling of any number of the same species toward a certain destination, or in a certain direction, is one of the most remarkable phenomena in nature. Some migrations takes place with quadrupeds, but most with insects. As to the first, it does not move to it of them migrate periodically and repeat their species of fish and birds, for which I cannot see may be found in the almost unintercepted way which air and water permit, whilst the last is many impediments to change of place. In quadrupeds are suddenly seized by the migration. The herring, for instance, is found in the northern parts of Europe, migrates to the south, when a severe winter is approaching, and numbers, and always in a strategic manner, for rivers or lakes. Some other quadrupeds occasionally move in large numbers, and to considerable distances; but these expeditions are in place at regular periods, and seem to be very accidental causes. The bison, for instance, in the western wilds of North America, as wild horses sometimes take long journeys to the bodies. Some fishes, also, remove to warmer waters during winter; thus the salmon, on rivers and shores, on the approach of winter, to the warmer waters of the deep sea. The cod-fish move in great numbers about the month of May, from the northward toward Newfoundland. The shoals of herring periodically traverse the ocean, are numerous. The same is the case with the mackerel, pilchard, anchovy, &c. That insects migrate is well known, for instance, locusts, bees, &c., and even the most surprising obstinacy, in a given direction. To some, however, with whose migrations are not confined and which appear to migrate most regularly, some species of birds. The facts which are relative to this point are very curious, and form a vast field of interesting observation. They regularly return, after a certain absence, to the same country, but to the same spot where they built their nests before, or where they were born. Many storks, which become half tame, and have been marked, and found to return upon their old nests, built on a wheel, which is one of that country, particularly in the south, for that purpose, on the corner of the roof of houses. The same is related of swallows, and birds of passage. Other birds do not return to any particular country, but travel, according to circumstances, from one to another. Among the birds some which remain in the country of their birth, as long as is necessary to breed and rear young; others are absent but for a very short time. The lark remains but three months in the regions of Europe, whilst the hawk is absent for a very short time.

Mr Brehm, a German, has collected many interesting facts respecting the birds of passage. Generally speaking, they are determined as to the place where they build their nests, by the assistance which they find, as, for instance, in the beak, goldfinch, pidgeon, crane, lark, &c. Some species of herons, woodcock, geese, &c., the fruit of the pine tree being scarce in the north of Europe, whilst it was very abundant in the south, large numbers of the cranes, which live upon this food, were found in the autumn.

be brought, in 1819, made the meadows around Jernburg, in Saxony, very dry, and no landrails (in several frequent flocks) were seen during that season; they had fled to the valley of the Rhine, where the caught had been less. The cold in the winter, also, a much influence on the migration of birds. The winter of 1821—1822 was very mild in Middle Europe, whilst in the north, it was unusually cold, in consequence of which many birds were seen in Germany which hardly ever quit the northern regions. Some birds of Bohemia went to Switzerland, and some birds arrived in France which never had been seen there before. The contrary took place during the following winter, when the mercury stood, in Germany, much lower than in Sweden. Hunters, and other people living much in the open air, know that certain birds do not migrate, except on the approach of a severe winter. How are these birds led to migrate in such seasons? The general and easy answer is, *Instinct*. But what is *instinct*? Certainly we must mean, by this term, a constant direct interposition of Providence, which drives the birds away from a severe winter is coming on. *Instinct*, whatever it may be, must be guided by general laws.

What way, however, the birds are led to guard against the severity of the approaching season, whether by a peculiar sensibility to the causes from which its severity will proceed, or in other ways, we know not. In the article *Instinct*, it has been maintained, that much of the conduct of animals necessarily implies reflection. The vicissitudes of the atmosphere, on the arrival of the migrating time, are also a great influence upon them. Most birds reform their migration during the night; some others, however, by day. Others stop not either day or night. To the class which fly by day belong the birds of prey which obtain their food by day; the crow, pie, titmouse, wren, woodpecker, chaffinch, goldfinch, lark, swallow, and some others. Some which travel by night are the owl, blackbird, &c., and a great number of aquatic birds. Those which stop not, day or night, are the heron, wagtail, shore-hammer, plover, stork, crane, wild goose, &c. It is very remarkable, that individuals of some species which travel day and night, and which, in some cases, are prevented from migrating, remain, throughout all the time of the migration of their species, awake, and only occupy themselves with taking food. These birds like particularly to travel in bright moonlight. Many birds obtain their food on the wing. The swallows, traversing the sea, catch insects, and song birds catch fish, whilst they continue their journey. If the titmouse, wren, woodpecker, and a great number of birds, on the branches of trees, they resume their flight, after having fed. Those birds which habitually alight on spots where they find nourishment in abundance, never remain longer than a few days in succession, if nothing opposes the continuance of their flight. It is a curious fact, that, at some times, many birds utter cries such as they are never heard to make at any other time. Unless aided by fog to keep near the ground, birds generally fly very high during their migration.

Of all migrating birds the cranes are, perhaps, the most remarkable. They seem to be most conversant with foresight. They call each other by certain notes, several days before they depart, assemble, and take a great number, as if consulting; after which they arrange themselves in two lines, forming an angle, at the vertex of which is the leader, who appears to exercise authority and give orders, for instance, to form a circle in a tempest, or to be watchful if eagles, hawks, &c.; he also gives the sign to descend and to feed. If he is tired, he places himself at the end of the line, and the bird next behind him takes

his place. They utter, during the night, more piercing cries than during the day, and it seems as if orders and answers were given. Wild geese and ducks travel in a similar way.

To enable birds to fly with ease, and to continue long on the wing, they must fly against the wind, in which respect flying is directly opposite to sailing. Sportsmen are acquainted with this fact. If the wind is unfavourable for a time, the migration is retarded, yet never entirely given up, only the birds arrive much leaner, fatigued by their efforts. It is astonishing how tender birds, as the linnet, for instance, set out from the extremity of Norway, and brave a long journey even over the ocean. The quails, who are heavy in their flight, wait on the shores of the Mediterranean, often a long time, for a favourable wind, of which they immediately avail themselves, halting on all the islands. If the wind suddenly changes, many are drowned in the sea. Certain birds, as the moor-hen, rail, &c., being unable to fly for any considerable distance, travel partly on foot. Some, as the great auk, or penguin, diver, and guillemot, even migrate by water. Ornithologists have observed that, on the old continent, birds migrate in autumn to the south-west, and in spring toward the north-east; yet the course of rivers and chains of mountains exercise considerable influence on the direction of their flight. On the new continent, the points of direction are not the same. Captain Parry has satisfied himself that the birds of Greenland go to the south-east. It is remarkable, also, that the young of certain species do not make the same journey as the old birds; they go more to the south, so that it is very common to find, in the south of Europe, only the young birds of a certain species, whilst the older ones remain more to the north. In other species the females go farther south. It was formerly believed that the birds of the tropical regions never migrate, and that they never pass the line; but Humboldt has shown that this is not the case. He observed, moreover, that the migration there took place with the periodical rise of rivers.

MILAN, DUCAT or; or THE MILANESE; formerly a duchy in the north of Italy; one of the finest and most fruitful countries in Europe; bounded on the west by Piedmont and Montferrat, south by the Genoese territory, east by the territories of Parma, Mantua, and Venice, and north by Switzerland. Its extent was 3820 square miles; principal productions corn, rice, wine, fruits, and silk. The first duke of Milan was Gian Galeazzo Visconti, who was named to that dignity by the emperor Wenceslaus, in 1395. The duchy was composed of a number of the most flourishing cities of Lombardy, in which the Visconti acquired the sovereignty, partly by means of arms, and partly through the favour of the citizens and the emperor. The male line of the Visconti became extinct in 1447, and, although the rightful claim then fell to France, Francesco Sforza, the husband of a natural daughter of the last duke, obtained possession of Milan for himself and his family, and they held it until the end of the fifteenth century. Louis XII. and his successor, Francis I., then attempting to enforce their claims, the duchy was alternately in the hands of the French and the Sforzas. Francis I., by the peace of Madrid (1526), was obliged to give up all his Italian possessions; and, the male line of the Sforzas having become extinct in 1535, Charles V. granted the duchy to his son, Philip II. of Spain; and it continued to be an appendage to the Spanish crown till the war of the Spanish succession, in 1706, when it came into the possession of Austria. By the peace of Vienna (1735) and the convention of Worms (1745), portions of it were ceded to the king of Sardinia. In 1796, the French occupied the country.

and by the peace of Campo-Formio, 1797, it was annexed to the Cisalpine republic. Although the Austrians and Russians annihilated this republic in 1799, yet Bonaparte again became master of Italy by the battle of Marengo, changed the name into the Italian republic (1801), and into that of kingdom of Italy (1805), of which the duchy of Milan constituted an important part until the events of 1814. Austria then united Milan and Mantua with the Lombardo-Venetian kingdom, the western part of which, the government of Milan, contains 2,194,000 inhabitants, and 8437 square miles. Sardinia also recovered its former portion of the Milanese territory, (3095 square miles), by the treaty of Paris, in 1814. See *Austria, Italy, Lombardy, and Sardinia*.

**MILAN** (*Milano*, in German *Mailand*, anciently *Mediolanum*); capital of the Lombardo-Venetian kingdom, situated in a fertile and pleasant plain, on the left bank of the Olona, 140 leagues from Vienna, 110 from Rome, 160 from Paris; lat. 45° 28' N.; lon. 9° 11' E.; population, 129,000. It is one of the richest, most splendid and populous cities in Italy; and, in spite of time and wars, has preserved a great part of its magnificence. Of the antiquities the only remains are the ruins of the *Thermae*, which are usually called the *colonne di S. Lorenzo*. Milan is rich in architectural monuments of modern times, among which the celebrated cathedral is the most remarkable: the foundation was laid in 1386, and, after St Peter's, it is the largest church in Italy. It is built entirely of white marble, and its interior and exterior produce an indescribable effect. The oldest architects, who worked upon it, adopted the latter Gothic style; but in the middle of the sixteenth century, Pellegrino Tibaldi erected the front in a more ancient style, and thus destroyed the unity of the whole. Napoleon almost completed it at an immense expense. The emperor Francis appropriated 12,000 *lire* monthly to finish it. While the exterior dazzles and astonishes the beholder by the pure brilliancy of the marble, the Gothic ornaments and the statues (of which there are 4000), he is not less strongly affected by the interior, which rests upon fifty-two marble columns. It is, described by Franchetti in *Descrizione storica del Duomo di Milano*, with engravings. Rapp and Bramati also published a description in 1823, under the title *Descrizione storico-critica del Duomo di Milano*. One of the oldest churches in Milan, that of St Ambrose, into which you descend by several steps, is remarkable for a number of antiquities, but is dark, and without beauty. Of the numerous other churches, many are splendid. The former Dominican convent, *Maddonna delle Grazie*, contains, in its refectory, the celebrated fresco of Leonardo da Vinci, the Last Supper, now much injured, but yet beautiful. The former Jesuits' college of Brera, a magnificent building, remarkable also for its observatory, still contains several establishments for the arts and sciences; among them a picture gallery and a library. The former is particularly rich in works of the masters of the Lombard and Bolognese schools; the latter is valuable. The Ambrosian library, founded by the cardinal Borromeo, who was bishop of Milan in 1595, and died in 1631) contains, besides the books, a treasure of valuable manuscripts (among them, those of Leonardo da Vinci), paintings, sketches (Raphael's cartoons of the school of Athens), antiques and casts in plaster. The abbaté Angelo Mai, who was appointed librarian in 1819, has made some important discoveries among these manuscripts. (See *Library*.) The military geographical institute of Milan, founded in 1801, has published an atlas of the Adriatic sea and other charts. Among the charitable institutions, the great hospital is the most remarkable, on account of its architecture, magnitude,

and the care paid to the patients. The cemetery, a large quadrangular burial house, during the prevalence of the pest in 1793, served as a different destination. The theatre *area di Milan*, one of the largest in Italy, and some houses. It was built by Piermarino, in 1778, and is new to all others in its accommodation. There are no ballets are here exhibited as a sign of taste or brilliancy and complaisance in Italy, but in there are the theatres *Re, Comico, area di Milan* contains a great number of places in the handsome buildings, but the doors are as open, broad or straight. The *Carre de Four* even with which the public gardens form a beautiful promenade, is particularly fine. The gardens are much frequented as the *Carre* is short to the able world parades about and in front, a principally in rich equipages, every one of the principal articles of commerce are sent out at a cheese. The number of manufactures is enormous. The arts and sciences are held in high esteem in the Milanese school of engineering is distinguished. The environs of the city are fertile, no map can be connected with the Ticino and the Adda, as the Alps of Switzerland are visible.

**MILESIAN TALES.** See *Assam*.

**MILDEW.** See *Fungus*.

**MILE.** See *Measure*.

**MILETUS**; a city of Asia Minor or the West the Ionian Athens, (see *Assam*), and near a famous Smyrna, the most celebrated and important commercial city of Ionia. It early acquired without any founded a great number of colonies and was long and expensive wars with the Persians. After the conquest of Lydia by Cyrus, when the rest of Ionia, was also reduced under his dominion. The city was treated with great consideration to enjoy its former prosperity, after often shaken by internal dissensions, and in war, when it was raised to the ground. The inhabitants rebuilt the town, but it never recovered its ancient importance. *Miletus* was the place of Thales, of Anaximander, *Euclid*, and celebrated *Aspasia*. The *Museum* which contains were famous in ancient times.

**MILFORD HAVEN**: a deep port of the Wales, county of Pembroke. *Swansea* has been proposed, at different times, for marine accommodations. These plans have given to the new town of Milford, or

*Milford Haven*: a town which was built, 1790, on the northern shore, six miles west to of Pembroke, and has risen with great rapidity. Houses are built with numerous, and each house. It has a church with a lofty tower, a commodious plain but commodious boarding, and a dock which forms a principal feature in the plan. A number of packets have been formed here, under marine regulations, for conveying the mail and passengers. Waterford in Ireland. An establishment to be also formed for the southern wharves. It is also an extensive establishment of commerce.

**MILITARY ART.** See *Army, Military, and War*.

**MILITARY FEVER**; a name given to every description, when accompanied by a sort of military vesicles, so called from resembling seed.

**MILITARY COLONIES OF RUSSIA.** See *Colonies*.

**MILITARY DISTRICT, or MILITARY TIER** (in German, *Militärgrenz*): a district of Austrian monarchy, containing 15,250 square miles with 1,040,878 inhabitants; which consists of along the Hungarian and Transylvanian borders.

as they border on the Turkish territory. It has a military constitution, and the inhabitants are soldiers or peasants at the same time. They have received hereditary use of the land, for which they are obliged to render certain services to the government, amongst which the military service is the most important. They form thus an uninterrupted cordon against the Turks, and the Austrian government has an army always ready without great expense. The soldiers usually in service belonging to this district amount, on average, to 45,000 men. In 1815, they amounted to 100 men. These frontier soldiers protect their country against the Turks and the plague, without pay.

When they are marched against enemies in a distant quarter, they have the common pay of other soldiers. In the thirty years' war, in the Austrian war of succession, and in the seven years' war, their services were important; and still more so in the repeated contests between Austria and Turkey. At the beginning of the French revolutionary war, no more than 100,000 of them appeared in the field. They have shown themselves undeviatingly faithful to their monarch. Their military officers exercise also civil and judicial authority. The highest office is that of the *general command*, under whom stand the *commandes* of the regiments. The whole country is divided into five generalships (*generalates*), which, in 1815 contained three fortresses, eleven cities (or, as they are called, *military communities*, which have their own magistrates), twenty-four market-towns, staff quarters, and 1095 villages. In the generalship of Carlsbach and Warasdin, the most important cities are Karlofing, Zengh and Bellowar; in the generalship of Banat, Petrinia, and Kostainic; in the Slavonic generalship, or that of Peterwardein, Land and New Gradisca, Peterwardein, Carlowitz, and Salina, to which also belong the Tschakists; in the Hungarian Banat generalship, Pancsova, Weiskirch, and Karaszerbo. In the Transylvanian generalship there are no places particularly worthy of notice. Next to agriculture and the raising of cattle, the cultivation of wine and garden fruits is carried on extensively. Flax, hemp, tobacco, and many other important plants are cultivated. The country is rich in valuable minerals. Mining, particularly in the present Banat and the Transylvanian frontiers, is in a flourishing condition even in the time of the mines; but these mines are, at present, little attended. Manufactures are in a low condition. The crafts, as well as the merchants, live chiefly in *military communities*, so called. The inhabitants belong principally to four races. The most numerous are the Slavonians; after these, the Walachians; then the Hungarians and Sackler; after these, the Germans. The majority belong to the Greek church; the Roman Catholics, however, are almost equally numerous. There are also Greek Catholics, Calvinists, Lutherans, and Unitarians. In the time of the Romans, this country belonged partly to Illyria and Pannonia Savia, partly to the kingdom of Dacia, and shared the changes of those countries. Sigismund of Hungary laid the foundation of the military district when he founded the *captaincy* of Zengh, in the middle of the sixteenth century, the frontier was to have been already divided into two chief tracts. The Croatian frontier was the first; the German were established much later, when, by the peace of Carlowitz, Austria received from Turkey the whole province entirely unpeopled. In no part of Germany does the population increase so rapidly; yet the frontier has to furnish many troops in all the wars of Austria, and many young people, unable to obtain land for the support of a family, emigrate to other parts of the monarchy. The Transylvanian frontier was established the latest. See *Statistics*

*der Militärgrenze des österreich. Kaiserthums*, by Hietzinger, Vienna, 1822.

MILITARY GEOGRAPHY. See *Military Sciences*, and *Geography*.

MILITARY ORDERS. See *Orders*.

MILITARY ROADS are, 1. such roads as are destined chiefly to facilitate the movements of military bodies; for instance, some of the superb roads which Napoleon constructed in Italy, to effect an easy military connexion with France; 2. roads on which, according to treaty, foreign troops may march to a certain place of destination, in traversing the states of a friendly power.

MILITARY SCHOOLS AND ACADEMIES: schools in which soldiers receive instruction, or in which youths are educated for the army. Among the former are the *soldier schools*, in which, as is the case in many armies, particularly in the Prussian, the private soldiers learn reading, writing, and arithmetic; they are also, in the last named country at least, often instructed in singing, so that it is common, in the Prussian army, for a battalion to have its choir, which sings during divine service, and on other occasions. Instruction has become so general in the Prussian army, by means of regimental and battalion schools, that during the last years of peace, the army was considered an institution for the instruction of the whole country, as every Prussian is obliged to serve for a short time in the standing army. In some armies *conversations* have been introduced, in which the officers hold discourse with the sergeants and privates, on subjects connected with the service. When the officers in the armies of the European continent were taken from the nobility only, academies were established by government to educate young noblemen. They were called in Germany *Ritterakademien*, and sometimes were of a high character. These establishments must be distinguished from the *cadet houses*, so called, where, generally speaking, the children of officers only are educated for the army. In many countries, noblemen only are admitted into these also. In several French cities, companies of *cadets* existed when Louis XV., in 1751, first established an *école royale militaire* for 500 young noblemen, from eight to eleven years old. The principal features of its organization have been retained in most similar institutions.—See *Recueil d'Édits, Déclarations, Réglements et Ordonnances du Roi, concernant l'Hôtel de l'École roy. militaire* (Paris, 1762). The (so called) *Ritterakademien* originated later. Frederic the Great established the *École militaire* at Berlin, for the further accomplishment of young officers. Even before the seven years' war, every French city in which a regiment of artillery was garrisoned, had its artillery school. Saxony followed in 1766, Austria and Prussia later. At present, the two last have excellent artillery schools, as well as others in the department of engineering. Since 1815, the standard of scientific education of officers has been much raised in several armies; in none, however, so high as in the Prussian, in which no person can be promoted without a severe examination. Besides the regimental schools in this army, mentioned above, every division has its school, to which young sergeants, &c., are admitted (if they appear, on examination, to possess the necessary elementary knowledge), in order to prepare themselves for examination for a lieutenancy. Mathematics, history, geography, statistics, the applied mathematics, modern languages, particularly French, and the military sciences (q. v.), are here the chief subjects of study. The artillery corps and engineer corps have their separate schools for young officers, to prepare themselves for examination for the rank of captain. The captain must continue his studies by himself, to stand an examination

for the rank of major. Of the troops of the line, every regiment is allowed to send a few of its young officers, who must have shown great diligence, talent, and considerable acquirements, to the general military school in Berlin—an institution of a very high character. Here the highest branches of mathematics, geology, and mineralogy, chemistry and natural philosophy, history, politics, the military sciences, languages, &c., are taught in a course which occupies three years. The officers also attend such lectures in the university as they choose. It is evident how much such establishments must raise the standard of learning in the whole army, and, indeed, the corps of officers contains some of the most accomplished men in Prussia. In France, the former cadet houses have been called, since the revolution, *military schools*.

MILITARY SCIENCES have, by some of the latest writers been divided into the following heads:

1. *Tactics*, i. e., the science of the drilling of an army, as well as of disposing and directing it in battle, requiring, of course, an acquaintance with the different kinds of arms. The artilleryist devotes himself particularly to the ordnance, and the various branches of science requisite for its proper management. The lower, or elementary tactics, treats of the drilling and formation of soldiers, and accustoming them to the movements of small and large divisions, and varies in character with the different regulations of different armies. Tactics proper treats of the mode of disposing troops in the actual combat, and of the peculiar use of each species of force, cavalry, infantry, both heavy and light, and artillery. With them is nearly connected the choice of camps, or castrametation (q. v.), though, since the introduction of the system of requisition, this branch of military science has gone almost entirely out of use. The knowledge of the employment of pontoons seems also to fall within this department.

2. *Strategy*, the science of forming the plans of operation, and of directing armies accordingly. It has been but lately treated as an independent branch, since von Bulow wrote on the subject. Many military writers will not as yet admit such a division; but little doubt can exist that it will be universally adopted. See, among other works, *Principles of Strategy, elucidated by the Description of the Campaign of 1796, in Germany*, by the archduke Charles.

3. The branch which treats of the just understanding and proper use of the surface of the earth for military purposes. The tactics of our time can overcome a number of obstacles, arising from the character of the ground, which were formerly considered insurmountable; still, however, this department of military science, embracing, as it does, a knowledge of the usual character of the ground under given circumstances, the course of rivers, of mountains, valleys, geological formations, &c., remains indispensable for a useful officer. To this branch belongs, or, at least, with it is intimately connected, reconnoitring, surveying, drawing of topographical maps, &c.

4. *Military Architecture, or Fortification*, which teaches how to fortify any given point by artificial means, so that a few persons may be able to defend themselves against the attacks of many. It embraces the construction of proper fortresses (*fortification permanente or royale*), the attack and defence of fortified places, and the knowledge of field fortification (*fortification passagère*), which treats of the construction, attack and defence of redoubts in the field, raised for transitory purposes, and not so solid as in standing fortifications.

5. *Military History and Biography*, which em-

braces a knowledge of all important wars, and also of the various organizations of armies, the principles upon which war has been carried on, the different arms used, and the consequences attending their use, &c.; also the lives of the greatest commanders and the resources which they found in situations when many leaders would have despaired. The history of military literature, to a certain extent, is not peculiar to a young officer, that he may be directed to the best works of the different nations. Of the military sciences, the most important is mathematics, which is indispensable for a scientific soldier, military geography, embracing a knowledge of rivers, mountains, valleys, &c., the law of nations, modern anatomy, and gymnastics. The branches of study not enumerated are more or less essential to the well-trained soldier; but they cannot make a general more than the study of the thorough knowledge of a Mozart, or the knowledge of perspective in tomy and colours, a Raphael. Although a waste of a useless waste of time to act about proving its scientific study is essential to a commander, yet the greatest general must find the most important resources in his own genius; and this must be unfailing promptness. An artist, if unoccupied, may renew his efforts; but in war, the fate of a battle may depend upon an instant decision, and a hour is ruin.

MILITIA (from the Latin *militia*); is the more adaptation of the word, a body of armed citizens regularly trained, though not in constant service in time of peace, and thereby contradicting what is meant by *armies*. It includes all classes of the citizen, with certain exceptions, who are drilled at particular periods in peace, and liable, according to certain laws, to march, in cases of emergency, against an enemy, in some countries, however, not beyond its frontiers. The regular organization of the militia distinguishes it from the *levée en masse*. In the militia exists in different countries under different names; thus, in France, the *nationale garde* or *garde nationale* are elsewhere called *militia*, *see* *Guards*. In some countries, they are denominated *sergeants*; in Austria and Prussia, *Landwehr* (army of the country), while the *levée en masse* is called, in these two countries, *Landsturm*.

In the articles *Army*, and *Army*, Standing, &c. a brief sketch of the different organizations of arms from the feudal militia to the standing armies of the last century, and from them again to the citizen soldiers of later times. The reader will also find the titles of several works which afford more information on this subject. In the article *Free System*, the origin of the armies in the middle ages was briefly touched on. When the feudal system had rendered almost every nobleman on the European continent an independent monarch in his own domain, he kept his own warriors in his castle or territory, in the difficulty of assembling a large number of men even for a good purpose, was immense. In the time where a more republican spirit prevailed, the citizens were obliged, at least, to take part in the defence of their city, a duty which they were seldom called upon to perform. The introduction of standing armies, chiefly in consequence of the endeavour of monarchs to render their governments more and more independent upon the nation, caused the citizens to take less and less share in military service, and, in many cases, excluded them from it entirely; yet, while, in some countries, the services of the citizen soldiers were becoming every day of less importance, so that *bourgeois-militia* became a term of contempt in many places, governments began to foster the national militia.

The Swedish army was, at an early period, a

of general militia. The army consisted of twenty-one regiments, of which each owner of landed property was bound to maintain one man. They assembled every year for three weeks, and, during this time as well as in war, received full pay (as is now the case in Prussia). The Danish army was formed on a somewhat similar plan, about a third of each regiment consisting of enlisted foreigners, while two thirds were Danish subjects, who, like those in Sweden, were supported by the owners of landed property, but, in return, were obliged to assist the latter in the cultivation of their estates. In Germany, similar plans were adopted. The privates and non-commissioned officers of the militia followed their agricultural or mechanical pursuits, and were generally under the command of officers out of active service. They were only obliged to serve within the country. Frederick the Great used them to garrison the fortresses: the same was the case with the Austrian militia during the war of succession. The bad organization and unmilitary spirit of these troops rendered them the butt of the troops of the line. In some cases, it was even considered allowable, by the laws of war, not to give them any quarter, when they were employed out of the limits of their country, and were taken prisoners. They became extinct almost everywhere on the European continent.

Similar, but better organized, was the English militia. The origin of this national force is generally traced back to Alfred. The feudal military tenures succeeded, and although the personal service which its system required degenerated by degrees into pecuniary commutations, or aids, the defence of the kingdom was provided for by laws requiring the general arming of the citizens. Under Edward III., it was provided that no man should be compelled to go out of the kingdom at any rate, nor out of his sire, but in cases of urgent necessity, nor should provide soldiers, unless by consent of parliament. The first find lord-lieutenants of counties, whose duty was to keep the counties in military order, mentioned as known officers in the fifth year of Philip and Mary. When Charles I. had, during his northern expeditions, issued commissions of lieutenantancy, and exerted certain military powers, which, having been long exercised, were thought, by one party, to belong to the crown, it became a question, in the long parliament, how far the power over the militia did inherently reside in the king, which, after long litigation, ended by the two houses denying the crown this prerogative, and taking into their own hands the entire power of the militia. After the restoration, when the military tenures were abolished, the sole right of the crown to govern and command the militia was recognised. The most characteristic features of the English and Scottish militia at present are, that a number of persons in each county is drawn by lot, for five years (liable to be prolonged by the circumstance of the militia being called out and embodied), and officered by the lord-lieutenants and other principal land-owners, under a commission from the crown. They are not compellable to leave their county, unless in case of invasion or actual rebellion within the realm, nor, in any case, to march out of the kingdom. When drawn out, they are subject to military law. In all cases of actual invasion, or imminent danger thereof, and in all cases of rebellion or insurrection, the king may embody the militia, and direct them to be led into any part of the kingdom, having communicated the occasion to parliament, if sitting, or, if not sitting, having declared it in council, and notified it by proclamation. In Tyrol, a general arming against the French was effected in 1799. When, in 1808, the archduke Charles was placed at the head of military affairs, a

general *Landwehr* was organized throughout the Austrian provinces. In 1809, these troops fought well, and amounted, at that time, to 300,000 men; after 1811, only to 71,500; but, after 1813, the *Landwehr* was again placed on its old footing, and, quite lately, parts of it have been called out to increase the army, which stands ready to overrun Italy. In Hungary, the common law obliges every nobleman to serve himself and to bring his vassals into the field, if called upon. This *levée* is called an "insurrection of the nobility." In 1809, this insurrection consisted of 17,000 horse, and 21,000 foot. In 1807, a general militia was organized in Russia, which, in 1812, was of considerable service against the French.

Prussia has carried the *Landwehr* to greater perfection than any other country: in that country, the militia forms the main body of the army. In 1813, every male person under forty-eight years was obliged to serve against the French in the militia. The national militia, at that time, included both infantry and cavalry. The lower commissioned officers were elected by the militia-men, and the higher by the estates of each circle. When Napoleon returned from Elba, Prussia had 150,000 infantry and 20,000 cavalry of the militia under arms. After the peace of 1815, the *Landwehr* was established on its present footing. Every Prussian, with the single exception of mediatised princes, is obliged to serve for three years in the standing army, between his seventeenth and twenty-third year. Part of this time, however, he is generally on furlough. If a person equips himself and undergoes an examination, by which he proves that he has received a certain education, he has to serve one year only in the standing army. After this time, every Prussian belongs, until his thirtieth year, to the first class of the *Landwehr*, attends frequent drills on Sunday afternoons, and has to serve for three weeks every year, when the *Landwehr* is called together for great manoeuvres. Every man is in the *Landwehr* what he was in the standing army—foot-soldier, horseman, or artillerist. Government hires horses for the time of manoeuvring, and, as they are well fed and ridden by experienced men, the owners generally like to let out their horses for the occasion. Every Prussian, from his thirtieth year until his fortieth, belongs to the second class of militia. This is not called together in time of peace, and, in war, only in time of the greatest emergency, and then only for local or provincial service. Thus Prussia is enabled to assemble a very large army in proportion to its population, whether to the injury of the nation is a question not to be discussed here.

In regard to the militia of the United States of America, it is provided, by act of congress of 1792, that all able-bodied, white male citizens, between the ages of eighteen and forty-five, with certain exceptions (officers of government, members of congress, mariners in service, &c. &c.) shall be enrolled in the militia. The persons so enrolled are to provide themselves with the common arms of infantry, and with ball cartridges, &c., at their own expense. These are arranged into brigades, regiments, companies, &c., as the legislatures of the several states may direct. Each battalion is to have at least one company of grenadiers, light-infantry or riflemen, and each division at least one company of artillery and one troop of horse. Proper ordnance and field artillery is to be provided by the government of the United States. The cavalry and artillery troops are to consist of volunteers from the militia at large, not exceeding one company to each regiment, and are to equip themselves, with the exception of the ordnance above mentioned. Whenever the United States shall be invaded, or in immi-

nent danger of invasion from any foreign nation or Indian tribe, the president is authorised to call forth such number of the militia of the state or states most convenient to the scene of action as he may judge necessary. In case of any insurrection in any state against the state government, he may, on application from the legislature of such state (or from the executive, when the legislature cannot be convened) call forth such number of the militia of any other state or states as may be applied for, or as he may judge necessary to suppress the insurrection. So, whenever the laws of the United States are opposed in any state by combinations too powerful to be suppressed by the ordinary course of judicial proceedings, or by the powers vested in the marshals, the president may call forth the militia of such state, or any other state, to suppress them, and may continue the militia in service for thirty days after the commencement of the next session of congress. During the last war with Great Britain, it was provided, by an act which expired with the war, that, when the militia were in pay of the United States, and acting in conjunction with the regular troops of the United States, they were to be governed by the rules and articles of war in like manner with the regular forces, and subject to be tried by courts martial, these courts martial, however, to be composed of militia officers. It was also provided that the militia, when called into the service of the United States, might, if the president of the United States was of opinion that the public interest required it, be compelled to serve for a term not exceeding six months in any year. The sum of 200,000 dollars is appropriated annually for the purpose of providing arms and equipments for the whole body of the militia of the United States, which are divided among the states and territories respectively, in proportion to the number of effective militia in each. In all the states, the governor is the commander-in-chief of the militia, with more or fewer restrictions. In Massachusetts, he has power to exercise, assemble, and govern them, and to employ them to resist invasion or detriment to the commonwealth, but cannot march them out of the limits of the state without their free consent, or the consent of the general court, except that he may transport them by land or water out of the state, for the defence of any part of the state to which access cannot otherwise conveniently be had. By the constitutions of many of the states, especially those which are of recent origin, the governor is not commander-in-chief of the militia, when they are in the actual service of the United States. This is to prevent collision between the general government and that of the separate states, such as took place between the government of Massachusetts and that of the United States, during the last war with Great Britain. Such a provision exists in the constitutions of Connecticut, Pennsylvania, Delaware, South Carolina, Kentucky, Tennessee, Ohio, Indiana, Mississippi, Illinois, Alabama, Missouri, Maine. In some of the states, the governor is not to command personally, except when so advised by the legislature. This is the case in Vermont, Maryland, Kentucky, Indiana, Louisiana. In North Carolina, the governor cannot embody the militia of his own authority for the public safety, except in the recess of the general assembly. In some of the states, the organization of the militia is not provided for by the constitution, but left to be settled by the legislature: this is the case in Pennsylvania, Louisiana, Mississippi, Illinois, Alabama. In most of the states, however, particular provision is made for the election or appointment of officers of different degrees. In Massachusetts, the captains and subalterns are elected by the written votes of

their companies, the field officers of regiments by the written votes of the captains and subalterns of their respective regiments, the brigadiers by the first officers of their respective brigades. The general commissions these officers. The same process is appointed by the senate and house of representatives, each having a negative on the other, and is commissioned by the governor. If the election of brigadiers, field-officers, and captains fail to elect the proper with the advice of the council, this process is New Hampshire, the general and field-officers of the militia are nominated by the governor and senate. The captains and subalterns are nominated by the field-officers, and, if approved by the general court, are appointed by him. The commanding officers of regiments appoint their adjutants and quarter-masters, the brigadiers their brigade-majors, the major-generals their aids, the captains and subalterns the non-commissioned officers. In Vermont, the militia companies elect their captains and other officers, and the captains and subalterns nominate and recommend the field-officers, who appoint their aids. The superior officers are appointed by the general and council. The provisions of the New York constitution are much the same as those of Massachusetts. In New Jersey, the captains and inferior officers are chosen by the companies, but field and general officers by the council and assembly. In Maryland, the officers of the militia are appointed by the general. In North Carolina, the senate and house of commons appoint the generals and field-officers of the militia. In Georgia, the general officers of the militia are to be elected by the general assembly, as commissioned by the governor. The other officers are elected as the legislature may direct. In Kentucky, the commanding officers of the respective regiments appoint their regimental and brigade-generals their brigade-majors, major-generals their aids, and captains the non-commissioned officers of companies. A majority of the field-officers of each regiment nominate the commissioned officers in each company, who are commissioned by the governor. In Tennessee, field-officers appoint subalterns, and non-commissioned officers, approved by the citizens subject to military duty in the division of these officers, brigadier-generals by the holders of their respective brigades, major-generals by a field-officers of their respective divisions. The governor appoints the adjutant-general, the major-generals appoint their aids, the brigadier-generals their brigade-majors, and the commanding officers of regiments their adjutants and quarter-masters. Ohio, captains and subalterns are elected by the companies, majors by the captains and subalterns, the battalion, colonels by the majors, captains, and subalterns of the regiment, brigadier-generals by a commissioned officers of their respective regiments, major-generals and quarter-master-generals on a point by the joint ballot of both houses of the legislature. The governor appoints the adjutant-generals; the major-generals appoint their aids, and other division officers, the brigadiers their major-commanders of regiments their adjutants, quarter-masters, and other regimental staff-officers, and captains and subalterns the non-commissioned officers and musicians. In Indiana, the elections are not as in Tennessee, except that brigadiers are chosen by all the commissioned officers of their respective brigades, and major-generals by the commissioned officers of their respective divisions. In Missouri, the constitution provides that field-officers and major-officers shall be elected by the persons subject to military duty within their respective commands, brigadier-generals by the field-officers of their respective brigades, and major-generals by the brigade

and field-officers of their respective divisions, until otherwise directed by law. General and field-officers appoint their staff-officers. The governor appoints an adjutant-general, and all other militia officers whose appointments are not otherwise provided for. In Maine, the system is much as in the last mentioned state, except that the major-generals are elected by the senate and house of representatives. The constitutions of some of the states exempt from militia duty, with more or less qualification, persons conscientiously scrupulous about bearing arms. This is the case with those of Maine, New Hampshire, New York, Pennsylvania, Tennessee, Indiana, Missouri, Illinois, Alabama. See *Army*, and *Army, Standing*.

**MILK**; a secretion peculiar to the females of the class *mammalia*, or those animals which feed their young from their teats, and which takes place, in some of them, only during and after the time of gestation. It differs as procured from different animals, but its general properties are the same in all. When this fluid is allowed to stand for some time, it undergoes spontaneous changes, and is resolved into its component parts: a thick yellowish substance collects on the surface, which is called *cream*, and the milk beneath becomes thinner than before, and is of a pale bluish colour. When cream is kept for some days without being disturbed, it gradually becomes thicker, till at last it acquires the consistence of cheese; and hence one method of making cream-cheese, merely by putting cream into a linen bag, and leaving it there till it becomes solid. When cream is shaken, it is resolved into its component parts. The process by which this is accomplished is called *churning*, by which two substances are obtained, *butter* and *butter-milk*. In the making of butter, cream is allowed to stand for some time, during which an acid is generated. It is then put into a churn and shaken, by which the butter is gradually separated. What is left (the butter-milk) has a sour taste, but by no means so much so as that of the cream before the churning. Butter is sometimes also made from cream which has not become sour, but the process is much more tedious, the acid formed in the other case favouring its separation. Butter is merely an animal oil, solid at a natural heat, but held in solution in milk, by some of the other substances. As thus procured, it is not pure, but may in a great measure be freed from its impurities, by washing it with cold water; and though apt to become rancid, yet, when mixed with salt, may be kept any length of time. Milk from which butter has been taken, undergoes spontaneous changes. It becomes much sourer, and congeals into a mass of the consistence of jelly. When heated, the fermentation of this coagulum is hastened, and by the addition of certain substances, it very soon takes place; thus acids and spirit of wine curdle it, which is owing to the albumen it contains being acted on by them, in the same way as blood or white of eggs. By far the most powerful coagulator, however, is the substance called *rennet*, which is the decoction of the stomach of animals, as a calf. When the milk is previously heated, and rennet added, it is almost instantly coagulated. If after this it is cut, a thin fluid comes from it, and if it be put into a bag and squeezed, the whole of this is forced out, and a whitish, tough matter is left; the former is *whey*, the latter *curd*. On this depends the process of making cheese, which varies in richness, according to the mode followed in preparing it. When milk is heated gradually, and merely to the temperature at which it curdles, and if the curd be freed gently from the whey, it retains almost the whole of the cream, which adds to its richness and flavour. But when it is curdled quickly, and the whey is speedily removed by cutting the curd,

a great deal, or nearly the whole of the cream is carried off, and the cheese is poor, and has not the rich flavour of that made in the other way. In making cheese, having obtained the curd, and freed it from its whey, the remaining part of the process is merely to subject it to pressure, by which the whole of the whey is forced out, the colour being communicated by the addition of colouring matter: that generally used is annotta, which is mixed with the milk. Whey has a pleasant taste, and contains a considerable quantity of a sweetish substance, called *sugar of milk*; hence it is frequently used as drink, and from its nutritious quality, it is administered to delicate people; hence the use of asses' milk, which contains a large quantity of it. It is from its containing this saccharine matter, that it is sometimes, as in some of the northern counties of Scotland, made to undergo fermentation, by which a very weak spirituous fluid is obtained. By evaporation it affords a minute quantity of saline matter and a considerable portion of sugar of milk. When whey or milk is exposed to a temperature between 60° and 80° it undergoes a spontaneous change, attended by the production of an acid, which was originally examined by Scheele, and has been termed *lactic acid*.

**MILKY WAY**. See *Galaxy*.

**MILL**; originally, a machine, adapted to divide, crush, or pulverise any substance; but more extensively applied, in modern times, to almost all machinery consisting of wheel work, whether intended to change the form, or merely the position of the substance operated upon. The term as thus used is very indefinite, both in regard to the moving power and the application of the power or the process. Mills therefore take different names, from the process, as stamping-mills, saw-mills, fulling-mills, grinding-mills, &c.; from the moving power, as wind-mills, water-mills, hand-mills, steam-mills, &c.; or from the material operated upon, as cotton-mills, flour-mills, sugar-mills, oil-mills, &c. This great variety in the nature and uses of mills renders it impossible to give descriptions of them under one head. The general principles of the machinery and the moving powers will be found described under the heads *Mechanics*, *Hydrodynamics*, *Machinery*, *Pneumatics*, *Steam*, *Wheels*, &c., and their particular applications to different materials will be treated of under the appropriate heads. One of the earliest and most universal applications of machinery of this kind is to the comminution of grain. Among the rudest nations we find this done by pounding it between two stones; but with the first advances of art, a simple hand-mill is constructed, composed of an immovable nether-stone (Gr. *μωλη*) and an upper-stone (*μωλος* or *σιν*), put in motion by the hand. These machines were used by the Hebrews and Greeks, and commonly moved by slaves or criminals. Asses were afterwards employed. According to the Greek mythology Pilumnus, Myles, or Mylantes, invented the mill. Water-mills (*mola aquaria*) seem to have been used by the Romans. Wind-mills were invented in the time of Augustus. Among the moderns the common mill for grinding grain is constructed with two circular stones placed horizontally. Buhr-stone is the best material of which mill-stones are made, but sienite and granite are frequently used. The lower stone is fixed, while the upper one revolves with considerable velocity, and is supported by an axis passing through the lower stone, the distance between the two being capable of adjustment according to the fineness which it is intended to produce in the meal or flour. When the diameter is five feet, the stone may make about ninety revolutions in a minute without the flour becoming too much heated. The corn or grain is shaken out of a hopper by means of projections from the revol-

ing axis, which give to its lower part, or feeder, a vibrating motion. The lower stone is slightly convex, and the upper one somewhat more concave, so that the corn, which enters at the middle of the stone, passes outward for a short distance before it begins to be ground. After being reduced to powder, it is discharged at the circumference, its escape being favoured by the centrifugal force, and by the convexity of the lower stone. The surface of the stones is cut into grooves, in order to make them act more readily and effectually on the corn; and these grooves are cut obliquely, that they may assist the escape of the meal by throwing it outward. The operation of *bolting*, by which the flour is separated from the bran, or coarser particles, is performed by a cylindrical sieve placed in an inclined position and turned by machinery. The fineness of flour is said to be greatest when the bran has not been too much subdivided, so that it may be more readily separated by bolting. This takes place when the grinding has been performed more by the action of the particles upon each other, than by the grit of the stone. For this sort of grinding, the buhrstone is peculiarly suited. The patent improvements of Evans consist of a series of machines calculated to save hand-labour, by performing every movement of the grain and meal from one part of the mill to another, or from one machine to another, by the force of the water.

MILLAR, JOHN, professor of law in the university of Glasgow, was born in the parish of Shotts, Lanarkshire, 1736, and after being educated for the bar, was called to the vacant chair of civil law in Glasgow college, in 1761. This situation he filled with great success for forty years; and under him, many who have since distinguished themselves in public life—lord Brougham, lord Jeffrey, lord Commissioner Adams, the earl of Lauderdale, and others—received their first lessons in political science. He died in 1801. The interest which his lectures on jurisprudence excited, particularly those which referred to the government of nations, induced him, in 1771, to publish a short treatise on the subject, which was favourably received. This led him, some years afterwards, to the composition of a more elaborate work, which appeared in 1787, under the title of "Historical View of the English Government, from the settlement of the Saxons in Britain to the accession of the House of Stuart." This history he intended to bring down to his own time, but he only completed it to the Revolution, and a new and posthumous edition in 1803, four vols. 8vo, comprised that period. A fourth edition, with a memoir of his life by his nephew, Mr John Craig, was published in 1808. The work is written with great force and distinctness, and is highly esteemed, as one of the few standard English works which we have on political science.

MILLENNIUM (*a thousand years*); generally taken for the thousand years in which some Christian sects expected, and some still expect, the Messiah to found a kingdom on earth, full of splendour and happiness. This opinion originated from the expectations of the Jews, in regard to a Messiah. Excited and nourished by their prophets, endeared to them by their sufferings, during and after the Babylonish captivity, and by the national pride, which their misery served to increase, those expectations took a more and more decidedly sensual turn in the time of Jesus, particularly under the oppression of the Roman government. (See *Messiah*.) Jesus declared himself to be the expected Messiah, announcing his new religion as the fulfilment of the promises given by the prophets of the Old Testament. Notwithstanding his express declaration, that it was not his intention to establish a worldly kingdom, but a spiritual kingdom of truth and virtue, and notwithstanding the

doctrine of his apostles, that a *kingdom* *happens* could only be expected in a better world, the new Christians could not refrain from expressing the glorious return of Jesus, as described by the apostles, on earth, and from interpreting the promises of Jesus, which seem to favour such a hope according to their wishes, bent on worldly happiness. These expectations, entertained by the common Jew, Judaism to Christianity, were blended with the hope of a golden age, which had been substituted in its converts from paganism, who still cherished the ideas of heathen mythology. Besides, it was natural, in the situation of the first Christians, growing out of the oppression of their heathen masters, should contribute to increase their desire for a new state of things. *Chiliasm*, or the expectation of the *thousand millennium*, became, therefore, a universal belief among the Christians of the first centuries, and was strengthened by the prophecies contained in Revelation (chap. xx. xxi.) of the ages which are to precede and indicate the happy times of the millennium. This belief was clothed in still more *new* colours by the descriptions of such a state in some pseudo-prophetical writings, forged towards the end of the first, and the beginning of the second century under the names of personages of the Old Testament and apostles (as the Testament of the twelve Patriarchs, the 4th book of Ezra, the Revelation of Peter &c.), and in the Sibylline books of the Christians the Epistle of Barnabas, the Pastor of the Psalm-Hermas, and in the Talmud. How eagerly such descriptions were received, is shown by the unanimity with which the doctrine of the millennium was adopted and promulgated by the Christian teachers of the first centuries. Not only the *heavenly* *Canthus*, who had imbibed this doctrine from Jesus, but also orthodox teachers, as Papias of Smyrna, Irenæus, Justin the Martyr, &c., delighted in its dreams of the glory and happiness of the *millennium*. Before it began, human misery, according to the opinion, was to rise to the highest degree, and the overthrow of the Roman empire would follow, and from its ruins would proceed a new state of things, in which the faithful who had risen from the dead, and those still living, would enjoy *infinite* happiness. At that blissful period, every ear would produce 10,000 grains, and every grain ten pounds of wheat flour, every vine would yield millions of millions of measures of wine, the innocence of paradise would be united to every intellectual and sensual pleasure, the victory of the faithful over the unbelievers to be complete, and the blessed reside in the heavenly Jerusalem, which would descend from heaven in extraordinary splendour and grandeur, to receive them in a magnificent habitation. The *Millennarians* found their belief on the Mosaic history of the creation. Considering this history as a prototype of the last of the world, and concluding from Genesis ii. that 600 years make with God one day, they believed in the 6 days of creation, 6000 years of terrestrial labour and sufferings, and in the seventh, the day of rest, a period of 1000 years, in which the reign of Christ should be established.—The Gnostics, *despotic* matter, were adversaries to the doctrine of the millennium, and the more zealously it was defended by the Montanists (for instance, Tertullian), the more suspicious did it gradually become to the orthodox also. The philosophic school at Alexandria, particularly Origen, opposed it in the third century, by arguments, which were soon adopted by all the fathers. Lactantius was the last distinguished teacher of the primitive church who adhered to the idea of a millennium. When Christianity became the predominant religion of the Roman empire, the doctrine lost its interest for the multitude; the *new*

liberty, and security, which the millennium was expected to bring, being now actually enjoyed by the Christians. The belief of the resurrection of the body, however, which could not be dispensed with in the pleasures which the Millenarians promised themselves, passed from them into the dogmas of the church, though the fathers of a later period supported it on different grounds from the Millenarians. Jerome and Augustine zealously opposed the gross ideas of the few enthusiasts, who, in the fifth century, were still expecting this period. Since that time, the church has rejected the dogma of the millennium, together with other Jewish notions. The expectation of the last day in A. D. 1000, gave it some weight for a short time only, and similar hopes excited by the crusades were soon disappointed by the event. At the time of the reformation, the doctrine of a millennium was in some degree revived, by its application to the overthrow of the papal dominion. But it was only some sects of fanatics, such as the Anabaptists, and some mystical enthusiasts, in whom the seventeenth century was rich, that adhered to these notions. During the religious and civil wars in France and Britain, the persecuted sought consolation in the dreams of a millennial kingdom: the raptures of the Mystics and Quietists among the Catholics led to a similar result, and the most learned and zealous friends of Chiliasm rose among the Lutherans during and after the thirty years' war. The disciples of Weigel and the adherents to the religious principles of Petersen, went the farthest; yet even many moderate and sober theologians, misled by idle speculations on the prophetic books of the Bible, particularly on the book of Revelation, which, up to the middle of the eighteenth century, formed a favourite occupation among a certain class of divines, indulged themselves in the ideas of a millennium. As the philosophical vindication of this doctrine, which was attempted in England by Thomas Burnet and Whiston, could not satisfy the orthodox Christians on account of the scepticism of its authors, several apocalypics, among whom Bengel (q. v.) formed a separate school, exhausted their efforts in endeavouring to calculate, at least, the time in which the kingdom of Christ should commence. Bengel is of opinion, that this period will begin in the year 1836, and last 2000 years. While his disciples were flattering themselves with very sensual descriptions of the kingdom of Christ, Lavater and Jung Stilling, who possessed more imagination, but even less coolness and learning, indulged similar visions and predictions, with which they entertained their adherents up to the nineteenth century. Of all the vagaries of disordered fancy, the doctrine of a millennium is one of the most useless, and, at the same time, one of the most dangerous. Aversion to all that exists, hatred of contemporaries, indolence and spiritual arrogance—these are its fruits; and the exercises of penitence, which it leads, are nothing but the effects of terror, and without moral worth. Quite lately a sect of this name can be given to the Mormons; they have sprung up in the United States, believing, as far as they are informed, in the near approach of the millennium, whose enjoyments are to be of a sensual and worldly character.

MILLER, EDWARD, M.D., an eminent physician and professor at New York, was born at Dover, in the state of Delaware, May 9, 1760. In 1778, he undertook the study of medicine. He began practice in Delaware, but made himself advantageously known under other states, by a disquisition on the Origin of the Yellow Fever, one of the earliest and ablest publications in support of the doctrine of domestic origin. In 1796, doctor Miller removed to the city of New York. Within a few weeks after, he formed, in con-

cert with doctor S. Mitchell and doctor E. H. Smith, the plan of a periodical work, to be devoted to medicine. The first number was issued in 1797, under the title of the *Medical Repository*. No work of a similar kind had appeared in America. It excited medical inquiries, and recorded their results. It occasioned the establishment of similar journals in other parts of the United States. Doctor Miller lived to see its fifteenth volume brought nearly to a close. In 1803, he was appointed resident physician for the city of New York. He witnessed, as such, several pestilential seasons. The fruits of his observation and reflection he embodied in a Report on the Rise, Progress, and Termination of the Yellow Fever, to which a high degree of merit is ascribed. In 1807, he was elected professor of the practice of physic in the university of New York. In 1809, he became clinical lecturer in the New York hospital. Notwithstanding the laborious duties of those offices, and the calls of an extensive practice, he kept up an active correspondence with many distinguished physicians and men of letters in the principal parts of Europe and America. Professional honours were conferred upon him from all quarters. He died of typhus fever, March 17, 1812, in the fifty-second year of his age. His printed works have been collected and published in one large volume.

MILLER, JOHN. See *Millar*.

MILLER, JOSEPH, a witty actor, whose name has become proverbial in the English language, was born in 1684, it is supposed in London, and was a favourite low comedian about the time that Congreve's comedies were fashionable, to the success of which, it is said, his humour much contributed. In these he performed Sir Joseph Wittol, in the *Old Bachelor*, and Ben, in *Love for Love*. Another of his favourite characters was Teague, in the *Committee*. He died in 1738. The jests which have immortalized his name, were collected by John Mottley, author of the *Life of Peter the Great*, and other works. Joe Miller's Jest had run through eleven editions in 1751. A copy of the original edition was lately valued at ten guineas, in the catalogue of an eminent bookseller.

MILLET is a coarse, strong grass (*holcus sorgum*), bearing heads of a fine round seed, a little larger than mustard seed. The plant, although coarse, makes good food for horses and cattle, and the seed is equally good for them; it is excellent for fattening poultry, and is sometimes made into bread. It is also used for making puddings, for which purpose it is by some preferred to rice.

MILLIARD (*French*); one thousand millions.

MILLIN, AUBIN LOUIS; professor of antiquities at Paris, member of the academy of inscriptions and of the legion of honour, and, after the death of Barthélemy, *conservateur* of the imperial (royal) cabinet of medals and antiquities. Millin was born in Paris, in 1759, and at first devoted himself to the study of natural history, but afterwards to that of philology, and finally to archæology. In his earlier writings he appeared as a partisan of republican principles; among these are his *Almanac Republicain*, and other works, which he did not include in the later catalogues of his publications. In the reign of Napoleon, he made two antiquarian excursions in France and Italy, where he discovered several remains which had been overlooked by the Italians. He was one of the most learned archæologists that France has produced. He edited the *Magazin Encyclopédique* nearly twenty years. Among his principal works are his *Dictionnaire des Beaux Arts*; *Monumens Antiques inédits*; *Galerie Mythologique*; *Peinture des Vases Antiques*; *Voyage dans les Départemens du Midi de la France*; *Histoire Métallique de la Revolu-*

*tion Française; Histoire Méthodique de l'Empereur Napoléon.* His lectures, which were fashionably attended, contributed, with his works, to diffuse a taste for the study of antiquities in France. His services as a *conservateur* of the cabinet of antiques, of which he made a systematic arrangement, also deserve to be remembered. He died in 1818.

MILLOT, CLAUDE FRANÇOIS XAVIER; a learned and ingenious French author, born in 1726, at Besançon. He was educated at the Jesuits' college, and became a member of that fraternity, but quitted it, and settled at Parma, where the patronage of the duke de Nivernois obtained him the historical professorship. This situation he filled with much ability and reputation for some years, when the prince of Condé offering to his acceptance the appointment of tutor to the young duke d'Enghien, he returned to Paris. His works, some of which are much esteemed for the spirit and elegance of their style, consist of a History of the Troubadours (in 3 vols.); Memoirs, Political and Military, for the History of the Reigns of Louis XIV. and Louis XV. (6 vols.); Elements of Universal History (9 vols.); Elements of the History of England (3 vols.); Elements of the History of France (3 vols. 12mo), besides some academical papers, and a few translations from the Latin. His death took place in the French capital, in 1785.

MILLS, CHARLES, an historian, born at Greenwich, in 1788, was articled to an attorney in London. Ill health and the attractions of literature prevented him from engaging in practice, and, in 1817, he published a History of Mohammedanism, which met with a favourable reception. He afterwards produced the History of the Crusades (1819); Travels of Theodore Ducas, at the Revival of Letters and Arts in Italy (1821), and the History of Chivalry (1825). He died October 9, 1826.

MILNER, JOHN, a celebrated Catholic divine and writer on theology and ecclesiastical antiquities, was born in London, in 1752, and finished his studies at Douay. In 1777, he was ordained a priest, and, in 1779, appointed pastor to the Catholic chapel at Winchester. Doctor Milner's study of ancient ecclesiastical architecture procured for him admission into the royal society of antiquaries in 1790. He contributed many valuable communications to the *Archæologia*, and published a Dissertation on the modern Style of altering Cathedrals, as exemplified in the Cathedral of Salisbury (1798). The same year, he published his History, Civil and Ecclesiastical, and Survey of the Antiquities of Winchester (2 vols. 4to), and subsequently a Treatise on the Ecclesiastical Architecture of England during the Middle Ages (8vo). Some observations in the history of Winchester gave offence to doctor Sturges, a prebendary of the cathedral, who animadverted on them in a tract entitled Reflections on Popery. Doctor Milner replied to this attack in his Letters to a Prebendary, which display great learning, ability, and acuteness. In 1801, he published his Case of Conscience solved, or the Catholic Claims proved to be compatible with the Coronation Oath. On the death of bishop Stapleton, doctor Milner was appointed to succeed him as vicar apostolic in the midland district, with the title of *bishop of Castabala*. He for some time refused that dignity, but at length he was prevailed on to accept it, and was consecrated in 1803. In 1807 and 1808, he visited Ireland, that he might be enabled, from personal observation and intercourse, to form an opinion concerning the charges brought against the Roman Catholics of that country. As the result of his researches, he published his interesting Inquiry into certain vulgar Opinions concerning the Catholic Inhabitants and the Antiquities of Ireland. At this period, he was appointed agent in England to the

Irish Catholic hierarchy. His estimate for the interests of religion in both countries would lead to take a journey to Rome in 1814, in to conduct there about twelve months. In 1804, he published a treatise entitled the End of Religious Controversy, containing a defence of those articles of the catholic faith usually regarded as objections to Unitarians. This was succeeded by his *Manifesto to the End of Religious Controversy against the Bishop of the Bishop of St David's and the Rev. Robert Grier*; and a Parting Word to Roman Catholics with a Brief Notice of Doctor Samuel Parr's humorous Letter to Doctor Milner. His death took place in 1826.

MILO; an island in the Greek Archipelago to ancient Melos. See *Melos*.

MILLO, a native of Crotona, in Italy, was one of the Pythagoreans, and one of the most eminent Grecian athletes. He bore off the prize at two of the Olympic games. Of his prodigious strength many instances are cited. When the temple of the Pythagoreans was teaching his pupils was on the point of falling, Milo seized the main pillar, and saved the destruction of the edifice until all present had escaped. He once carried a bull to the summit of his shoulders, and killed it with a blow of his hand. His strength, however, was the cause of his death. Seeing in a forest a strong trunk of a tree, which he had been vainly attempting to split with wedges, he determined to pull it asunder: but his strength was insufficient. The wedges which had but just cut open had dropped out, and he remained with his hands fastened in the fissure. No one coming to his assistance, he was devoured by wild beasts. According to the tradition of the Pythagoreans, he was pursued to his home in Crotona by Cylon, slain and burned.

MILORADOWITCH, MICHAEL ANTONOVICH, count of, a distinguished Russian officer, was born in 1770; served in 1787 against the Turks, a year against the Poles; rose rapidly; commanded a regiment the vanguard of Suvoroff's army in Italy, a division general; fought, in 1805, as lieutenant-general, the battle of Austerlitz. In 1808, he fought valiantly against the Turks, and, in 1812, organized as the *corps de reserve*, and led it to the main army into the battle of Mojaik. He was of great service in this whole campaign against the French, and in the succeeding war in 1813. He contributed essentially to the victory of the allies at Cambray, commanding under the grand prince Constantine a *corps de reserve*, consisting of Prussian grenadiers and cuirassiers, and the Russian and Prussian guard. In the battle of Leipzig, he was again active, and marched with the armiers into France. After peace, he was appointed military commander of St Petersburg. In the intervention of the troops in 1825, at the accession of the emperor Nicholas, he was killed by a pistol-shot. As an active commander of vanguards he had few equals.

MILTIADES; an Athenian general, who lived about B. C. 500. He had already successfully established an Athenian colony in the Chersonesus, and subjected several islands in the Ægean to the dominion of his country, when Darius at the head of a formidable army, undertook the subjugation of Greece. Miltiades, Aristides and Themistocles defeated the Athenians, disconcerted by the superior numbers of the enemy, to resistance. Each of the ten tribes placed 1000 men under the direction of a leader. This little army advanced to the pass of Marathon (B. C. 490), where 1000 Persian soldiers by their allies the Plataeans, joined them. Miltiades was in favour of an attack; Aristides and some of the other generals supported him, others, on the

contrary, wished to wait for the auxiliaries from Lacedæmon. The general-in-chief (polemarch), Callimachus, however, concurred with the proposal of Miltiades, and the attack was determined upon. The chief command, which belonged to all the generals alternately, was unanimously conferred on Miltiades, who nevertheless made no use of it, but waited for the day which regularly called him to the head of the army. He then drew up his troops at the foot of a mountain in a wooded plain, to impede the action of the enemy's cavalry. The Platæans occupied the left wing; Callimachus commanded the right, and Aristides and Themistocles the centre of the army. Miltiades himself was in every part where his presence was necessary. The Greeks began the attack at full speed; the Persians defended themselves with coolness, but with obstinacy, until, after a contest of several hours, both their wings gave way. In the centre, Datis, the Persian general, with his best troops, pressed Aristides and Themistocles hard; but being attacked in the rear by the Greeks, he was compelled to forego his advantages. The rout was now general. Those who escaped the sword were obliged to flee to the waves; of these many fell into the hands of the Greeks. The Persians lost 400 men, the Athenians 192. Miltiades was himself wounded. Glorious as this victory was, it would have been fatal to Athens, had it not been for the activity of Miltiades. Datis determined to fall upon Athens in his retreat, and his fleet had already passed Cape Sunium, when Miltiades, receiving information of it, immediately put his troops in motion, and arrived under the walls of the city in time to compel the enemy to return to the coast of Asia. Miltiades was then highly honoured, but was soon both envied and persecuted. His enemies represented that he might easily be tempted to possess himself of absolute power. An unsuccessful enterprise, of which he was the projector, facilitated their success. He had desired that a fleet of seventy ships should be placed at his disposal, and promised, by means of it, to put the Athenians in possession of great wealth and advantages. His design was probably to plunder some of the Persian cities on the coasts, and to punish those lands of the Ægean sea which had taken part with the Persians; but he failed in his attack on Paros, and was compelled to refund the expenses of the expedition, and died of his wounds in prison.

MILTON, JOHN, the most eminent of English poets, was descended from an ancient family, formerly proprietors of Milton, near Thame, in Oxfordshire. His grandfather who was under-ranger of the forest of Shotover, being a zealous Roman Catholic, disinherited his son, the father of Milton, for coming a Protestant, on which account he was obliged to quit his studies at Oxford, and settle in London as a scrivener. This gentleman, who was a good classical scholar, and remarkable for his skill in music, had two sons and a daughter: John, the eldest, Christopher, who became a judge in the court of common pleas, and Anne, who married Edward Phillips, secondary at the crown office. John Milton was born at his father's house in Bread-street, December 9, 1608. He received his early education in a learned minister of the name of Young, and was afterwards placed at St Paul's school, whence he was removed in his seventeenth year to Christ's college, Cambridge, where he graduated M.A. and distinguished himself by the purity and elegance of his Latin versification. The original purpose of Milton was to enter the church; but his dislike to subscription and to oaths, which, in his opinion, required an "an accommodating conscience," prevented the fulfilment of this intention. On leaving college, therefore, he repaired to his father's

house, who, having retired from business, had taken a residence at Horton, in Buckinghamshire. Here he passed five years in a study of the best Greek and Roman authors, and in the composition of some of his finest miscellaneous poems, including his *Allegro* and *Penseroso*, *Comus* and *Lycidas*. That his learning and talents had by this time attracted considerable attention, is proved by the production of *Comus*, at the solicitation of the Bridgewater family, which was performed at Ludlow castle, in 1634, by some of its youthful members; as also by his *Arcades*, part of an entertainment, performed before the countess-dowager of Derby, in the same manner, at Harefield. In 1638, having obtained his father's consent to travel, he visited Paris, where he was introduced to Grotius, and thence proceeded successively to Florence, Rome, and Naples, in which latter capital he was kindly entertained by Manso, marquis of Villa, the patron of Tasso. His general reception in Italy was also highly complimentary, although he would not disguise his religious opinions. After remaining abroad for fifteen months, he returned to England, giving up his intention of visiting Sicily and Greece, in consequence of accounts of the state of affairs in his own country. "I esteemed it dishonourable," he writes, "for me to be lingering abroad, even for the improvement of my mind, while my fellow-citizens were contending for their liberty at home." He settled in the metropolis, and undertook the education of his two nephews, the sons of his sister, Mrs Phillips. Other parents being also induced by his high character to apply to him, he engaged a house and garden in Aldersgate-street, and opened an academy for education. However engrossed by tuition, he soon found time to mingle in the controversial struggles of the day, and published four treatises relative to church government, which produced him antagonists in bishop Hall, and archbishop Usher. A fifth production followed, entitled *Reasons of Church Government urged against Prelacy*, in which he promises to undertake something, but yet he knew not what, which "might be of use and honour to his country;" a calm anticipation of great performance, which he amply redeemed by his *Paradise Lost*. About this time, his father, who was disturbed in his residence by the king's troops, came to reside with his son John, who, in 1643, united himself in marriage with Mary, daughter of Richard Powel, Esq., a magistrate in Oxfordshire. In more than one respect, this was an unsuitable connexion; for the father of the lady being a zealous royalist, who practised the jovial hospitality of the country gentlemen of that party, the residence of her husband so disgusted the bride, that in less than a month, under the pretence of a visit, she left him, and remained for the rest of the summer with her parents. His letters and messages for her to return home being treated with neglect, Milton at length became incensed, and regarding her conduct as a desertion of the marriage contract, he sought to punish it by repudiation. To this matrimonial disagreement it is to be attributed his treatises, the *Doctrine and Discipline of Divorce*; and the *Judgment of Martin Bucer concerning Divorce*; and *Tetrachordon*, or *Exposition upon the four chief Places in Scripture which treat of Marriage*. The Presbyterian assembly of divines, then sitting at Westminster, alarmed at this reasoning, had the author called up before the house of lords, which, however, instituted no process. Convinced by his own arguments, Milton began to pay attention to a young lady—a step which alarmed the parents of his wife, who, having become obnoxious to the ruling powers, had need of the good offices of their son-in-law with his party. Thus disposed, they surprised him into an interview with Mrs Milton, whom, on

her expression of penitence, he not only received again with affection, but also took her parents and brothers, in the most generous manner, into his own house. He continued to employ his pen on public topics, and, in 1644, published his celebrated Tractate on Education. The Presbyterians, then in power, having continued the subsisting restraints upon the press, he also printed, in the same year, his Areopagitica, a Speech for the Liberty of Unlicensed Printing,—a spirited and energetic defence of a free press. In 1645, he published his juvenile poems, in Latin and English, including, for the first time, the *Allegro* and *Penseroso*. Milton's notion of the origin and end of government carried him to a full approbation of the trial and execution of Charles I., which he sought to justify in a tract, entitled the *Tenure of Kings and Magistrates*. Even in the title-page he asserts the right to put "a tyrant or wicked king" to death on due conviction, "by any who possess the power," should the ordinary magistrates have no means to do so. He further employed his pen in the same cause by the composition of a History of England, of which, however, he had only completed six books, when he was interrupted, by being nominated Latin secretary to the new council of state. He had scarcely accepted the appointment, when he was requested to answer the famous book, attributed to Charles I., entitled *Icon Basilike*. This task he accomplished in a work, which he called *Iconoclastes*, or the Image-breaker, which is considered by many writers as one of the ablest of his political tracts. His celebrated controversy with Salmasius soon after followed, which originated in the latter's defence of Charles I., and of monarchs, under the title of *Defensio Regis*, written at the instigation of the exiled Charles II. Milton entitles his reply, *Defensio pro Populo Anglicano*. It was published in 1651, and though tainted with party virulence and the discreditable personal acrimony which distinguished the controversies of the times, exhibits a strain of fervid eloquence, which completely overwhelmed the great but inadequate powers of his opponent. He acquired by this production a high reputation both at home and abroad, and was visited on the occasion by all the foreign ambassadors then in London; he also received from the government a present of £1000. He, however, bought this triumph dear, as an affection of the eyes, previously produced by intense study, terminated, as his physicians predicted, by an irremediable *gutta serena*, owing to his exertions on this occasion. It is unnecessary to observe how nobly and feelingly he has alluded to his blindness in more than one passage of his exalted poetry. His loss of sight did not, however, impede his facility of composition, and in 1652 he wrote a second Defence of the People of England, against an attack by Du Moulin, under the name of More, similar to that of Salmasius. In 1652, Milton lost his wife, who had born him three daughters, and soon after married another, who died in childbed the same year. To divert his grief for this loss, he resumed his History of England, and also made some progress in a Latin dictionary, and still composed much of the Latin correspondence of his office. On the death of Cromwell, he employed his pen with great alacrity to check the increasing feeling in favour of the restoration. On the restoration, Milton took refuge for some time in the house of a friend. His Defences of the People and *Iconoclastes* were called in, and ordered to be burned; but the author was reported to have absconded; and in the act of indemnity which followed, his name formed no exception. He appears, however, to have been some time in the custody of the sergeant-at-arms, but was at length discharged, as it is said, owing to the friendly interposition of

Sir William Davenant, who had received similar kind offices from Milton, when compassed by his adherence to the royal cause. In several circumstances, and under the disadvantages of power, he now removed to a private residence, and to a house in the city, and, his ordinary society being laid aside, was led, in his fifty-fourth year, to his third wife, Elizabeth Minshull. He now resumed the poetical studies which he had for some time laid aside, and, left in response to meditations upon the lofty ideas that filled his mind, produced his immortal *Paradise Lost*, which was finished in 1667, and first printed in 1667, in a small form. The work which he obtained for it was five pounds, with a contingency of fifteen dependent upon the sale of no more impressions, the copyright, however, remaining his own. *Paradise Lost* long struggled with the taste and political prejudices, before it took a secure place among the few productions of the human mind which continually rise in estimation, and are not limited by time or place. In 1672 appeared the *Paradise Regained*, which he is said to have preferred to its predecessor. With *Paradise Regained* appeared the tragedy of *Samson Agonistes*, composed upon the ancient model, and abounding in most descriptive beauties, but exhibiting little poetic dramatic talent, either in the development of plot or delineation of character, and never intended for the stage. In 1672, he composed a system of logic, after the manner of Ramus; and the following year again entered the field of polemics, with a *Treatise of True Religion, Heresy, Schism, Transgression, and the best Means of Preventing the Growth of Popery*. A publication of his familiar epistles, in Latin, and of some academical exercises, occupied the last year of his life, which repeated fits of the gout were now rapidly bringing to a close. He died abruptly under an exhaustion of the vital powers, on November, 1674, when he had nearly completed his sixtieth year. His remains, with a numerous and splendid attendance, were interred in the church of Cripplegate, where the elder Samuel Vassall has erected a monument to his memory. Dr. John, bishop of Rochester, as dean of Westminster, desired him a monument in the abbey, where, however, in 1737, one was erected to his memory by Matthew Benson.

Milton was distinguished in his youth for person and beauty; his habits of life were those of a scholar and philosopher, being strictly sober and temperate. His chief relaxations consisted of music and conversation. His temper was serene and cheerful, and although warm and acrimonious in controversy, he appears to have indulged no private animosities, and to have been civil and urbane in the ordinary intercourse of society. Of the sublimity of his genius and the depth and variety of the learning of Milton there can be no difference of opinion; and it is superfluous to the first, his own countrymen, at least, scarcely admit that he has ever been equaled. Had he never even written *Paradise Lost*, in the *Allegro*, *Penseroso*, and *Comus*, must have stamped him a poet in the most elevated sense of the word. In his prose writings his spirit and vigor are striking, and his style, although sometimes harsh and uncouth, is pregnant with energy and imagination. Moving in the ranks of party himself, no man has been more rancorously attacked than Milton, by political animosity; but after all its deductions it has been able to make, as a writer of genius he will ever rank among the chief glories of the English nation.

The best editions of the poetical works of Milton are those of Newton, Hawtins, and Todd in 1796, 8vo, with his life in one volume. His prose works

have been published by Symmonds, with an account of his life (7 vols., 8vo.) Thomas Warton published an edition of the minor poems, with a valuable commentary. In 1825, an unpublished work on the Christian Doctrine was discovered among some state papers, and published in the original Latin, and in an English translation, by Mr Sumner, a royal chaplain. This publication led to a new discussion, not only of the theological tenets, but of the general merits of Milton, in the periodical works of the time. The most celebrated treatises thus produced were the one in the Edinburgh Review by Mr Macaulay, and the one in the Christian Examiner (Boston, America) by the Rev. Dr Channing.

**MIMES** (μῦθος, imitation). The Greeks gave this name to short plays, or theatrical exhibitions, the object of which was to represent some action of a simple nature. They consisted merely of detached scenes, generally of a comic character, and often of a dialogue composed extemporaneously; they were commonly exhibited at feasts, but appear to have also been occasionally represented on the stage. The mimes of Sophron of Syracuse were a kind of comic delineations of real life in rhythmical Doric prose, which Theocritus imitated in his Idyls. Among the Romans, the mimes were, at first, irregular comedies, calculated to amuse the people by their broad humour; they afterwards assumed a more artificial form. The actors who performed them were also called *mimes*, and differed from the *pantomimes* (q. v.), who represented every thing by action. Decimus Laberius (50 B. C.) and Publius Syrus, his contemporary, were the principal mimographers, or authors of mimes. See Ziegler, *De Mimis Romanorum*, Gottingen, 1789.

**MIMIC**. See *Pantomime*.

**MIMNERMUS**; the name of an ancient Greek poet and musician, known, according to Athenæus, as the inventor of the pentameter measure in versification. Strabo assigns Colophon as the city of his birth, which took place about six centuries before the commencement of the Christian era. Horace speaks in the highest terms of his love elegies, which he prefers to the writings of Callimachus, while Propertius places him before Homer in the expression of the softer passions. Both he and his mistress, Nanno, are said to have been musicians by profession, and to have been celebrated for their performance on the flute, especially, according to Plutarch, in a particular air, called *Kradias*, used at the Athenian sacrifices. A few fragments only of his lyric poems have come down to posterity, as preserved by Stobæus; they are, however, of a character which leads us to suppose that the high reputation he enjoyed was not unmerited. Nothing is known of the time or manner of his death. See Schonemann's *De Vita et Carm. Mimnermi*, Gottingen, 1824.

**MIMOSA**. See *Sensitive Plant*.

**MINA** (μῆνα), among the Greeks; a weight of a hundred drachmæ; also a piece of money valued at a hundred drachmæ; sixty of them were equivalent to a talent.

**MINARET**; a round tower, generally surrounded with balconies, and erected near the mosques in Mohammedan countries, from which the *muezzin* summons the people to prayer, and announces the hours, bells, as is well known, not being in use among the Mohammedans. (See *Mosque*.)

**MINAS GERAES**; a province of the central part of Brazil, so called from the richness and variety of its mines. It is between 14° and 23° south latitude and 45° 20' and 52° 30' west longitude, to the south of the provinces of Pernambuco and Bahia. It is in general mountainous, with an agreeable and healthy

climate, and a fertile soil, yielding a great variety of fruits, aromatic plants, &c. Its mineral productions are gold, iron, lead, quicksilver, arsenic, bismuth, antimony, diamonds, and other precious stones, salt, sulphur, &c. It contains a population of 514,500 inhabitants, of whom 131,000 are whites, 150,000 free mulattoes, 51,544 free blacks, and 182,000 slaves. Chief town, Villa-Rica.

**MINCIO** (Mincius); a considerable river of Italy, which flows from lake Garda, and, after forming the lake and marshes that surround Mantua, falls into the Po eight miles below the city. Its banks are remarkably fertile, and are celebrated by Virgil, who was a native of this country, for the beauty of their scenery.

**MINDANAO**, or **MAGINDANAO**; one of the Philippine islands, and next to Luzon in point of size, of a triangular form, about 300 miles long, and 105 broad, with many deep bays; discovered by the Spaniards who accompanied Magellan, in 1521. It lies south-east of Manila, at the distance of 600 miles. All the country, except upon the sea-coast, is mountainous, yet it abounds in rice, and produces very nourishing roots. There are infinite numbers of the palm-trees, called *sago*. (q. v.) This island likewise produces all sorts of fruits that are to be found in other islands of this archipelago, but the cinnamon-tree is peculiar to Mindanao, and grows on the mountains without cultivation. In the sea between this island and that of Xolo, very large pearls are taken. Lon. 122° to 126° 27' E.; lat. 5° 40' to 9° 55' N. The population is about 1,000,000.—*Mindanao*, the principal town and the residence of the sultan, is on the Pelangy, about six miles from its mouth; lon. 124° 40' E.; lat. 7° 9' N. The town properly called Mindanao contains only about twenty houses, but Selangan, opposite to it, makes with it but one town. See *Philippines*.

**MINDEN**; a town of Prussia, in the province of Westphalia, government of Minden, on the left bank of the Weser; lat. 52° 17' N.; lon. 8° 53' E.; population, 8960. It is one of the oldest towns in Germany, and was formerly the see of a bishopric, secularized in 1648. Its fortifications have been repaired since 1814; the stone bridge over the Weser is 600 feet long by twenty-four wide. It lies partly on a plain and partly on a mountainous ridge, in which is a singular opening, called *Porta Westphalica*, through which the Weser flows. Minden was twice captured by the French in the seven years' war (1757 and 1759), and a third time in 1814. The government of Minden formed a part of the kingdom of Westphalia in 1807, and, in 1810, of the French department of the Upper Ems. In 1814, it was restored to Prussia.

**MINDORO**. See *Philippines*.

**MINE**, in military language; a subterranean passage dug under the wall or rampart of a fortification, or under any building or other object, for the purpose of blowing it up by gunpowder. The gunpowder is in a box, and the place where the powder is lodged is called the *chamber* (in French, *fourneau*). The passage leading to the powder is termed the *gallery*; the line drawn from the centre of the chamber perpendicularly to the nearest surface of the ground is called the *line of least resistance*. It has been found, by experience, that the figure produced by the explosion is a paraboloid, and that the centre of the powder, or charge, occupies the *focus*. The pit, or hole made by springing the mine, is called the *excavation*. The fire is communicated to the mines by a pipe, or hose, made of coarse cloth, whose diameter is about an inch and a half, called a *saucisson* (for the filling of which near half a pound of powder is allowed to every foot), extending from the chamber to the entrance of the gallery, to the end of which is fixed a match, that

the miner who sets fire to it may have time to retire before it reaches the chamber. The saucisson is laid in a small trough, called an *auger*, to prevent it from contracting any dampness. This is made of boards. The mines of a fortress are called *countermines*, the gallery of which runs under the covered way along the outer margin of the fosse. From this, ramifications, called *rameras*, extend under the glacis, from which again little passages are made on both sides, to afford means for listening and finding out the enemy's subterraneous movements. If the powder is lodged so deep under the ground that its explosion is not perceptible on the surface, it yet shakes the ground all round, and destroys the hostile mines in the neighbourhood. This is the *globe de compression*, invented by Belidor. The mining-war has many peculiarities. The miners are often armed with short weapons, as pistols and cutlasses, in order to defend themselves if they meet a hostile mine. The mines are often so long that it is necessary to convey fresh air by artificial means to the most advanced workmen, and those who faint are passed back from one to the other; the same is done with the dead, if a combat ensues below. Frequently, also, balls, made of all kinds of substances which produce an offensive smoke, are lighted, in order to stop the enemy, provided the mine permits the party who leave the ball an easy retreat. Sometimes mines are dug in the field, with a view of blowing up such of the enemy as can be allured to the spot. In such case, a small body of men must sometimes be placed there, in order to induce the enemy to attack them; these are sacrificed with the enemy.

**MINE:** an excavation for obtaining minerals from the bowels of the earth. The minerals are found in veins, strata, lumps, and contain gold, silver, platina, quicksilver, lead, iron, copper, tin, zinc, calamine, bismuth, cobalt, arsenic, manganese, antimony, molybdena, and other metallic substances; also sulphur, brown-coal, pit-coal, bitumen, alum, and all combinations of sulphuric acid with metallic bases. The mines are generally denominated from the substances obtained from them; for instance, gold, silver, iron, lead, coal, alum, salt-mines, &c. We must distinguish, I. the mines in primitive mountains; II. those in fests mountains; III. those in alluvions.

I. Of the first sort the most important are the following:—

1. The mines in the Cordilleras, in Spanish America. There are few regions so remarkable for their richness in minerals as this chain of mountains. The most important mines are the silver mines; yet there are also several gold, quicksilver, copper, and lead mines. In Chile, especially in the province of Coquimbo, are several silver and some important copper mines. The richness of the silver mines of Potosi (Buenos Ayres) may be judged of from the fact that over 1300 millions of dollars have been coined there since the year 1545; but the ores are now poor. Copper, lead, and tin are also found in Buenos Ayres, the latter, however, in beds of sand or clay, from which it is obtained by washing. On the opposite side of the chain, in a low plain, are the silver mines of Guantajaya, famous for the large lumps of solid silver, which they formerly furnished, and of which one weighed eight hundred pounds. In Peru, there are forty districts particularly famous for their gold and silver mines. Gold is found especially in the provinces of Guailas and Patas, and silver in the districts of Guantajaya, Pasco, and Chota. The mines of Pasco, which twenty-five years ago produced more than two millions of dollars yearly, had been, like most of those of South America, very negligently managed, till, in 1816, miners from Cornwall began to work them by means of steam-engines. The mines of the province

of Chota now furnish about 62,000 pounds of silver every year. The quicksilver mine of Copacavelica, in Peru, is the only one of the kind in the new world. In the province of Guanajuato, salt mines also are found. North of the passes of Chota, the Cordilleras are not so rich a zone. In New Grenada there are several silver mines. Aroa, in Caraccas, a copper mine exists, which yields 1400—1600 cwt. of metal yearly, and a ton of rock-salt and pit-coal are found. Although Peru contains various metals, very little except silver has been obtained from that country. Almost all the mines are situated in the Cordilleras, and consist of 3000 pits, which comprise 4—5000 hands, or men, and may be divided into eight large districts, beginning from the south:—a. the district of Umas, on the southern boundary of Mexico, which, besides the silver mines, contains the only gold mine of the state; b. the district of Tanco, fifty to seventy miles south-west from the city of Mexico; c. the district of Biscania, about fifty miles north-east from the capital, contains the mines of Pacheco, Rami de Mar, Moran, all very rich; d. the district of Tanco contains, besides many silver mines, beds of antimony and arsenic; e. the district of Guanajuato contains the richest mines of Mexico, and among others those of Guanajuato, Catorce, Zacatecas, and Sombrerete. This district produces half of all the silver of Mexico. In the neighbourhood of the district copper mines are also worked, yielding annually 4000 cwt. There are also mines of tin and quicksilver. f. The district of New Galicia, where the mines of Bolanos are. g. The district of Durango and Sonora. h. The district of Chihuahua. Besides the mines contained in these districts, there are several others in Mexico. The working of all the mines of Spanish America has been very imperfectly carried on until the present times. Some years ago even joint-stock companies were established in England and on the Rhine, for the purpose of conducting them better. Many of the companies suffered, however. The produce of silver in Spanish America at the beginning of the present century, according to A. von Humboldt, was 3,259,153 marcos, about 1,250,000 lbs. troy, of the nominal value of about \$1,500,000 dollars. Of this sum, Mexico yielded 2,200,000 marcs; Peru, 573,958 marcs; Buenos Ayres, 60,000 marcs; and Chile 25,957 marcs. Gold is principally obtained in America by washing. The principal gold-washings are on the western side of the Cordilleras; in New Grenada, from the province of the bacca to the isthmus of Panama; in Chile, on the shores of the gulf of California; or on the eastern side in the upper valleys of the Amazon. The washings of New Grenada also furnish platinum.

2. The mines of Hungary, including those of Transylvania, and of the Banat of Temeswar, compose four great districts:—a. the north-western, which includes the mines of Schmelz, Komorn, Konigsberg, Neusohl, Schmelz, Beckov, Bann, &c., which chiefly furnish gold, silver, copper, &c.; b. the north-eastern, containing the mines of Nagybanja, Kapnick, Felsobanya, Winkler, Soposanya and Olapos, which all yield gold, besides the mines of Marmarosch, which furnish great quantities of iron; c. the eastern district, in which the mines of Nagyag, Korosbanja, Veresbanja, Boitau, Cwaratesch, Fatsch, Almas, Fertacs, Beschum, and Stonisch are deserving notice, which chiefly furnish gold and copper; near Vayda-Banar and Gyalar are important iron mines; d. the south-western district, or the mines of the Banat of Temeswar, yields silver and copper in Orseva, Munkacs, Szekes and Dognacska, while in Dombos and Ruckersberg, iron, quicksilver, and cobalt are also

1. Hungary contains also mines of pit-coal and rock-salt, the latter especially on the banks of the Danube, the Marmarosch and the Nera. The whole produce of Hungary amounts to 5200 marcs (3250 lbs. troy) of gold, 85,000 marcs (53,125 lbs. troy) of silver, 36,000—40,000 cwt. of copper, 6—8000 cwt. of lead, and about 60,000 cwt. of iron.

3. The mines of the Altai mountains (q. v.) are very important; they constitute the districts of Kolyan, Zmeof, Tcherepanofsky, Smenofsky, Nikolaisky, Philipofsky, &c., with a yearly produce of upwards of 3000 marcs (1875 lbs. troy) of gold, (in later times more), 60,000 marcs (37,500 lbs. troy) of silver, and a considerable quantity of copper, iron, and lead.

4. The mines of the Ural (q. v.) are dispersed, at different distances, around Ekaterinburg; those of Ourinsky produce about 20,000, and those of Gounechefskey 40,000 cwt. of copper yearly. The iron, which is obtained in the regions of Balgodat and Ceskanar, amounts to more than 1,000,000 cwt. yearly. Near Beresov, 500 marcs (312 lbs. troy) of gold were formerly produced; but the quantity is now far more considerable.

5. The mines of the Vosges and the Schwarzwald (Black-forest). In the former, nothing but iron is found; in the latter, silver, at Badenweiler, Hochberg and Wolfach, amounting to 1800 marcs (1125 lbs. troy); at the first of these places, moreover, 800 cwt. of lead are obtained yearly, and at Wittichen, cobalt; besides iron in different places.

6. The mines of the Harz: a. the silver, lead, and copper mines, &c., of the Upper Harz, in the environs of the mining towns of Clausthal, Zellerfeld, Lautenthal, Wildemann, Grund and Andreasberg; b. gold, silver, and copper mines, near Goslar; c. copper mines in the neighbourhood of Lautenberg; d. iron mines at Lautenberg, Walkenried, Elbingeroda and Blankenburg; e. silver, lead, and iron mines, in the vicinity of Magdesprung: annual produce, about 10 marcs (6½ lbs., troy) of gold, 30,000 marcs (18,750 lbs. troy) of silver, 2000 cwt. of copper, 50,000 cwt. of lead, 30,000 cwt. of litharge, 200,000 cwt. of iron.

7. Mines in the eastern part of Germany: a. in the Saxon Erzgebirge, at the towns of Freiberg, Marienberg, Annaberg, Ehrenfriedersdorf, Johanngeorgenstadt, Schneeberg, annual yielding of 52,000 marcs (32,500 lbs. troy) of silver; at Altenberg, Geyer, Ehrenfriedersdorf, Zinnwald, annually 3—4000 cwt. of tin; at Schneeberg, annually 8000 cwt. of cobalt, 600 cwt. of copper, 80,000 of iron; b. in Bohemia: silver, at Joachimsthal, Mies, Prábram, &c., 13,800 marcs (8625 lbs. troy); tin, at Schakenwald, &c., 2000 cwt.; cobalt, 4000 cwt.; lead, 1800 cwt.; iron, 190,000 cwt.; c. in the Fichtelgebirge, principally iron, annually about 50,000 cwt.; d. in Moravia, at Iglau, &c., 4—5000 marcs (2500—3125 lbs. troy) of silver; e. in the Riesengebirge, at Jauer, Kupferberg, Reichenstein, 330 cwt. of copper, 560 cwt. of smalt; 1900 cwt. of arsenic, 1200 cwt. of sulphur, 20,000 cwt. of vitriol.

8. Mines in the middle and north-western parts of France. Those at Villefort, in the department of the Lozère, yield 2000 cwt. of lead, and 1600 marcs (1000 lbs. troy) of silver; at Poullaouen and Huelgoat, in Bretagne, 10,000 cwt. of lead, 2000 marcs (1250 lbs. troy) of silver.

9. Mines of Great Britain: iron, in Wales, 50,000 tons; Shropshire and Staffordshire, 180,000 tons; Yorkshire and Derbyshire, 50,000 tons; Scotland, 20,000 tons; total, 400,000 tons; copper, 0—11,000 tons; lead in Northumberland, 12,000 tons; North Wales and Shropshire, 8000; Yorkshire, 4500 tons; Derbyshire, 4000 tons; Scotland, Devon, Cornwall, South Wales, 3000 tons; total,

31,500 tons: tin, in Cornwall and Devon, 2800—5000 tons.

10. Mines of Scandinavia: Norway produces 1600 marcs (1000 lbs. troy) of silver; at Kongsberg, in 1768, 40,000 marcs (25,000 lbs. troy), 7200 cwt. of copper, 140,000 cwt. of iron, 4000 cwt. of smalt, 10,000 cwt. of alum; Sweden, 2—3000 marcs (1250—1875 lbs. troy) of silver, 18—20,000 cwt. of copper, 1,500,000 cwt. of iron.

11. Mines of the Pyrenees: these are insignificant, and iron only need be mentioned.

12. Mines of the Alps: they are not, by any means, proportioned to the immense masses of those mountains; the silver mines of Allemont, in Dauphine, annually produce 2000 marcs (1250 lbs. troy); the iron mines of Allevard, in the department of the Isère, the lead and silver mines of Pesey, in Savoy, formerly produced 4000 cwt. of lead, and 2500 marcs (1562 lbs. troy) of silver annually; the iron mines of Cognin and Traverselle, in Piedmont, annually yield upwards of 200,000 cwt. of iron; the copper mines at Falkenstein and Schwatz, in the Tyrol, formerly were of importance; the gold mines, at Gastein and Muerwinkel, in Saltsburg, annually yield 118 marcs (74 lbs. troy) of gold; the iron mines in Saltsburg and the Tyrol, annually produce 60—70,000 cwt.; the iron mines, in Stiria, 450,000 cwt.; those in Carinthia, 260,000 cwt.; and those in Carniola, 100,000 cwt.; the copper mines at Schlading in Stiria, at Kirschdorf in Carinthia, at Agordo in the territory of Venice, and at Zamabor in Croatia, furnish copper containing silver; the zinc mines at Raibell in Carinthia, annually produce 3400 cwt.; the lead mines at Villach and Bleiberg, &c., about 50,000 cwt.; the quicksilver mines at Idria, about 1500 cwt.; the rock-salt mines at Hallein, Berchtesgaden, Aussee, Ischel, Hallstadt, &c., upwards of 3,000,000 cwt. of salt.

13. Mines of the countries bordering on the Rhine, and of the Ardennes: copper is obtained from the mines of Rheinbreitenbach and Dillenburg, about 1200 cwt. yearly; lead and silver, from the mines of Holsapfel, Pfingstweise, Læwenburg, Augstbach, Ehrenthal; of the former, 12,000 cwt.; of the latter, 3500 marcs (2187 lbs. troy); iron of an excellent quality, and in great quantity, is procured in the Stahlberg, in the environs of the town of Siegen, on the banks of the Lahn and Sayn, at Hohenkirchen in Hesse, on the Hunsdruck, in the Eifel, in the territories of Luxemburg, &c.; calamine, in the vicinity of Limburg, in the Netherlands, 14—15,000 cwt. yearly; in the neighbourhood of Aix-la-Chapelle, 30—40,000 cwt.; in the county of Mark, 2600 cwt.; lead, at Vedrin, not far from Namur, 4000 cwt., together with 700 marcs (437 lbs. troy) of silver.

14. Mines of various countries: the environs of Nertschinskoi in Siberia, are very rich in useful minerals, and yield 30—35,000 marcs (18,750—21,750 lbs. troy) of silver. The mineral wealth of Spain and Portugal is now almost exhausted; the quicksilver mines of Almaden formerly furnished 20,000 cwt.; the lead mines only are still productive, yielding annually more than 90,000 cwt. There are copper mines in Japan, China, Persia, Arabia, in Tartary, in the islands of the Indian Sea, in Barbary, Morocco, Abyssinia, &c.; tin is produced in China, Pegu, the peninsula Malacca, Sumatra, Banca, &c., in the latter country alone, 70,000 cwt.: zinc is said to be abundant in India; quicksilver, in China and Japan; Brasil furnishes 28,000 marcs (17,500 lbs. troy) of gold yearly, which is more than is obtained from any other country; Africa at least 7000 marcs (4375 lbs. troy), and Southern Asia at least 2000 marcs (1250 lbs. troy) yearly. The island of Elba contains a great deal of iron.

II. The mines in Flotts mountains are highly important, above all, the coal mines—the principal wealth of Britain—this country alone furnishing 400,000,000 cwt.; France 20,000,000; the Netherlands and the countries along the Rhine, 62,000,000; Silesia, 6,000,000; Saxony, 1,200,000; Austria, 680,000; Bavaria, 320,000; Hanover, with the rest of Germany, 6,000,000. The greater part of the iron that is procured in Britain, is from the coal-mountains. The same is the case in other countries, for instance in Silesia. The lead mines in the vicinity of Aix-la-Chapelle, which annually furnish 14—16,000 cwt. of lead, and upwards of 20,000 cwt. of lead ore, called *alquifou*, used for glazing earthen ware, are in Flotts mountains; also the copper mines in the territory of Mansfeld, at Frankenberg, Bieber and Riegelsdorf in Hesse, the former yielding 10,000 cwt. of copper and 8000 marcs (5000 lbs. troy) of silver; the important iron mines on the Stahlberg, in the Hessian seignory of Schmalkalden; the lead mines at Tarnowitz, in Upper Silesia, annually yielding 5300 cwt. of lead and 1500 marcs (937 lbs. troy) of silver; the calamine and zinc mines in Upper Silesia and Poland, which annually afford 80,000 cwt. of calamine and 25,000 cwt. of zinc; the zinc mines of Britain and other countries already mentioned; the rock-salt mines in the southern part of Germany, in Cheshire, at Vic in France, at Wieliczka and Bochnia, the latter affording almost 2,000,000 cwt.

III. Of no less importance is the mineral wealth of the alluvial regions. Platina, the greater part of gold, a considerable quantity of tin and iron, also diamonds and most of the other precious stones, are concealed in sand, clay, &c., and obtained by washing. (q. v.)

*Mining.* The science of mining includes the scientific knowledge requisite for opening and working mines, as well as for preparing ores for use. It requires a knowledge of mineralogy and geology (q. v.), and of the different processes requisite in mine working, for searching after useful minerals, bringing them to the surface, mechanically and chemically separating them, and removing all difficulties that occur in the course of the work, the sinking of shafts, propping up the superincumbent earth, so as to give security to the miners, &c. This security is obtained partly by the form of the pits, by propping with stones, by suffering pillars of stone to remain standing, by supports of timber or masonry. Mining also includes the building of machinery, the preparation of the ore for smelting, or the mechanical separation of the useless minerals from the useful, as well as of the different kinds of the latter from each other. The preparation of the ore consists, in the first place, in breaking asunder the larger pieces, and then purifying them, by means of water, from the earth which adheres to them; in the separation of the coarser substances from the finer, by means of a sieve, that moves up and down in water; in the breaking of the ore in stamping-mills, which consist either of hammers or iron cylinders, driven up and down, and in the separation of the finely interspersed metal from the stone or earth, with which it is surrounded, by washing the broken ore in troughs or on inclined tables crossed by a current of water; the heavier ore remains, while the lighter earthy and stony substances are carried away by the water. Mining also includes the final purification of the ore, by means of acids, by amalgamation, by fusion, &c.

*Mining Academies.* In Germany, where the science of mining had its origin, academies exist, in which young men are instructed in the science of mining, and educated as superintendents of mines, founderies, or salt-works. These institutions have

been imitated in other countries. Such academies exist at Freiberg in Saxony, at Schussen a L. gary, at Petersburg, at Paris, at Lyons, &c.

MINERAL CAOUTCHOUC. See GUMMUM.  
MINERALOGY, OR THE NATURAL HISTORY OF THE MINERAL KINGDOM, considered as a pure science, is of very recent date. The observations made at first related more to the usefulness of minerals to the purposes of man, as it was not before the lapse of many ages became to be investigated on account of their great variety and the beautiful arrangements of earth they are susceptible. The ancients and moderns; Aristotle evince no valuable observation as to part of that philosopher concerning minerals, as are chiefly mentioned by him because he knew the former to be derived from the earth, as the latter from water. The allusion to minerals is found in the writings of Theophrastus, Dioscorides, and Galen, are of more value to an antiquarian and philologist than to the mineralogian. No attempt to classify these bodies was made previous to the introduction of science in Europe by the Arabians; and to Avicenna being the merit of the first arrangement. He divided minerals into stones, metals, sulphureous bodies, or salts—a division which was generally adopted by the chemists of those times, though opposed by naturalists, who confined their investigations to characters derived from the external forms of minerals and their supposed medicinal virtues, but without deriving from them any just grounds of classification. According to one or the other of two vicious methods was the science of mineralogy treated, down to the sixteenth century to consider either implicitly adopting the ideas of the ancients, or announcing themselves as little better than empirical collectors of curiosities.

Agricola (who was born in 1490, and died in 1550) directed his views to the uniting these two, though he inclined more strongly to the side of the scholastics than to that of the chemists. All minerals (*corpora subterranea*) are divided by him into simple or such as consist of homogeneous particles, as compounded, or such as are formed of homogeneous parts, taken in a mineralogical acceptance of the terms. The minerals belonging to the former of these divisions are found in four different forms, viz. 1. *terra*; 2. *succus concretus*; 3. *lapis*; 4. *metallum*. *Terra* he defines as *corpus humidum et pingue rubrum, cum fuerit aspersum humore, et quo cum fuerit madefactum, fit lutum*. These earths he divides partly according to some external characters, partly after their localities, in cases where the names are derived from the countries or places in which they are found:—*Succus concretus* of *terre fossile siccam et subdurem, quod aqua aspersum non mollescit, sed liquefit, est, et mollescit, pinguitudine differt a terra, vel lutum et quo madet*. The fossils of this class Agricola divides into *macra* and *pinguis*. The former consists of a partly mixed with earth (*vel lutum*), partly of metal (*chrysocola, errugine, ferrugine, manganum*, &c.) mixed both with earth and metal (*antimonium, stibium, alumen, &c.*); to the latter he reckons sulphur, bitumen, sandarach, and asphodelum. The stones are the third class of Agricola's system. *Lapis est corpus fossile siccam et durum, quo aqua longinquo tempore non mollescit, quo calore redigit in pulverem; vel non mollescit aqua, sed calore ignis liquefit calore*. The stones are subdivided into *lapis, gemma, marmor, et aurum*. His definition of metals, being his fourth class, is *corpus naturale vel liquidum vel durum quidem, et quod liquefit calore*. He enumerates two metals in

ast class of Agricola's system comprehends mixed and compound fossils:—1. Mixtures of stones and uices (*succi*); 2. of earth and metal; 3. of stone and metal; 4. of juice, stone, and metal. To the second and third divisions he refers the various ores. A translation of Agricola's system into German was published, with considerable additions, by Lehmann, at Freyberg, in 1809.

Most of the writers on mineralogy who succeeded Agricola until the middle of the following century adopted his system, occasionally making some trifling alterations, in conformity to the slow progress of chemistry. Becher (whose *Physica Subterranea* was published in 1667) made the first important innovation upon the classification of Agricola. He considered water and earth as the remote, and vitreous, inflammable and mineral earths (*sal, sulphur, mercurius*), as the proximate constituent parts of all minerals, which he accordingly arranged under three classes; the first comprehending those stones in which the vitreous earth constitutes the principal ingredient; the second and third class containing the substances in which the two remaining earths predominate. Bromelius, who published a book entitled *Catalogus Rerum Curiosarum* (Gothenburg, 1698), referred sulphur and the bituminous substances to the same class, which he called *sulphurea* and *pinguia*. Magnus von Bromel, a Swede, who was the pupil of Boerhaave, published a system of mineralogy—*Inledning til Kunskap om Mineralier*, &c. (Stockholm, 1730), in which he not only availed himself of all the improvements made by his predecessors, but also proposed a new chemical division of stony substances into such as are refractory (*apyri*), or calcinable, or vitrescible in the fire, to which were added the figured stones (*figurati*).

After Von Bromel, the great Swedish reformer in natural history appeared, whose admirable views respecting the philosophy of the natural sciences have contributed more to the perfection of our science than the labours of all who preceded him; and yet Linnæus appears to have possessed but very little knowledge of minerals, but the complete success with which he applied the method of natural history to the vegetable kingdom rendered it easy for subsequent naturalists to apply his principles to the mineral kingdom. Linnæus, too, has the merit of calling the attention of naturalists to the important characters derived from the diversity of crystallisation. Mineralogy, however, remained, from the time of Linnæus to that of Werner, almost exclusively in the hands of chemists, who appear to have regarded the science in no other light than as an appendage of chemistry, and who, while they degraded all regard to the natural properties of minerals, believed that chemical knowledge was alone capable of affording the basis of the classification, nomenclature and diagnosis of the mineral kingdom. To this class of the cultivators of mineralogy belonged Henkel, Pott, Wallerius, and Cronstedt.

In 1774, Werner published his work *On the external Properties of Minerals* (*Von den äussern Kennzeichen de Fossilien*)—a work of great merit and value at that juncture, as it served to call the attention of naturalists to the only correct method of arriving at a knowledge of this department of nature. The external characters of minerals had before been almost wholly neglected; in this work they were described with uncommon minuteness, though they were employed by him in his system without a just regard to their relative importance. The greatest defect, however, in the views of Werner arose from his reluctance to ascertain the properties of minerals through the aid of instruments. He scarcely availed himself of any other means than such as were derived

directly through the eye, the hand, and the tongue. Hence those characters, depending upon the value of angles and different degrees of hardness and specific gravity, and which are now acknowledged to be of the highest value in mineralogy, were turned to comparatively little account. For a knowledge of Werner's system of mineralogy, we are indebted to his translation of Cronsted's mineralogy (to which he subjoined notes), to his catalogue of the mineral collection of M. Pabst von Ohain, and to several memoirs in the *Bergmannische Journal*. In addition to these sources, several expositions of his system have been made by his pupils, the best of which is that published by professor Jameson.

The fundamental principle laid down by Werner in the classification of minerals, is their *natural affinity*, which he allows to be founded on the chemical nature of their component parts. These he distinguishes into essential and accidental component parts, of the former of which only does he take notice in his arrangement. The essential component parts are subdivided into predominant and characteristic ones, and generally the characteristic happen to be, at the same time, the predominant constituents. His classes are four, which are founded on what he calls the *fundamental constituent parts*, viz., the earthy, saline, inflammable and metallic, each class being named after that fundamental constituent part which predominates in and characterizes it. Thus he derives his classes of earths, salts, inflammables, and metals. These classes are subdivided into genera, which are founded upon the variety in the component parts of the minerals comprehended in each class, there being as many genera as there are predominating, or, at least, characteristic constituent parts discovered in their mixture. But neither Werner nor his pupils have been very strict in adhering to this rule for the formation of the genera, these, as well as the species, having more frequently been established by them upon the natural instead of the chemical properties.

Werner's system was essentially deficient in respect to unity, in consequence of the regard which he allowed to the chemical relations of minerals, and, like those which preceded his time, it was rather a mixture of chemistry and mineralogy than the representation of a pure science,—an objection which applies with scarcely undiminished force to the next great system, which was presented to the mineralogical world by Haüy at the commencement of the present century. Mineralogy, however, is under immense obligations to the abbe Haüy for his researches respecting the geometrical character of minerals. His labours, connected with crystallography, gave an entirely new aspect to the science, and communicated to its results a degree of that precision and certainty which belong to geometry. Still his want of knowledge of the principles of natural history prevented him from remedying the faults of his predecessors. His system, like that of Werner, is founded upon two sciences, and consequently wants the order, the connexion and consistency of parts which belong to the idea of a science. He defines a species in mineralogy to be "an assemblage of bodies, the integrant molecules of which are similar to each other, and have the same composition." The following outline of Haüy's system is taken from his *Traité de Minéralogie* (Paris 1822):—*Class I.* Free acids. *Class II.* Metallic substances, but destitute of a metallic appearance. This class contains eight genera, viz., lime, barytes, strontites, magnesia, alumine, potash, soda, and ammonia; and to it is subjoined an appendix, consisting of one order characterized by the presence of silica in all its compounds, and which embraces a larger number of species than the whole class to which it is appended. *Class III.* True

metallic substances. This class contains eighteen genera, characterized by the different metals. *Class IV.* Unmetallic, combustible substances.

In proceeding to notice the labours of professor Mohs, we come to an era in the history of mineralogical science. This eminent philosopher, no less distinguished as a cultivator of the mathematics than of mineralogy, published at Dresden, in 1822, his *Grundriss der Mineralogie*, a work replete with new and philosophical views of our science. His first object is to fix the exact limits of mineralogy, and to exclude from it a variety of foreign matter belonging to other sciences, which had before rendered it a heterogeneous mass of information, incapable of derivation from constant principles by any regular process of reasoning. He then proceeds to develop the science under the following heads:—1. terminology; 2. theory of the system; 3. nomenclature; 4. characteristic; 5. physiography. Under the first of these he explains those properties of minerals which manifest no change, either in the properties themselves, or in the substances which possess them during their observation or examination, and which properties alone form the object of consideration in mineralogy, viewed as a pure science. They had before been treated of under the denomination of external or physical characters, though, from the stress which had been laid upon chemical characters, the greater part of them had been but very imperfectly determined; and this part of the subject is called *terminology*, because, besides the general investigation of those properties, it embraces also the explanations of the expressions which, for the sake of precision, are used in a determinate and peculiar sense. Decomposed and imperfectly formed minerals, or those which are destitute of several of the properties peculiar to these bodies, are not regarded as suitable objects for the consideration of the science; in which respect they are treated like mutilated, defective, or monstrous plants or animals in botany and zoology. And in order to study the productions of the mineral kingdom in their purest state, Mohs takes notice of those properties which belong to minerals occurring in single individuals, separately from those which belong to several individuals of the same quality, formed in a common space, one being the support of, or at least contiguous to, the other,—of the former of which only does he make use in the determination of the species, while he pays no attention to the properties of minerals composed of individuals belonging to different species (mixed minerals), these last falling within the province of geology. This is a distinction of the highest importance and utility, in rendering all the departments of mineralogy mutually consistent, though one which had been almost wholly disregarded by all his predecessors. According to this system, the individual of the mineral kingdom, or the simple mineral, is the sole object of mineralogy, and the natural properties of the simple mineral are the only ones to which, in this science, we ought to direct our attention. It will be obvious, therefore, that all information thus derived must be of one kind, and consequently its aggregate conformable to the logical idea of a science. Mohs has particularly distinguished himself in treating of that part of terminology which relates to the regular forms of minerals. The fundamental forms, from which he derives all the occurring forms among minerals, are but four in number, viz., the scalene four-sided pyramid, the isosceles four-sided pyramid, the rhombohedron, and the hexahedron; and the geometrical constructions by which he illustrates the simple forms capable of appearing in the individuals of one and the same species, or which may produce combinations with one another, entitle him to the first

rank as a crystallographer. The natural history properties of compound minerals are treated of in the most precise manner, the previous subject of which had involved the science in numerous important errors. But one of the greatest improvements under this head was the establishment of a natural scale for the degrees of hardness. This was effected by choosing a certain number of simple minerals, of which every preceding one is scratched by the which follows it, while the former does not scratch the latter; and the degrees of hardness are expressed by means of numbers prefixed to the names of the individuals of the scale. Thus

1	expresses the hardness of	talc.
2	•	gypsum.
3	•	calcareous spar.
4	•	fluor spar.
5	•	quartz.
6	•	feldspar.
7	•	quartz.
8	•	topaz.
9	•	corundum.
10	•	diamond.

The second general head under which mining is developed, according to Mohs, is the *theory of the system*, which contains the reasoning or philosophical part of the science. It determines the idea of the species; fixes the principle of classification, as upon the idea of the species it founds, according to this principle, the ideas of the genus, the order, and the class; and lastly, by applying all these ideas to nature, the outline of the system thus constructed is furnished with its contents, in conformity to our knowledge of the productions of nature, as obtained from immediate inspection. The idea of the genus is here, for the first time, scientifically defined and is founded upon all the series of natural groups without the introduction of any consideration foreign to natural history, which had proved the cause of the contamination that the science had before suffered from heterogeneous principles. The principle of classification consists in the resemblance of natural properties, since in every science the classification must rest upon such relations as are signs of the science. On the different degrees of resemblance are founded the higher ideas of the theory of the system. An assemblage of species connected by the highest degree of natural-historical resemblance is termed a *genus*; an assemblage of similar genera is termed an *order*; of similar orders a *class*; and the collection of these ideas conformably to the degree of their generality, and applied to the productions of the mineral kingdom, constitutes the *mineral system*. The mineral system is therefore the systematic exhibition of the natural resemblance as observable in the mineral kingdom, or of the connection established by nature among its products by means of the resemblance. For this reason it is called the *natural system*, because, in fact, it expresses nature in a very remarkable relation.

The third idea of the science, as developed by Mohs, is its nomenclature, which relates to the connexion of its unities with certain words, through which the ideas and representations may be expressed as to be conveniently applied in writing and speaking. Nothing is better calculated to furnish us with an idea of the situation in which mining lay before been placed, than the consideration of its former nomenclature, and of the method employed in giving new names. Those were regarded as the best which had no signification, as is obvious from their frequency with which designations were adapted from colours, persons, localities, and other accident circumstances; and, as respects those names which referred to the connexion of the different minerals in regard to their resemblance, these were not less objectionable, since the connexion expressed by the

was either entirely incorrect, or without reference to the system in which the names were applied. The nomenclature therefore required to be wholly remodelled, none deserving of the name having before existed,—the reason of which appears to have been that mineralogy had not before been treated as a science, but as an aggregate of various kinds of information, a sort of mixture which would admit every kind of knowledge to be introduced, and in which nothing could be placed wrong, because in such a disposition there could be no order. The order is the highest idea expressed in the nomenclature of Mohs, and in the selection of the names of the orders he has invented but two which are entirely new, having employed as many designations from ancient mineralogy as would answer the purpose. The names receive their signification in agreement with the ideas of the orders; thus *pyrites* embraces the minerals hitherto called by that name. A mineral which may with propriety bear the name of a *metal* must really be a metal, or it must present the properties peculiar to metals. *Mica* signifies a mineral which may be cleaved with facility into thin, shining laminae; the order *mica* therefore contains only such species as present cleavage in a high degree of perfection. The name of the genus is a compound name, formed by connecting another word with the name of the order. Thus we have *lead glance*, *augite spar*, *iron pyrites*. The generic name also refers to the properties of the genus, and expresses, as much as possible, some striking feature of its resemblance with other bodies. Such is the name *garnet-blende*. The genus designated by this name belongs to the order *blende*; the individuals which it contains very often look like garnet. The denomination of the species is produced by the nearer restriction of the generic name by an adjective. The adjective with which the species is designated within its genus is taken from its natural properties, and in general refers to one of those properties of the species which is most useful in distinguishing it from other species of the same genus; hence the systems of crystallization and the relation of the cleavage are the most frequently employed,—examples of which are hexahedral, prismatic, rhombohedral, iron pyrites; rhombohedral, octahedral, dodecahedral, prismatic, iron ore, &c.

The great advantage of the systematic nomenclature is, that the names produce an image of the objects to which they refer, which the trivial nomenclature can never do; for example, if we hear the name *peritomous titanium ore*, and have only an idea of the order ore, this at once will produce a general image of the species, which will be still more restricted if we have some idea of the genus titanium ore; but on the other hand, if we hear the name *rutile*, and do not know the species itself to which it belongs, we never can imagine anything like a representation of the object, though, for the rest, our knowledge of mineralogy may be very extensive. The terminology, the theory of the system, and the nomenclature, form the constituents of theoretical mineralogy. Practice, or the application of it to nature, requires the characteristic, the object of which is, to furnish us with the peculiar terms or marks, by which we are able to distinguish objects from each other, so far as they are comprehended in the ideas established by the theory of the system. In order to find the name of a mineral when its properties are ascertained, we make use of the characteristic, which consists of an assemblage of general ideas, corresponding to the system, and expressed by single distinctive marks. With these ideas are connected the names and denominations as far as the nomenclature extends and requires, not above the order, nor below the species; and they are by degrees transferred to the individual,

in proportion as it enters within the compass of those general ideas. The characteristic is only useful when we have the mineral in our hands, and is not to be studied to obtain a knowledge of the contents of the mineral kingdom, since the characters of its classes, orders, genera, and species, consisting of single marks or properties, are not calculated to produce representations or images of the objects to which they refer. *Physiography*, the last head of scientific mineralogy, consists of the assemblage of the general descriptions, and is intended to produce a distinct image of minerals. We cannot, by its assistance, find the place of a given mineral in the system, or, in other words, recognise it; for it is independent of that connexion, among minerals, upon which the system is founded. Mohs was the first writer who drew the line between the determinative and the descriptive parts of mineralogy—a distinction which is of the utmost consequence to the perfection of the science.

The foregoing heads or departments of mineralogy are all equally important and indispensable for conferring upon the science the character of a whole, though, in the application of the science, the parts are used separately, and, in a measure, independently of each other, according to the object in view. Those who wish to determine an individual occurring in nature, will find the characteristic the most important department, for neither of the others can be of the least use to them; while those who intend to arrive at a general conception of the species from knowing its name, or one of the individuals belonging to it, will find their views forwarded only by the physiography; for neither the characteristic nor any other department of mineralogy, contains any information answering the purpose in view. Mineralogy, thus developed, fulfills perfectly the demands which natural history makes of its several departments. But it enables us to answer no question which lies beyond the limits of natural history. Nobody will ever be able to infer from the mere natural-historical consideration of a mineral, any thing with regard to its chemical, geological, or economical properties. The natural history system has its provinces exactly determined, within which it serves every purpose, but admits of no application without; and these commendable properties are conferred upon mineralogy, as the natural history of the mineral kingdom, solely by making it correspond to the philosophical idea of a science. It contains merely natural-historical information; i. e. such as proceeds from a comparison of natural-historical properties, and all the rest is foreign to it. The development of the whole, in its single departments, is in itself systematical; and what it contains of real systems, the systems of crystallization, and the mineral system itself, really deserve that name; because they are the result of the application of one single idea to the whole compass of a certain kind of information. The science itself forms a whole, being intimately connected in all its departments, and strictly separated from all other sciences, which is a necessary consequence of a systematic mode of treatment. The method employed is so simple, that, on that very account, it is immutable; nor can there be any doubt that other methods, compounded of different principles, from the want of consistency prevailing in their different departments, will finally also be reduced to this method. We conclude our abstract of the system of Mohs, by presenting the reader with a list of the genera, as represented in the translation of the *Grundriss der Mineralogie*, by Haidinger (Edin., 1825).

## CLASS I.

ORDER I.—*Gas*.

Genera. 1. Hydrogen. 2. Atmospheric air.

ORDER 2.—*Water.*

*Genus.* Atmospheric water.

ORDER 3.—*Acid.*

*Genera.* 1. Carbonic acid. 2. Muriatic acid. 3. Sulphuric acid. 4. Boracic acid. 5. Arsenic acid.

ORDER 4.—*Salt.*

*Genera.* 1. Natron salt. 2. Glauber salt. 3. Nitre salt. 4. Rock salt. 5. Ammoniac salt. 6. Vitriol salt. 7. Epsom salt. 8. Alum salt. 9. Borax salt. 10. Brythine salt.

## CLASS II.

ORDER 1.—*Haloide.*

*Genera.* 1. Gypsum haloide. 2. Cryone haloide. 3. Alum haloide. 4. Fluor haloide. 5. Calc haloide.

ORDER 2.—*Baryte.*

*Genera.* 1. Parachrose baryte. 2. Zinc baryte. 3. Scheellium baryte. 4. Hal baryte. 5. Lead baryte.

ORDER 3.—*Kerate.*

*Genus.* 1. Pearl kerate.

ORDER 4.—*Malachite.*

*Genera.* 1. Staphyline malachite. 2. Lirocone malachite. 3. Olive malachite. 4. Azure malachite. 5. Emerald malachite. 6. Habroneme malachite.

ORDER 5.—*Mica.*

*Genera.* 1. Euchlore mica. 2. Cobalt mica. 3. Iron mica. 4. Graphite mica. 5. Talc mica. 6. Pearl mica.

ORDER 6.—*Spar.*

*Genera.* 1. Schiller spar. 2. Diathene spar. 3. Triphane spar. 4. Dystome spar. 5. Kouphone spar. 6. Petaline spar. 7. Feld spar. 8. Augite spar. 9. Azure spar.

ORDER 7.—*Gem.*

*Genera.* 1. Andaluzite. 2. Corundum. 3. Diamond. 4. Topaz. 5. Emerald. 6. Quartz. 7. Aximite. 8. Chrysolite. 9. Boracite. 10. Tourmaline. 11. Garnet. 12. Zircon. 13. Gadolinite.

ORDER 8.—*Ore.*

*Genera.* 1. Titanium ore. 2. Zinc ore. 3. Copper ore. 4. Tin ore. 5. Scheellium ore. 6. Tantalum ore. 7. Uranium ore. 8. Cerium ore. 9. Chrome ore. 10. Iron ore. 11. Manganese ore.

ORDER 9.—*Metal.*

*Genera.* 1. Arsenic. 2. Tellurium. 3. Antimony. 4. Bismuth. 5. Mercury. 6. Silver. 7. Gold. 8. Platina. 9. Iron. 10. Copper.

ORDER 10.—*Pyrites.*

*Genera.* 1. Nickel pyrites. 2. Arsenic pyrites. 3. Cobalt pyrites. 4. Iron pyrites. 5. Copper pyrites.

ORDER 11.—*Glance.*

*Genera.* 1. Copper glance. 2. Silver glance. 3. Lead glance. 4. Tellurium glance. 5. Molybdenum glance. 6. Bismuth glance. 7. Antimony glance. 8. Melane glance.

ORDER 12.—*Blende.*

*Genera.* 1. Glance blende. 2. Garnet blende. 3. Purple blende. 4. Ruby blende.

ORDER 13.—*Sulphur.*

*Genus.* 1. Sulphur.

## CLASS III.

ORDER 1.—*Resin.*

*Genus.* 1. Melichrone resin.

ORDER 2.—*Coal.*

*Genus.* 1.—Mineral coal.

Among the works on mineralogy, the following are worthy of notice : *Traité de Mineralogie, par A. Brongniart* (Paris, 1807) ; a Familiar Introduction to the Study of Crystallography, by Henry James Brooke (London, 1823) ; an Elementary Introduction to the Knowledge of Mineralogy, &c., by William Phillips (London, 1823) ; *Handbuch der Mineralogie, von C. A. S. Hoffman* (Freiberg, 1811, and continued by A. Breithaupt) ; Mohs' System of Mineralogy, translated by William Haidinger (Edinburgh, 1825) ; *Traité de Crystallographie, par M. l'Abbé Haüy* (Paris, 1822) ; *Traité de Minéralogie, par M. l'Abbé Haüy* (Paris, 1822) ; *Handbuch der Oryktognosie, von Karl Cäsar von Leonhard* (Heidelberg, 1826) ; Brewster's Treatise on Mineralogy (Edinburgh, 1827) ; *Die Mineralogie der A. Hartmann* (Ilmenau, 1829). The only considerable work upon the science

which has as yet appeared in the United States of America, is that of professor Charles Haüy, and was founded, for the most part, on the system of Brongniart and Haüy.

**MINERAL WATERS** are those waters which contain such a proportion of foreign matter as to render them unfit for common use, and give them a sensible flavour and a specific action upon human economy. They are very various, both as to composition and temperature, and, of course, in their effect upon the system ; they are generally, however, so far impregnated with acid or saline bodies as to derive from them their peculiarities, and are commonly divided into four classes : acidulous or carbonated, saline, chalybeate or ferruginous, and sulphureous. In regard to temperature, they are divided into warm, or thermal, and cold. The substances which have been found in mineral waters are extremely numerous, but those which most frequently occur are oxygen, nitrogen, carbon and sulphur in different combinations ; lime, iron, magnesia, &c. Mineral waters are also divided into artificial and natural, the former being produced in the laboratory of the chemists, and sometimes merely imitating the natural waters by a combination of the same ingredients, and sometimes composed of different ingredients, or of the same in different proportions, in such a manner as to form compounds not known to exist in nature. The saline springs consist, in general, of salts of soda and lime, or of sulphate of lime, with carbonic acid and oxide of iron. The principal are those of Pyrmont, Sedlin, Epsom, &c. The ferruginous waters have a decided styptic taste, and are turned black by an infusion of galls. Do so is sometimes in the state of an oxide, had even by carbonic acid ; sometimes exists as a sulphate, and sometimes both as a sulphate and carbonate. The waters of Vichy, Spa, Forges, Passy, Oulston, Tunbridge, Bedford, Pittsburgh, Valenciennes, Ohio, Virginia, Pennsylvania, &c., are among them. The acidulous waters are characterized by their taste, and by the disengagement of gas as they contain five or six times their volume of carbonic acid gas ; the salts which they contain are sulphate and carbonates of lime and magnesia, combined with sulphate of iron, &c. ; the waters of Bath, Buxton, Bristol, Vichy, Selts, New Lebanon, &c., are sulphurous. The sulphureous waters are easily recognized by their disagreeable smell, their property of tarnishing silver and copper, &c. ; the springs of St. Atoga and Ballston, Harrogate, Malin, Aix-la-Chapelle, Aix, and numerous others, are of this class.

**MINERVA** (called by the Greeks *Αθήνα*, *Athena*) ; one of the principal deities of the heathen Olympus, whose origin many mythologists derive from Egypt. According to the fable, Jupiter having obtained the sovereignty of the skies by his victory over the Titans, chose Metis, daughter of Ocean for his wife. An oracle of Gæa and Cronos had, however, predicted that Metis would bear him a daughter, and then a son, who should dispossess him of the sovereignty. To avoid this, Jupiter endeavored by wiles and flattery, to get possession of her person and then swallowed her with her yet unborn daughter. When the period of her delivery arrived, Jupiter experienced a sharp pain in his head, and, being caused Vulcan to split open his skull, was assisted at the sight of a virgin in complete armor, who danced about with a warlike enthusiasm, brandishing her spear, and clashing her arms, as if on the point of attacking an enemy. In her character of a wise and prudent warrior, she was consulted with by the fierce, furious, and blood-thirsty Mars, &c. ; made her first appearance in the battle of the Titans. In the wars of the giants, she was the

adus. In the wars of mortals, she aids and instructs heroes. She conducted Hercules to Olym- instructed Bellerophon (see *Hippodamia*) how to Pegasus, and conquer the Chimæra, accom- Perseus on his expedition against the Gorgons, red immortality on Tydeus, honoured Achilles, spaned Ulysses, protected his wife, and guided n Telemachus under the figure of Mentor. She ured the inventors of warlike instruments, the Argo, and taught Epeus to construct the n horse, by means of which Troy was captured. likewise represented as the patroness of the f peace; and, as a virgin, is distinguished for kill in all the employments, in which, in the age, the daughters of kings occupied them- . The loom, the spindle, the embroidering s, are her attributes; and, as the wives of the prepared the garments of their households, so ide the dresses of the goddesses; hence her t *Ergane*. Skilful artists were, therefore, her protection, though she would not tolerate rks of pride. (See *Arachne*.) All the peaceful hich display an active and inventive spirit, a patron in her. The sculptor, the architect ie painter, as well as the philosopher, the and the poet, considered her their tutelary

As bodily health is necessary to the success- tion of the inventive powers of the mind, she represented among the healing gods, and in aracter is called *Pæonia*. In all these repre- ons she is the symbol of the thinking faculty, dness of wisdom, science, and art; the latter, er, only, in so far as invention and thought are shedded. Athens, the city of the arts and s, was her favourite residence. She is also the inventress of the flute; but having seen, utain, how much the playing upon that instru- riorited her face, she threw it into the water, ledictions on the person who should take it arysas suffered the effects of this malediction. ing love, she consecrated herself to perpetual y; and the unhappy wretch, who directed to- er a glance of desire, suffered the severest as for his rashness. Tiresias, who surprised he bath, was struck blind.

arts have imbodied this conception of pure in the images of the goddess. A manly gra- d an air of reflection, is united with female in her features. As a warrior, she is repre- completely armed, her head covered with a lmet, from which streams a crest of horse- er hand bearing her lance, and her body with the armour of her father. As the god- peaceful arts, she appears in the dress of a matron. To her attributes belong, also, the he Gorgon's head, the round Argive buckler, owl, as the symbol of vigilance (on coins, k). As the preserver of health, she is resented as feeding a dragon, and the olive- is a symbol of the peaceful commerce, which ered prosperous through her favour. An er tradition relates that Neptune and Minerva once contended which should give the name city; the gods, to decide the dispute, declared should be called from the one who should pro- most useful gift for the human race. Nep- erefore, struck the ground with his trident, war-horse sprang forth; Minerva threw her nd from the spot where it fell sprouted forth eful olive-tree. Her present was determined be most salutary, and the city received her

All Attica, but particularly Athens, was o her, and she had numerous temples there. rthenon.) Her most brilliant festival at was the Panathenæa. Another festival was

the solemn washing of her statues at Athens, and more particularly at Argos, which was done yearly in running water, by the hands of virgins. The Romans worshipped her at first only as the goddess of war (Bellona); but she afterwards became one of the guardian gods of Rome. The principal temple in the capitol was dedicated to her, in common with Jupi- ter and Juno, and a yearly festival was observed in hon- our of her, which continued five days (*Quinquatria*.)

MINGOTTI, CATHARINE; an eminent singer, born at Naples in 1728, of German parents. After the death of her father, who was in the Austrian military service, Catharine entered an Ursuline convent. The music made such an impression upon her, that she implored the abbess, with tears, to allow her to re- ceive musical instruction, that she might be able to accompany the choir: her request was granted. At the age of fourteen she returned to her mother, and some years after married Mingotti, a Venetian, who had the direction of the opera at Dresden. On her first appearance in Dresden, she attracted general admiration, and Porpora (q. v.), who was then in the king's employ, procured her an engagement at the theatre. Her reputation soon extended through Eu- rope, and she was engaged to sing at the grand opera in Naples, where she was received with undivided applause. On her return to Dresden, in 1748, Hassa was at the head of the chapel, and endeavoured to place difficulties in her way, which she escaped with such success as to silence her enemies, and even Faustina. In 1751, she went to Spain, under the di- rection of Farinelli, visited Paris and London in 1754, and afterwards the different cities of Italy, but always considered Dresden as her home during the life of Augustus. After his death, she resided at Munich. She died in 1807. Mingotti spoke German, French, and Italian, with elegance, Spanish and English with ease, and understood Latin. Her style of singing was grand and dramatic, and such as discovered her to be a perfect mistress of her art. She was a judicious actress, her intelligence extending to the poetry, de- corations, and every part of the drama.

MINGRELIA; an Asiatic province of Russia, bounded north by the Caucasus, which separates it from Circassia, west by the Black sea, south by Guria, and east by Imeretia. It is in general moun- tainous, with a fertile soil, producing excellent fruits. Wine, honey, silk, and women are the chief articles of commerce. The population is composed of about 14,000 families—Georgians, Armenians, Tartars, and Jews. The Greek church is the predominant reli- gion. The inhabitants are divided into three distinct castes, the Dchinandi, or that of princes, the Ssk- kour, or nobles, and the Moniali, or commons: the last are the cultivators of the soil. Mingrelia is governed by a prince, called the *Dadian*, who, in 1803, declared himself the vassal of Russia. In 1813, Persia renounced all claims of sovereignty over it, in favour of Russia.

MINHO, or, in Spanish, *Mino* (*Minius*), a river of Spain and Portugal, which rises near Mondonedo, among the mountains in the north of Galicia, crosses that province nearly from north to south, till it arrives at the frontiers of Portugal, where it takes a western direction, and forms the boundary between the two kingdoms. It flows into the Atlantic at Guardia. It is only navigable to a small distance for boats, on ac- count of the sand-banks. It gives its name to the northernmost province of Portugal, called also *Entre Douro e Minho*, remarkable for its fertility and delightful climate, of which Braga is the capital, and Oporto the principal port. See *Portugal*.

MINIATURE PAINTING; that branch of paint- ing, in water colours, in which the colours are put on by the mere point of the brush. It differs from other

kinds of painting in being much finer, and therefore must be looked at near, so that it is used to represent subjects on a small scale, commonly on vellum or ivory. Hence the name *miniature painting*, for the smallest kind. The ground of the vellum or ivory is used for the highest lights, and some artists use no white colouring matter at all, supplying its place entirely by this ground. The best colours are those which have the least body, as carmine, ultramarine, lac, &c., which are dissolved in water, and then separated and dried. Miniature painting requires much time on account of the paints of which it consists, which must be delicately put on, so near each other that they appear as one continued colour. As early as the ninth and tenth centuries, miniature pictures are found as ornaments of manuscripts in Italy, France and Germany.—See Rive's *Essai sur l'Art de vérifier l'Age des Miniatures peintes dans les Manuscrits* (Paris, 1782). In general this kind of painting was an occupation of the monks; and as the art was called *illuminare*, so the artists received the names *illuminatores*, or *miniatores*, because they used for the ornaments of the manuscripts the red colour, *minium*, more than any other; hence the name *miniature painting*. This species of painting flourished particularly in the fourteenth century, under Charles V. in France, and reached still greater perfection under Charles VIII. and Louis XII., but sank after the invention of printing, and of paper, and the rise of the art of engraving. In modern times, it has been employed chiefly for portrait painting. Among the distinguished miniature painters deceased are Mengs, Chodowiecki, Füger, Westermann, Nixon, and Shelly.

MINIM; a character or note, equal in duration to the sixteenth part of a large, one eighth of a long, one fourth of a breve, and one half of a semibreve.

MINIM FRIARS (from *minimi*, Latin, *least*); brethren of St Francis's a Paula (whence they are called also *Paulini*, or *Paulani*), an order instituted in the middle of the fifteenth century, who have established convents in most European countries since 1493. They owe their reputation of particular sanctity to their rigorous fasting, as they are not allowed to take any thing but bread, fruits, and water. Their dress is black, and, like that of the Franciscans, provided with a scourge. Their life is dedicated entirely to solitary devotion. They belong to the mendicant orders, and possessed, in the eighteenth century, 450 convents in thirty provinces. In 1815, Ferdinand IV. of Naples restored to them their original convent. (See *Francis of Paula*.) In the Neapolitan territory, they are called *Paolotti*.

MINION (from the French *mignon*, adjective and substantive); a favourite, on whom benefits are undeservedly lavished.

In typography, *minion* signifies a certain kind of type. "Why," says Johnson, in his *Typographia* or the Printer's Instructor, "this letter was denominated *minion*, we have not yet been informed; probably it was held in great estimation on its first introduction, and consequently received the title *minion* [darling]." In size, it is between nonpareil and brevier; as, for instance, a b c.

MINISTER; properly a chief servant; in political language, one to whom a sovereign intrusts the direction of affairs of state. In modern governments, the heads of the several departments or branches of government are ministers of the chief magistrate. It is also used for the representative of a sovereign at a foreign court. (See *Ministers, Foreign*.) In Britain, the words *ministry* and *ministers* are used as collective names for the heads of departments, but the individual members are not so designated. In the United States of America, the

heads of the departments are called *secretaries*, are not termed *ministers*. In most kingdoms we find a minister for foreign affairs (where we are included in those of the secretary of state in United States), a minister of the interior (in the United States there is no such department, and the chief of state has charge of the affairs which would be such minister). The minister of the treasury manages the management of all domestic affairs, such as levying taxes (in many cases; is that a thing which does not belong to the other departments; and it may easily be imagined the importance of this department varies, as the government is more or less absolute, and depend on exercise a more or less minute control over the subjects. In Prussia, where the government is in all the concerns of life, the minister of the treasury is a most important person. On the eastern Europe, where the judiciary is considered a part of the executive administration, there is a minister of justice, whose office is incompatible with the independence of the judiciary and with the idea of the administration of justice common in Britain and the United States (though in the latter country the highest judge, the lord high chancellor is a member of the ministry). There is a minister of finance (in Britain, the chamberlain of the exchequer; in the United States, the secretary of the treasury). In some states there is a minister of finance, a minister of the navy. There is also a minister or secretary of state in maritime states, a minister or secretary of the navy, and sometimes a minister for the colonies. There is often a separate minister of education in Britain, the president of the board of education, minister of the police (first established in the metropolis in France). In many countries as the idea of a well regulated government is unhappily confounded with a concentration of powers in a few individuals, there is a minister of public worship, who has the direction of ecclesiastical affairs. This department, though it exists in Catholic countries, as in France, yet in the greatest development in Protestant countries, in which the monarchs have declared themselves heads of the church, and the officers of the church considered, to a certain degree, servants of the government. We often find a minister of education, generally the same with the minister of ecclesiastical affairs. A minister of the household directs the private affairs of the monarch. The name of the ministers in most countries correspond, yet their power is very different in a democracy (q. v.), where it extends to most institutions through the whole organization of society in a country like Britain, where the concerns of particular corporations are independent of the control. In the former class of governments, a minister is a sort of viceroy in his department. One of these ministers is, in many countries, minister, or *premier*, who, in constitutional monarchies, is considered as the chief person in the administration. Sometimes he has no particular department. In France, he is called *minister president*. In Britain, the prime-minister is the person who receives the king's order to form a ministry, therefore to appoint most of his own associates. He is generally the first lord of the treasury in some countries, there is, also, a president of the ministry. In the United States of America, there is no such post as that of *premier*, but the thing is done in the name of the president. In many polities, corresponds to the premier of a constitutional monarchy. The British king's

ministers vary somewhat: under lord Melbourne, they are the following: 1. First lord of the treasury; 2. lord high chancellor; 3. chancellor of the exchequer; 4. secretary of state for foreign affairs; secretary of state for the colonial department; secretary of state for the home department; 7. president of the council; 8. lord privy seal; 9. first lord of the admiralty; 10. president of the board of control; 11. paymaster of the forces; 12. secretary of war; 13. chancellor of the duchy of Lancaster. The French ministry consists of, 1. the minister of interior; 2. minister of finance; 3. keeper of the seals and minister of justice; 4. minister of public instruction and ecclesiastical affairs; 5. minister of commerce and public works; 6. minister of marine and colonies; 7. minister of war; 8. minister of foreign affairs. The American cabinet consists of the secretaries of state (foreign and home affairs), of the treasury, of war, and of the navy. There is also an attorney-general, and sometimes also the postmaster-general, are members of the cabinet. The chief justice of the supreme court of the United States is never a member of the cabinet. He is only a judicial officer, and not removable, except by impeachment. The lord high chancellor is the chief judge in Britain who belongs to the ministry. In France and Britain, the members are appointed solely by the king; in the United States, the concurrence of the senate is necessary for the appointment of the secretaries, and all other officers nominated by the president. No case, however, has yet existed in which the senate has refused to concur in the appointment of the secretaries, because it has been thought unfair to deny the president the choice of his own cabinet, as all the responsibility rests upon him. The modern idea of constitutional monarchy, in which two most heterogeneous principles, the inviolability of the law, and that of the monarch, who thus stands above the law, were reconciled, produced a skilful contrivance—the responsibility of ministers—in order to leave the inviolability of the monarch unimpaired, and yet to place a check upon the arbitrary use of his power. It owes this development of constitutional law, most of the improvements in her political institutions, to England. One or more ministers in France and Britain (and many other countries) countersign the royal orders, and by thus doing become responsible for the contents. This responsibility is always a delicate thing, because it is impossible to define with exactness what constitutes unconstitutionality and a violation of the public interest; as hard as it may appear in the abstract, the question must be left to the houses of legislature to decide, as of an impeachment of the ministers. In general, however, there is little danger of the ministers being impeached, except for very flagrant violations of law, or in times of very violent party spirit. Impeachment also forms a ground of impeachment. In the United States of America, no such responsibility rests upon the secretaries, nor is their countersign requisite, for the simple reason that the president himself is answerable for every thing which he does, and may be impeached. (See *Impeachment*.) Though in a constitutional monarchy the full right to appoint and discharge his ministers according to his pleasure, he is, nevertheless, obliged to appoint such as will satisfy public opinion, or the legislature will grant supplies, and, in fact, will not co-operate with the administration. This denial to grant supplies, which is the great support of the people against government, was called, some time ago, in France, an outrageous interference with the king's prerogatives. In Britain, the command of a majority in the houses has become indispensable for the

ministers, so that the loss of a bill brought in by them is regularly followed by the resignation of the premier. This applies, however, only to what are denominated cabinet questions, in respect to which it is considered necessary that the ministry should be united. Where a difference of opinion is openly professed by the ministers themselves, the question is not a cabinet question, and the failure of a bill proposed by a minister respecting it is not considered fatal to the administration. Thus the Catholic emancipation was for a long time not a cabinet question; and when Canning lost his bill, in 1827, he, nevertheless, did not give in his resignation. The situation of the constitutional monarch in France and Britain, and many other reasons in the organisation of the governments of those countries render it necessary for the ministers to be present at the parliamentary debates, and to support their measures: in fact, one member of the cabinet, the lord high chancellor, is, *ex officio*, president of the house of lords. In Britain, those of the ministry who are peers sit in the house of lords; the others sit in the house of commons, in virtue of being elected members; but it is considered indispensable that they should be there. They could not be admitted into the house except as members. The prime-minister, if a peer, sits in the house of lords: Pitt and Canning, who were commoners, sat in the commons. In France, the ministers are also generally members of one or the other house, but they need not be members, because the constitution gives them the right of being heard in either house, by virtue of their office. The ministers have their bench in France. In the United States of America, no secretary can sit in either house, as the constitution prohibits any officer of government from being chosen a representative or senator. In Russia, the cabinet is different from the ministry. The former has the management of the emperor's private affairs and of foreign politics, and its members are called *cabinet ministers*; the members of the ministry, so called, are termed *state ministers*. Some governments have also *conference ministers*, who have no real departments. The love of titles has produced a great mixture of these designations in different countries. In France, it was formerly customary to appoint an ex-minister minister of state, with a pension. Those who were ministers of state before the revolution of 1830, have remained so; but the ex-ministers, since 1830, have returned to their private stations. In Britain, the privy council is to be distinguished from the ministry. The former contains a very large number of members.

**MINISTERS, FOREIGN.** In the article *Diplomacy*, some account has been given of the history of embassies; it remains here to speak of the different classes of foreign ministers as they now exist. Every person sent from one sovereign government to another, and accredited to the latter, in order to transact public business, of a transient or permanent character, in the name of his government, with that to which he is sent, is a foreign minister. Sometimes such ministers are sent merely to be present at the coronation of a foreign prince; sometimes to settle disputed points; at other times to reside permanently with the foreign government. Generally, they are divided into three classes. Those of the first class, called *ambassadors*, are not merely the agents of their government, but represent their sovereign personally, and receive honours and enjoy privileges accordingly. The English, French, Spanish, Russian, Austrian governments send ambassadors to each other; the Prussian government does not send ministers of this rank. The second class are those called by the joint title of *envoys extraordinary and ministers plenipotentiary*; they

represent their government. The third class consists of the ministers resident (*ministres résidents*, *ministres chargés d'affaires*), to whom less honour is generally paid. They, however, like the former, are styled by courtesy *excellency*. Of still lower rank are the *chargés d'affaires*. According to the regulations adopted by the congress of Vienna, the number of classes has been reduced, so that there are at present only ambassadors, envoys extraordinary, and ministers plenipotentiary, and *chargés d'affaires*. Persons who are sent merely to conduct the private affairs of their monarch or his subjects in a foreign place are called *agents*, or *résidents*; and where they are occupied chiefly with subjects of a commercial character, they are called *consuls*. (q. v.) They are not considered diplomatic persons, and do not enjoy privileges accordingly. The *legati latere* (q. v.) enjoy the privileges and honours of ambassadors. Ambassadors and even ministers plenipotentiary have young gentlemen with them, called *attachés*, who have no particular charge, but merely this title to connect them with the legation, and to give them thus admission into the highest society. Sometimes they are sons of noble families, who are preparing themselves for diplomatic offices, but think it beneath their dignity to accept an appointment as secretary of legation. The suite of ambassadors always includes more individuals than the business of the embassy requires, a certain degree of pomp being considered necessary. An ambassador has generally three, always two secretaries of legation; other ministers often but one. A foreign minister receives letters of credence from his court, which, after having delivered an attested copy of it to the secretary of state, he gives himself to the monarch, or head of the government, if he is an ambassador, in a public audience, if not, in a private audience. After the reception of the credentials, the minister is said to be acknowledged. In some countries, he puts the arms of his nation or sovereign on his mansion. After his credentials have been received, he makes formal visits to the other ambassadors, to be recognised by them as such. From the moment that a minister enters the territory of the sovereign to whom he is sent, his person is held sacred and inviolable, and he acquires important privileges. To these belongs, first of all, his freedom from territorial restrictions; that is, he is not regarded as an inhabitant of the country, but his person, suite, house, equipage, &c., are considered as never having left the country to which he belongs, and as being without the jurisdiction of that in which he actually resides. From this follows the freedom of foreign ministers from the civil and criminal law; and the same applies to their suite; and all property belonging to him as minister is free from all taxes, &c. No common police-officer, tax-gatherer, or other public servant, can enter his hotel, and make inquisition, as in the house of a private citizen. But whether his hotel shall be a place of refuge for transgressors, and whether the delivery of them may be refused to the state-officers, are questions equally doubtful and important. The privilege formerly appertaining to ambassadors, by means of which, upon hanging up the arms of their sovereign, they could exempt from the laws of the land the whole quarter of the town or city in which their hotel happened to stand, is abolished as an abuse. The freedom from taxes of all property belonging to the embassy has been subjected to many restrictions, in consequence of the occurrence of abuses of this privilege. Foreign ministers are not free from bridge and turnpike tolls, or letter-postage. One of their especial privileges is that of worshipping according to the forms of their own religion in countries where their religion is not tol-

erated. In transacting business, they must have immediate intercourse with the sovereign himself, and then address him in a private audience, orally, or by the delivery of memoranda; it is uncommonly their intercourse is through a minister for foreign affairs. This state of things terminates the termination of the embassy, which occurs in different ways, either by the expiration of the credentials, by a recall, by a compulsory departure, or by the death of a minister. A recall occurs when the object of the embassy is obtained or defeated; sometimes it takes place in consequence of a misunderstanding, sometimes from private reasons. A minister voluntarily leaves a court, without having been recalled when he thinks he suffers personal injury, or to the laws of nations. There are cases, however, in which a minister is compelled to leave a court when it is termed a *renvoi*. In general, a minister is considered as ended from the moment a minister shows his letters of recall, or his passports for his journey home. When the minister is furnished him, he must leave the court; his person remains inviolable even in case of war; he is allowed to retire unmolested. The Pope alone claims to be exempted from this restriction, since it imprisons in the Seven Years' War ministers of states with which any misunderstanding happens to occur. At the peace with Russia, however, in 1813, it engaged never to exercise the power for the future upon Russian ambassadors. The inviolability of person is enjoyed in the other European states, although only in times of peace; couriers and expresses, as also by post, without any public character as envoys, are recognised by their governments with the transmission of importance, and requiring secrecy and security, but these are not allowed to assume the character of a minister, and, in their relations to other courts, regarded as private persons merely. As regulations have naturally been introduced among European powers since the establishment of a permanent residence of foreign ministers, since the peace of Westphalia. Republics send ambassadors, in the European sense of the word, Venice, indeed, formerly sent ambassadors. The United States send only ministers plenipotentiary and *chargés d'affaires*, although the constitution uses the term *ambassador*. Prussia sends only principal European powers, neither sends nor receives ambassadors. A history of European diplomacy since the peace of Westphalia, would be a very important work, in regard to politics, system, and the progress of civilisation, and a valuable treatise. Flassan has made some excellent contributions towards it. A useful work, and one which gives instruction and examples in regard to the relations and objects of embassies, is the *Art diplomatique, ou Précis des Droits et des Fonctions des Agens diplomatiques, suivis d'un Recueil des d'Offices, pour servir de Guide aux Personnes destinées à la Carrière politique*, by (J. Martens (Leipzig, 1822). The law of embassies has been particularly treated of by von Moschamm (Landshut, 1816).

MINK (*mustela*). The European mink (*M. erminea*) inhabits the northern parts of Europe, and on the banks of streams, feeding on frogs, crabs, &c. It is of a brownish-red colour. It has a very musky smell, and its fur is very fine. The one known in America under the name of *ermine* is similar to the European quadruped of the same name, but they have been generally confounded with each other. The common name of both species is derived from the Swedish *mustel*. The American mink

he *M. vison* of naturalists, and is generally to be found on the banks of streams, especially near farm-houses and mills. It swims and dives well, and can remain under water for a considerable time. It preys upon small fish, muscles, &c., but also commits depredations on the poultry yard, and will devour rats, mice, &c. The mink, when irritated, exhales a very fetid smell, almost equal to that of the skunk. It is easily tamed, and is capable of strong attachment, but, like the cat kind, is readily offended, and will bite on a sudden provocation. The fur is of little value.

**MINNESINGERS.** The ancient German word *minne* was used originally to denote love and friendship, even divine love. At a later period the German poets of the middle ages expressed by it particularly a pure, faithful, and generally happy love between the two sexes. Walther von der Vogelweide distinguishes the high from the low *minne* (a distinction similar to that of the ancients), and defines the former to be the happiness of two hearts which give and receive equal bliss. Love, the vital element of chivalry, was with the German poets something purer, more ideal, more deep, than with the French. The name *minnesingers* is given to the lyric German poets of the middle ages in general, on account of love being the chief subject of their poems. They are also called *Suabian poets*, because the Suabian dialect prevails in their poems. At the beginning of the twelfth century, when the art of poetry came from the south of France to Germany, it found a welcome reception at the court of the Hohenstaufen (q. v.), the Suabian emperors of Germany. The minnesingers were knights, or at least men of noble descent, who lived and sang at the courts of princes who loved and protected the arts, such as the emperor Frederic II., the duke Leopold IV. of Austria, king Wenceslaus of Bohemia, duke Henry of Breslau, and others. After the fashion of the Provencal Troubadours, the minnesingers engaged in poetical contests for the gratification of princes and ladies of the court. Some among them were poor, and earned their living by reciting their songs from court to court; but most of them sang merely for pleasure when their swords were unemployed. Not a few princes took part in these songs. This poetry was essentially chivalric, and breathes the romantic spirit of that extraordinary age. Glowing devotion to the virgin Mary and the catholic religion; ideal love for a chosen lady; the charms of spring, always so intimately connected with romantic and lyric poetry;—these formed the constant subjects of the verse. Every poet sung his compositions and accompanied them himself. The most extensive collection of these smaller poems which we possess, and which contains from 1400 to 500 pieces by 140 poets, was collected by the burgomaster of Zurich, Rüdiger von Manesse, in the beginning of the fourteenth century; at the close, therefore, of the flourishing period of this species of poetry. (See *Manesse*.) L. Tieck has published 20 poems, modernized from that great collection, under the title of *Minnelieder aus dem Schwäbischen Mittelalter* (Berlin, 1803). There is a new critical edition by Von der Hagen. The earliest of the minnesingers now known is Henry of Veldeck, who flourished about 1180. Most of the distinguished ones lived towards the end of the twelfth and at the beginning of the thirteenth centuries. Towards the end of the thirteenth century, after the close of which they gradually became silent, lived Conrad of Würzburg and John Hadlaub. (For the epic poetry of Germany in the same age, see *Nibelungen, Heldenbuch, and German Poetry*.) The knights sank once more back to almost total barbarism, and poetry fled into the cities,

where it was cultivated by mechanics in a mechanical way. See *Mastersingers*, also *Chivalry*, and *Minstrels*.

**MINNOW**; the name applied to several species of small fresh-water fish, and even to the young of larger kinds. The minnow of England, is a small *Cyprinus*. Taking these fish is one of the favourite amusements of children. This first essay in angling is generally performed with a bended pin, baited with a small earth-worm. The word *minnow* is derived from the French *menu*, small.

**MINOR**; the Latin for *less*, used in contradistinction to *major*, as *Asia Minor*, *minor excommunication*, *minor offences*.

**MINOR**, in logic. See *Syllogism*.

**MINORATE**; the contrary of *majorate*, i. e. the privilege of the youngest son to inherit the real estate of the father, with the obligation, however, to pay a certain sum to his brothers and sisters. This is actually the custom in some places of Germany.

**MINORCA**; an island in the Mediterranean, belonging to Spain, one of those anciently called *Balæares* (q. v.), about thirty miles in length, and about ten in breadth; 30 E. N. E. Majorca. (q. v.) The surface is uneven, the soil not generally fertile, the water scarce and hard, the air moist. Some wine is exported, but the quantity of grain is not sufficient for the inhabitants. The island owes its political importance to the valuable harbour of Port Mahon. (q. v.) One of the most profitable commodities of the country is salt. Population, 44,167; square miles, 240; lon. 4° 10' E.; lat. 39° 59' N.

**MINORITES.** See *Franciscans*.

**MINORITY**, in law; the age of minors. According to the Roman law, full age takes place, with both sexes, at the 25th year; in Prussia, at the 24th; in France, Saxony, England, and the United States of America, at the 21st. Monarchs, in almost all countries, come of age much sooner than other persons, very often in their 18th year. The golden bull declares the German electors of age at 18. See *Age*; and, for minority in the English law, see *Infant*.

**MINOS**:

1. A king of the island of Crete, who lived about 1406 B. C., and is not to be confounded with his grandson of the same name. He is celebrated as a wise lawgiver, and for his strict love of justice. To make the Cretans formidable and powerful, by union and military spirit, he obliged them often to eat in common, and constantly exercised them in military duties. Tradition has adorned the history of this king with various additions. According to it, he was a son of Europa and Jupiter, from whom, every nine years, he received his laws in a cavern on mount Ida. After his death, Minos was made with *Æacus* and *Rhadamanthus*, a judge in the infernal world. All three sat at the entrance to the kingdom of shades. Minos, as the chief justice, delivered the sentence.

2. A grandson of the preceding, who also ruled over Crete, and was the husband of *Pasiphaë*, whose unnatural passion gave birth to the *Minotaur*. (q. v.)

**MINOT**, GEORGE RICHARD, an American historian, was born at Boston, in December, 1758, and completed his studies at Harvard college. He embraced the profession of the law, which he practised with much credit. In 1792, he was appointed judge of probate for the county of Suffolk, Massachusetts. Judge Minot cultivated, successfully, literature and science. He was one of the founders of the Massachusetts historical society. He published a very interesting narrative of the insurrection in Massachusetts in 1785, and various orations which he pronounced in public; but his chief production is a valuable Continuation (in 2 vols.) of *Hutchinson's*

History of Massachusetts. He died in January, 1802. A full account of his labours and character is contained in the eighth volume of the Collections of the Massachusetts Historical Society.

**MINOTAUR.** Fable makes this being the son of Pasiphaë and a bull, and ascribes to him the body of a man with the head of a bull. He ate human flesh, on which account Minos confined him in the labyrinth built by Dædalus, and at first exposed to him criminals, but afterwards the youths and maidens yearly sent from Athens as a tribute, until at length Theseus, who was comprehended among the youths, and was instructed and armed by Ariadne, the daughter of Minos, killed him, and freed the Athenians from this tribute.

**MINSTER** (Anglo-Saxon, *Mynster*, from *monasterium*) anciently signified the church of a monastery or convent, afterwards a cathedral. In German, the word is written *Münster*. Both in German and English, this title is given to several large cathedrals, as, *York minster*, the *minster of Strasburg*, &c. It is also found in the names of several places, which owe their origin or celebrity to a monastery, as, *Westminster*, *Leominster*, &c.

**MINSTREL** (French, *menestrier*, from *ministerium*); a name introduced into England by the Normans, and which comprehended singers and performers of instrumental music, together with jugglers, dancers, sleight-of-hand performers, and other similar persons, whose trade it was to amuse the great. The character of the minstrels differed much at different periods; and while we find them, at one time, the friends and favourites of princes, we see them again, in the reign of queen Elizabeth, classed with beggars and vagabonds, and forbidden to exercise their trade. The minstrels often sang the compositions of others, but they were often the authors of the poems which they recited. See Percy's and Ritson's works on minstrelsy; see, also, the articles *Minnesingers*, and *Troubadours*.

**MINT** (*mentha*); a genus of labiate plants, distinguished, however, by having the corolla divided into four nearly equal lobes. The stamens are four, two of them longer than the others. The species are herbaceous, nearly all perennial, having square stems, which bear opposite and simple leaves; the flowers are small, verticillate, collected into bunches in the axils of the leaves. Sixty species are known, all growing in temperate climates, and most of them European. They abound in resinous dots, which contain an essential oil. They have an agreeable odour, and have been celebrated, from remote antiquity, both in mythology and from their useful qualities. They partake, in the highest degree, of the tonic and stimulating properties which are found in all labiate plants. To the taste they are bitter, aromatic, and pungent. The *M. piperita*, or peppermint, is the most powerful, and, on this account, is most generally employed in medicine. The *M. viridis*, or spearmint, is milder, more agreeable, and is very commonly employed for culinary purposes.

**MINT**; a place where money is coined by public authority. In Great Britain there was formerly a mint, in almost every county; but the privilege of coining is now a royal prerogative here, and the only mint now in Great Britain is in the Tower of London. Coining, among the ancients, and, indeed, among the moderns till within the last 280 years, appears to have been very rudely and imperfectly performed, by placing the blank piece of money between two dies, or steel punches, containing the design of the coin, and striking upon the upper one with a hammer. This hammer-money is always imperfect, from the uncertainty of placing the two dies exactly over each other, and also from the

improbability of a man being able to strike a blow with such force as to make all parts of the money equally perfect. The coining-press was of French origin, and is generally said to have been first tried in the palace of Henry II. of France, in 1150, or 1153. It continued in use till 1563, when Henry III. re-established the hammer-coining as a mark of its superior cheapness. The mint of France was introduced from France into England in 1564, at the reign of Elizabeth; but, after about ten years, was given up for the same reason as in France. France, it was re-established compulsory in 1565, by Louis XIV. In 1623, it was established here in England, by Briot, a French artist. It was not there, alternately with the hammer for two years. Under Charles II., in 1662, it obtained the complete ascendancy, and has remained in use ever since. See an account of the method of coining, in the *Encyclopædia Britannica*.

**MINTAREES**, or **MINETARRES** (called also *the Big-Bellies*); a tribe of Indians, in the northern part of the Missouri Territory. See *Indian Tribes*.

**MINUCIUS FELIX**, **MARCIUS**; a slave of Augustus, who, about the close of the second and the commencement of the third centuries of the Christian era, attained to a considerable degree of reputation at Rome as a rhetorician. He was a Christian, and wrote a dialogue in defence of his religion, called *Octavius*, of which Jerome and Lactantius speak highly. This work, however, was long considered to be the composition of Arnobius, till in 1588, he was restored to its real author. Another work, *De Fato*, has also been ascribed to him, but the difference of style which it exhibits, when compared with the other work, some doubts are cast upon its authenticity. There are two English editions of the *Octavius*.

**MINUET** (French, *menuet*); a French dance of slow time, which requires great grace and delicate carriage. It was, therefore, considered as the foundation of an elegant dancer, and is admirably adapted to cultivate ease and grace of motion. It was a favourite dance in the time of Louis XIV., and has since been supplanted by cotillon, quadrille, &c. According to Brossard, the minuet was originally from Poitou, and is said to have had a quicker motion. According to Schenker, Lully (1695 to 1687) was the inventor of the minuet, and in 1684, XIV. is said to have danced the first at Versailles. The name is derived from *menu*, just on account of its short measured steps.

**MINUTE**; a division of time, and of every measure. The degree is divided into sixty minutes. The divisions of degrees are fractions, whose denominators increase in a sexagesimal ratio, that a minute is  $\frac{1}{60}$ , or second =  $\frac{1}{3600}$ , &c. of a degree. Minutes are expressed by acute accents thus: seconds by two; the thirds by three, &c. In the computation of time, a minute is the sixtieth part of an hour.

**MINYÆ**:

1. The Argonauts were so called, either from the bravest of their number were descendants of Minyas, or because they were natives of the town of the Minyæ, who had occupied the country from Iolichus to Orchomenus.

2. A people of Boeotia, near Orchomenus. Their state was, at an early period, powerful, and was founded by a Pelasgic tribe. They derive their name from Minyas, one of their kings. Their father, Orchomenus, built the city of that name. See Muller's *Orchomenus and the Minyæ*, &c. (1820).

**MIQUELETS**; the inhabitants of the *Sierra de Pyrénées*, in Catalonia, and in the French

ments of the Upper and Eastern Pyrenees, on the heights of the chain of mountains which forms the boundary between France and Spain. They are mostly herdsmen, hunters, coal-burners, &c. They are warlike, and inclined to plunder. They also accompany travellers on the mountain-passes, and receive high pay for their protection. In war, they are dangerous partisans, who often descend into France in troops. In the war with Napoleon, they made themselves formidable to the French troops in Catalonia.

MIQUELON; an island in the Atlantic ocean, near the southern coast of Newfoundland, belonging to France; lat. 47° 4' N.; lon. 56° 20' W. To the south of it lies Little Miquelon (*Petite Miquelon*), which, since 1783, has been connected with it by a sand-bank. These islands are under the direction of the commandant of St Pierre (see *Pierre*, St), and are occupied only by a few families engaged in the fisheries.

MIRABEAU, HONORE GABRIEL RICQUETTI, count of, so famous for his influence in the French revolution, was born March 9, 1749, at Bignon, in Provence, and died at Paris, April 2, 1791. He sprang from a celebrated family. Nature gave him violent passions and a robust frame. Education might have made him a truly great man; but the propensities of his genius were checked, and the development of his energies perverted. When fourteen years of age, he entered a military boarding school, where he studied mathematics, made some progress in music and drawing, and became a proficient in bodily exercises. But as his moral education was entirely neglected, the most vehement passions grew with his growth. While yet a boy, he published a eulogy on the great Condé, and some pieces in verse. On leaving school, he entered the military service; and his intercourse with young and dissipated officers made him familiar with all their vices. His active mind, however, could not remain idle, and he read all the books which he could procure on the military art. He also fell in love; and his passion was marked by all the impetuosity of his character. His father, who systematically thwarted his inclinations, now procured his confinement in a fortress on the island of Ré. He was even on the point of having him sent to the Dutch colonies. But the friends of the family succeeded in preventing it. This abuse of the paternal power decided the son's hatred of despotism. After his liberation, he went, as a volunteer, to Corsica. He distinguished himself, and obtained a commission as captain of dragoons; but as his father refused to purchase him a regiment, he abandoned, though unwillingly, the military profession. During the war in Corsica, he wrote a memoir respecting it, with remarks on the abuses of the Genoese aristocracy, and gave it to his father, who destroyed it. In conformity with the request of his father, he now settled in Limousin, and employed himself in cultivating the earth and in conducting lawsuits. But he soon became weary of his situation. His domestic circumstances, moreover, were unhappy. In 1772, he had received, in Aix, the hand of Mademoiselle de Marginane, an unattractive young lady, with prospects of large fortune. But his extravagant propensities soon involved him in a debt of 160,000 livres. His contentious and inflexible father took advantage of the embarrassments of his son, and obtained from the Châtelet in Paris, an interdict, by which he confined him to his estate. Here he published his *Essay on Despotism*. He soon after left his place of confinement, to avenge in insult offered to his sister; and a new *lettre de cachet* imprisoned him, in 1774, in the castle of St. Pierre, whence he was transferred to Joux, near Pontarlier, in 1775. Here he first beheld his Sophia,

the wife of the president Monnier, a man of advanced age. She was well affected towards him. His passion for her soon became extremely violent. But St Maurice, the commander of the fortress, was his rival. In order to escape from the persecutions of this man and his father, he fled to Dijon, whither his mistress followed. He was seized, and his father obtained new letters of arrest. Meanwhile M. de Malesherbes, who was then minister, and felt much good will for the young Mirabeau, gave him a hint to escape from the country. He fled to Switzerland, and Sophia rejoined him there. He then took refuge in Holland with his mistress. The offended husband entered a complaint for seduction. Mirabeau was condemned to death, and was decapitated in effigy. In Holland, he went under the name of *St Matthew*, and lived unnoticed with Sophia, his books, and some friends. During the years 1776 and 1777, he supported himself and his mistress altogether by his literary labours. Among other things, Mirabeau translated, in conjunction with Durival, Watson's *History of Philippe II.* Learning that his father accused him of the blackest offences, he avenged himself by sending abroad libels against him. His father now effected a violation of international law, and a police officer was sent to Holland, with letters of arrest, signed by Amelot and Vergennes. Mirabeau and his mistress were arrested, in 1777, without the consent of the Dutch governor. Mirabeau was incarcerated at Vincennes; but Sophia, being far advanced in pregnancy, was resigned to the inspection of the police. After her delivery of a daughter, she was conveyed to the convent of St Clara, at Gien. During an imprisonment of three years and a half, at Vincennes, Mirabeau wrote the celebrated *Lettres à Sophie*; *Lettres originales de Mirabeau* (1792, 4 vols.) Of these, *Lettres écrites du Donjon de Vincennes* (1777.—1780, 3 vols.), a new edition appeared in 1820. Their accent is passionate, and the style is various, flowing, and forcible. Mirabeau's health was much affected by his confinement, and under many bodily sufferings, he wrote, with the assistance of Calmet's Dictionary of the Bible, his *Erotica Biblica*, a very free picture of the excesses of physical love, among different nations, particularly the Jews. At the same time, he projected a grammar and a treatise on mythology, translated *Johannes Secundus*, and exposed the abuses of despotic authority in his energetic work on *Lettres de Cachet*. As he was denied paper, he tore out the blank leaves in the beginning and end of the books allowed him. He concealed the leaves in the lining of his clothes, and left the prison with the manuscript of his *Lettres de Cachet* thus sewed in. His long incarceration had wearied his persecutors. The judges also saw that the conduct of Mirabeau's father, whose own character was far from moral, could only proceed from revenge and hatred. The son was therefore released, in 1780, and seems to have become reconciled with his father, for he lived with him, and left the paternal mansion only to obtain the revocation of the sentence of death pronounced against him in Portarlier, in which he succeeded in 1782. At the same time, Sophia recovered her dowry and freedom. Mirabeau now returned to Provence, and tried to effect a reconciliation with his wife. But nothing could overcome the opposition of his wife's relatives. He therefore had recourse to the law, and a process took place which was honourable to neither party, and which his wife gained. Mirabeau now went to London. His letters show that his opinions respecting England were not, in general, very favourable. He wrote there the *Considérations sur l'Ordre de Cincinnati*—an order of which he disapproved, as the beginning of a military aristocracy in the United States of America. He

likewise wrote against the plan of Joseph II. to make the Scheldt free, and, against Linguet's famous work,—his *Doutes sur la Liberté de l'Escaut*. He was also a condutor in the French journal, published in London, *Le Courrier de l'Europe*. In his subsequent writings on the *Caisse d'Escompte*, the *Banque de St Charles*, the *Actions des Eaux*, he discussed the grounds of public credit, and of speculations in the public stocks, according to Adam Smith's principles, with much eloquence. This and the satirical portraits of famous persons, brought his works into repute. He nevertheless solicited in vain, of the minister of finance, Calonne, the office of consul in Dantzic or Hamburg. He now lived some months of 1786 in Berlin, and then went to Brunswick, but returned to Berlin in the same year, probably with secret commissions from his court. In Berlin he collected information and projected the plan of the ingenious, but far from faultless work, *De la Monarchie Prussienne*, which was executed by his friend Mauvillon. His description of Frederic II. is especially admired. In 1787, Mirabeau returned to France. Calonne having convoked the notables, Mirabeau brought out his *Dénonciation de l'Agiotage, au Roi et aux Notables*. The king, on account of the offensive character of this pamphlet, ordered the author to be imprisoned; but he escaped, and wrote a continuation of his *Dénonciation de l'Agiotage*. He now wrote his *Avis aux Bataves*. At that time there also appeared (von Dohm asserts, V. 409, without the consent of Mirabeau) the letters on the Prussian court, written in confidence to Calonne, entitled *Histoire secrète de la Cour de Berlin, ou Correspond. d'un Voyageur Français, depuis le 5 Juill. jusqu' au 19 Janv., 1787* (1789, 2 volumes.) This work was an indiscreet disclosure of his political manoeuvres, and was written in the tone of a libel. It excited general reprehension of a man so unscrupulous as to make of the secrets of hospitality, and the confidence of his friends and the government, an offering to the public appetite for scandal. The work was condemned, by the parliament, to be burnt by the common hangman. When the estates were actually convoked, he went to Provence for the purpose of being elected; but the noblesse of the province refused him a place among them, on the ground that none were entitled to it but the possessors of fiefs. He was now chosen, by acclamation, a deputy of the third estate, where he soon obtained an immense influence. The 23d of June was one of the most remarkable days of his political career. It was decisive of the fate of the monarchy. The king, after making important concessions in this memorable sitting, had ordered the assembly to separate. The assembly, however, remained together in their seats. The marquis of Brezé, master of ceremonies, came to remind the assembly of the orders of the monarch. Mirabeau, in the name of his colleagues, made the celebrated answer, "The commons of France have resolved to deliberate. We have listened to the king's exposition of the views which have been suggested to him; and you, who have no claim to be his organ in this assembly,—you, who have here no place, nor vote, nor right of speaking,—you are not the person to remind us of his discourse. Go, tell your master that we are here by the order of the people, and that nothing shall drive us hence but the bayonet." Mirabeau had already made an unsuccessful attempt to establish an understanding with the ministers, with a view of relieving the distracted state of his pecuniary affairs. Negotiations were afterwards entered into between him and the court. He required a pension of 40,000 francs a week, and the promise of such a diplomatic or ministerial post as he should select, after the re-establishment of the royal authority. These demands

were conceded, and he received the pension in several weeks. It was agreed that a declaration of the assembly should be effected by a statement of the will of the nation, and that a treaty should be convoked, composed of men of moderate opinions. While the negotiations were pending, Mirabeau redoubled his activity as a speaker and at the Jacobin club. Suspicion was entertained of his defection from the moderate party, and clamours had already been raised against him, when a fever closed his stormy life. The news of his decease was received with a mark of popular mourning: his funeral was celebrated with the utmost pomp. His body was deposited in the Pantheon, from which, however, it remains were taken and dispersed by the persons who then stigmatised him as a royalist. Mirabeau was the creature of his passions; the early success which had been imposed upon him, served only to inflame them; and, with all the resources of great decision and energy of will which yielded to no opposition, an audacity of purpose which courted no difficulties, he united an insatiable ambition. His orations are collected in the work *Discours prononcés par lui-même* (1791, 4 volumes), and in the *Collection complète des Travaux de Mirabeau à l'Assemblée nationale par Méjan* (1791, etc.: 10 vols.). *Esprit de Mirabeau* (1804), *Lettres modernes à Mirabeau, publ. par l'Étranger* (Paris, 1816, 2 vols.), and *Œuvres oratoires* (complete, at Paris, 1814: 2 vols.) and *Œuvres choisies de Mirabeau* (Paris, 1817). Concerning his connexion with the count de Camille de Mad. Campan (Paris, 1823, 3 vols.) contain some remarkable disclosures. The life of Mirabeau of the *Mémoires des Contemporains* (Paris 1825) consists of four parts, containing *Mémoires sur Mirabeau et son Époque, sa Vie littéraire et privée, etc.*

MIRACLE (Latin, *miraculum*, a wonder) is a prodigy; in the original Greek, *miraculum*, *miraculum* is usually defined to be a deviation from the usual nature, or an event in a given system which can be accounted for by the operation of any general principle in that system. But this definition would omit one of the elements of a miracle, viz. that it is an event produced by the interposition of an intelligent Power for moral purposes; for, otherwise we must consider every strange phenomenon, what knowledge will not permit us to explain, as a miraculous event. To the atheist, who does not admit the existence of a Supreme Intelligence, a miracle is an impossibility, a contradiction in terms. A miraculous event cannot, indeed, prove the existence of God, for it presupposes it; but it may prove the moral government of the world by the Deity, or the divine character of a communication which claims to come from him. It is in this light that we must consider miracles as the proofs of a revelation, and, in fact, a revelation is itself a miracle. If one claims to be a teacher from God, he asserts a miraculous communication with God: this communication, however, cannot be visible, and visible miracles may therefore be necessary to give credibility to his pretensions. Those who deny the possibility of miracles, a contradiction is impossible. The use, then, of a miraculous interposition in changing the usual course of nature to prove the moral government of God, and to attest the character of it. As to the nature of miraculous events, we may distinguish those which do not appear supernatural in themselves, but are rendered so by the manner in which they are produced, as cures of diseases by a touch or a word, and those which are supernatural in themselves, as in the burning of which was not consumed, the stopping of the sun of the sun, &c. In proof of miraculous events we must have recourse to the same kind of evidence

s that by which we determine the truth of historical accounts in general; for, though miracles, in consequence of their extraordinary nature, challenge a fuller and more accurate investigation, still they do not admit an investigation conducted on different principles, testimony being the only assignable medium of proof for past events of any kind. While some writers have entirely denied the possibility of miracles, others have, with the same result, denied the possibility of proving the occurrence of a miracle. Hume's argument on this point is, that it is contrary to experience that a miracle should be true, but it is not contrary to experience that testimony should be false: it is therefore more improbable that the miracle should be true than that the testimony should be false. Without dwelling on the ambiguity of the expression "contrary to experience," it may be replied that the improbability rising from a want of experience of such events is only equal to the probability of their repetition, this being the precise measure of the improbability of their performance. To assert that, because miracles have occurred, they ought to occur again, or frequently, is to render a miracle impossible; for an event which is frequently occurring would cease to be a miracle. The existence of a Supreme Intelligence being allowed, the infrequency of miracles, or their being against our experience, is no argument against their occurrence. Hume asserts that a miracle is a contest of improbabilities; and there is no need of denying this assertion, as is usually done: the improbability of a miracle is weakened by considering it an event in the moral system of the universe—not a causeless phenomenon, or a useless violation of nature; and the improbability that the testimony to it should be false is strengthened by the publicity of the event, the intelligence and honesty of the witnesses, the consideration of the results which followed it, &c. Further than this, the testimony, under these circumstances, is a fact which it is more easy to account for by allowing the event testified to have actually taken place, than to have recourse to any other hypothesis. In examining the different objections which have been urged against miracles, it will be seen that they arise, in general, from a neglect of the existence of a moral system: when it is objected that they are against the *usual course of nature*, that is, against all we know of the government of God, it is forgotten that they are entirely in accordance with his moral government, and that experience as fully proves the existence and nature, as plainly teaches the character, of this government, as of the physical system of the world. Most of the miracles, of which history is full, may, indeed, be put aside from want of sufficient testimony, from their being useless, unnecessary, or even unworthy of a wise and good Being, from the circumstance that the workers of them did not lay any claim to divine agency, from their having been without results, &c. We may also reject those which are referrible to false perceptions; those which are merely tentative, that is, belonging to a series of attempts of which some were unsuccessful; those which are doubtful in their nature; those which are merely exaggerations of natural events, &c., especially if they are unconnected with others of a different character, or with moral effects; so miracles which are in support of an established creed, pretended to be wrought by men vested with a divine character in the presence of credulous devotees, if they do not belong to any of those above cited, are to be looked upon with suspicion. But, when miraculous powers are claimed to be exerted by the opponents of what is established in public opinion and supported by public authority, in the face of opposition and incredulity, by men without influence or friends, and

when they convince and confound their bitterest enemies, and produce a change in their lives and characters as a proof of their conversion,—when these witnesses, with no interested motives, but with the certain prospect of suffering and persecution, come forward and testify their belief, and when all these results are declared to have been produced to prove the divine origin of doctrines calculated to elevate humanity, and the divine mission of teachers, who spoke as no man had ever before spoken,—we are not surely to refer these to the illusions of credulity, or the jugglings of imposture. It is not possible, in a work of this nature, to go into a minute examination of particulars. The subject is fully and ably treated in Campbell's Dissertation on Miracles, in Reply to Hume; in Paley's Evidences of Christianity; in Butler's Analogy of Natural and Revealed Religion, and numerous other works.

MIRAGE; an optical phenomenon, produced by refraction. The unusual elevation or apparent approximation of coasts, mountains, ships, and other objects, has long been known under the name of *looming*; and, if the same phenomenon is accompanied by inverted images, it is called a *mirage*. The mirage is frequently observed on the surface of the sea by sailors, and on dry sandy plains, as in those of Egypt, where it was repeatedly seen by the French, during their campaign in that country. The appearance presented is that of a double image of the object in the air; one of the images being in the natural position, the other inverted, so as to resemble a natural object and its inverted image in the water. It may be produced whenever the rays of light meet in an oblique direction, the surface of a less refracting medium than that in which they were previously moving: they are thus turned back into the original medium in the same direction in which they would be impelled by reflection taking place at the common surface of the two mediums. The surface of the earth or sea, becoming heated, communicates a portion of its caloric to the superincumbent layer of air, which thus becomes less dense than the superior layers. The rays of light which proceed from an object in the heated layer will then be bent downward, and thus arrive at the end in such a direction as to cause the object to appear above its actual position. In the desert, where the surface is perfectly level, a plain thus assumes the appearance of a lake, reflecting the shadows of objects within and around it, and the thirsty traveller is often tantalized with this appearance, which recedes, as, by approaching it, he changes the angle of direction of the rays which enter his eye. The mirage is commonly vertical, that is, presenting the appearance above-described of one object over another, like a ship above its shadow in the water. Sometimes, however, the images are horizontal. On the surface of the sea, the phenomenon may also be produced by the difference of moisture in the layer of air in contact with the water and the superior layer. See *Optics*.

MIRANDA, DON FRANCISCO, the earliest martyr of freedom in Spanish America, was born at Caracas, of an ancient Spanish family. His grandfather was governor of the province of Caracas. At the age of twenty, he travelled through a great part of America on foot, and afterwards received the commission of colonel in the Spanish service. The governor of Guatemala employed him on several important occasions. In 1783, he visited the United States of North America, and then travelled on foot through Britain, France, Italy, and Spain, against which he cherished the bitterest hatred. In 1789, he was at Petersburg, and Catharine endeavoured to engage him in her service, but the events in France drew him to Paris. Here he was employed on a mission to Pitt, and,

through Pétion's influence, was appointed major-general. Under Dumouriez, he was second in command in Champagne and Belgium, and his skill as an engineer and tactician, united with his uncommon talents, obtained for him the esteem of the republicans in Paris, as well as the respect of the army. When Dumouriez entered Holland, Miranda was directed to besiege Maestricht, but, being unsupported by general Valence, was obliged to abandon the siege. In the battle of Neerwinden, he commanded the left wing: Dumouriez imputed to him the loss of the battle; but the charge was refuted by Miranda, in an able and ingenious defence. Dumouriez and Miranda had both declared against the Jacobins; but the former now became an object of suspicion to Miranda, who communicated his fears to his friend Pétion, then a member of the committee of public safety, and Miranda was ordered to arrest the commander. (See *Dumouriez*.) The Girondists, however, soon fell before the Mountain party, and Miranda was obliged to appear before the revolutionary tribunal. He was not convicted of the charges brought against him, and the fall of Robespierre delivered him from prison. Having, however, become suspected by the directory, he was again thrown into prison, and, in 1797, was condemned to transportation, but fled to England. In 1803, he returned to Paris, and was again banished, for taking part in an opposition to the first consul. General Miranda now devoted himself, with all the energy of his character, to the accomplishment of his long cherished scheme of overthrowing the Spanish dominion in America. Having procured some secret assistance, he sailed from New York in 1806, with one ship and a number of volunteers, and touched at St Domingo, where he chartered two schooners. On arriving off the coast, the two latter were captured by Spanish *guardacostas*, and he was obliged to escape with his ship. In August, he landed in Venezuela; but his attempts to rouse the inhabitants were altogether unsuccessful, and he found himself compelled to re-embark. In 1810, he renewed his attempt with more success (see *Colombia*), but was finally obliged to capitulate to the Spanish general Monteverde, who, in violation of the articles of his surrender, treated him as a prisoner. Miranda was sent to Spain, and confined in the dungeons of the inquisition at Cadiz, where he died, after four years' imprisonment. The monks caused his body to be thrown out without burial. Miranda was a man of great energy and sagacity, full of resources, bold, active, and intelligent.

MIRANDOLA, GIOVANNI PICO DELLA, count and prince of Concordia, surnamed the *Phoenix*, one of the brightest ornaments of literature at the time of the revival of letters, born in 1463, was the youngest son of Gianfrancesco della Mirandola and Julia, of the noble family of Boiardo. His youth was marked by an early display of talent, and, being destined for the church, he was placed at Bologna, to pursue the study of the canon law, at the age of fourteen years. Two years were spent in this course, when his growing repugnance to the study, and his inclination to philosophical and scientific subjects, led him to visit the different parts of Italy and France for the purpose of observation, and to attend the most celebrated schools and most distinguished professors. After seven years of the most assiduous application, he went to Rome, and, in 1486, proposed 900 theses on all subjects, which he declared himself ready to defend, according to the custom of the times, in public. He challenged all the learned from all countries to dispute with him, and offered to pay the expenses of the journey to those who came from a distance. No one ventured to appear against him,

and the envious endeavoured to suppress him as a charge of heresy. Mirandola repudiated the charge in his *Apologia*, a work full of profound erudition. To deprive his enemies of every ground for their accusations, he determined, although at variance to love and his pleasures, to lead the rest of his course of life, and to devote himself to letters. In consequence of this resolution, he threw into the fire five books of summary poems, a table, the loss of which is much to be regretted. Two of his writings on this subject have been preserved, except a commentary on a comment of Cosimo Benivieni, in which he follows the notions of the New Platonists in respect to love. Having now applied himself to the study of sacred literature, he published the fruits in his *Hypnerotomachia*, a mystical explanation of the history of the soul, in which he derives Plato's doctrines from them. Two years after, he published a treatise on the *De Ente et Uno*—in which he aimed to set the opinions of Plato and Aristotle. Mirandola died at Florence, in 1494, where he had lived some years in terms of intimacy with some of the most learned and distinguished men of the age, particularly Lorenzo de' Medici and Politian. At the time of his death, he was employed in great literary exertions, to which his treatise against astrology may be considered as preparatory. He was considered by contemporaries a miracle of learning and power. Paolo Giovio says that the immortal soul had shone in him all rare gifts of mind and body. In judgment of his works, it is necessary, however, to remember the state of letters at the time when he lived. His nephew Gianfrancesco Pico was a disciple of his, but not equal to his master.

MIRE, NOEL DE; a good engraver of books, among whose works are ornaments appearing accompanying the writings of Rousseau, Voltaire, Racine, and Lafontaine. His last work was part of the beautiful *Galerie de Florence*, printed in 1811.

MIREVELT, MICHAEL JAMES, a famous portrait painter, born at Delft, in 1568, was the son of a goldsmith. He first intended to become an engraver under Wierinx, but, at a later period, entered the art of painting under a painter named Elckhout. He is said to have painted 10,000 portraits, and to have received a high price for them. Mirvelt was a Memnonite, of a very amiable disposition, and died in his native city, in 1641. His eldest son, Peter Mirevelt, is also esteemed as a painter.

MIRIAM, the sister of Moses, devoted to the brew women in their rejoicings after the passage of the Red sea. Having spoken against them on account of his marriage with an Egyptian woman, she was struck with leprosy, and died on the camp seven days. (*Num. xx*) She died at Kadesh. (*Id. xx. i*.)

MIRKHOND, or MIRCHOND. See *Persian Literature*.

MIRROR. Mirrors are surfaces of polished metal or glass silvered on its posterior side, capable of reflecting the rays of light from objects presented before them, and exhibiting to us their size. There are three classes of mirrors, distinguished by the figure of their reflecting surface, the plane, concave, and convex. The reflection of light by either of these mirrors observes the condition that the angle which the incident ray makes with the reflecting surface is equal to the angle of reflection. When a person views himself in a looking-glass, if he measures the size of which he appears in the glass, the image will always be one half the magnitude: for, as the image appears behind the glass exactly at the distance of the object before it, the mirror will be half way between the person and

is image; so that it will cut across the cone which comes from his image to his eye, half way between its base and its apex; the base of the cone is the image seen, the apex is at the pupil of the eye, where all the rays from the image are united in a point. Concave mirrors are those whose polished surfaces are spherically hollow. The properties of these mirrors may be easily understood, when we consider their surface as composed of an indefinite number of small planes, all of which make a determinate angle with each other, so as to throw all the rays to a point. This point is called the *focus* of the mirror, where an image of the object will be formed in an inverted position. The distance of this focal point from the surface of the mirror when the curvature is moderate, will be equal to half its radius. Concave mirrors are of great importance in the construction of reflecting telescopes, in which they are commonly called *specula*. (See *Telescopes*.) The employment of concave mirrors in collecting the heat of the sun's rays from the whole of its surface to a single point, thus accumulating a very great degree of heat, for the combustion and fusion of various natural substances that are infusible in the greatest heat capable of being produced from ordinary fire, may be exemplified, among those of modern date, by the burning mirror of M. de Vilette. The diameter of this metal speculum was three feet eleven inches, and the distance of its focus from the surface was three feet two inches. The composition of this metal was of iron and copper, which reflects the light very powerfully, and is capable of a high degree of polish. When exposed to the rays of the sun, by doctors Harris and Desaguliers, a silver sixpence was melted in seven and a half seconds when placed in its focus. A copper half-penny was melted in sixteen seconds, and liquefied in thirty-four seconds; tin was melted in three seconds, and a diamond, weighing four grains, lost seven-eighths of its weight. The intensity of heat obtained by burning mirrors or lenses, will always be as the area of the reflecting surface exposed to the sun is to the area of the small circle of light collected in its focus; thus the diameter of the spot of light at the focus of Vilette's mirror, was  $\frac{1}{358}$  of an inch, and the diameter of the mirror, forty-seven inches: hence the area of these circles was as  $0.358^2$  to  $47^2$ , that is, the intensity of the sun's rays was increased 17,257 times at the focal point. The loss of light occasioned in passing through the medium of which the lens is composed, together with that lost by reflection from the surface of mirrors, must, however, be deducted from this theoretical calculation. (For further information, see *Burning Mirrors*.) Concave mirrors afford many curious illustrations of their peculiar properties; for example, when a person stands in front of a concave mirror, a little further from its surface than its focus or half the radius of its concavity, he will observe his own image pendent in the air before him, and in an inverted position. This image will advance and recede with him; and, if he stretch out his hand, the image will do the like. Exhibitions have been brought before the public, in which a singular deception was obtained by a large concave mirror. A man being placed with his head downwards, an erect image of him was exhibited in its focus, while his real person was concealed, and the place of the mirror darkened: the spectators were then directed to take a plate of fruit from his hand, which, in an instant, was dexterously changed for a dagger, or some other dangerous weapon. Convex mirrors are chiefly employed as ornaments in apartments. The objects viewed in these are diminished, but seen in an erect position. The images appear to emanate from a point behind the mirror: this point, which is

its focus, will be half the radius of convexity behind their surface, and is called the *negative* or *imaginary* focus, because the rays are not actually collected as by a concave mirror, whose focus is called *real*.\*

In the earlier periods, with which history makes us acquainted, mirrors were made of metal: the Egyptians, Greeks, and Romans made use of metallic mirrors. Pliny, in his natural history, also mentions the use of obsidian for this purpose. Gold and silver, highly polished, were employed by the Romans for mirrors, which were richly ornamented with precious stones. The forms were various, but most commonly oval or round.

MISCHNA, or MISNA; the code or collection of the civil law of the Jews. The Jews pretend that, when God gave the written law to Moses, he gave him also another, not written, which was preserved by tradition among the doctors of the synagogue, till rabbi Juda, surnamed the *Holy*, seeing the danger they were in, through their dispersion, of departing from the tradition of their fathers, reduced it to writing. The Misna is divided into six parts: the first relates to the distinction of seeds in a field, to trees, fruits, tithes, &c.; the second regulates the manner of observing festivals; the third treats of women and matrimonial cases; the fourth, of losses in trade, &c.; the fifth is on oblations, sacrifices, &c.; and the sixth treats of the several sorts of purification. See *Talmud*.

MISDEMEANOUR, in law; a crime of a lower nature. *Crimes* and *misdeameanours*, properly speaking, are mere synonymous terms, though, in common usage, the word *crime* is made to denote such offences as are of a deeper and more atrocious dye; while smaller faults and omissions of less consequence, are comprised under the gentler name of *misdeameanours* only.

MISERERE (Latin, *have mercy*); the name of a celebrated church song, taken from the fifty-seventh psalm, beginning, in the Vulgate, *Miserere mei, Domine*. The *miserere* forms part of certain liturgies, and various great composers have taken it as a subject. The *miserere* of Allegri is particularly famous; and this alone, sung by the papal choir, in the *capella Sistina*, in the Passion week, would repay the trouble of a visit to the "eternal city."

*Miserere* is also the name given to pictures representing the dying Saviour.

A terrible disease, produced by an obstruction of the bowels, is also called by this name.

MISERICORDIA (mercy; in Greek,  $\epsilon\lambda\epsilon\eta\sigma\epsilon\iota\varsigma$ ) was personified as a deity. She had a celebrated altar in the market-place of Athens, constituting an asylum.

*Misericordias Domini* is the name given to the second Sunday after Easter, because the mass for this day begins with *Misericordias Domini cantabo in eternum*.

*Misericorde* (French) was also the name of the dagger of the knights in the middle ages. Fauchet derives its names from its putting men out of pain when irrecoverably wounded, or from the sight of it causing the vanquished to cry out for mercy.

MISHNA. See *Mischna*.

MISITRA, or MISTRA; a city of Greece, in the Morea, capital of the department of Laconia. It lies nearly a league from the ruins of Sparta, which have supplied materials for its construction. Before the Egyptian expedition to the Morea, it contained 6000 inhabitants and several churches, literary institutions and manufactories; it is now a heap of ruins, inhabited by about 150 families.

\* The reflecting surface of a cylinder has been occasionally used in optical amusements for giving to *anamorphoses* (distorted or deformed pictures) regular shapes, when reflected from such surface.



n Peking, except the mathematicians, physicians, and artists in the service of the court. Besides the seven provinces which belong to these three bishoprics, there are other provinces of the Chinese empire belonging to the mission of the *évêques vicaires apostoliques*. Of the state of the Catholic mission in the East Indies, the abbé Dubois, a French missionary, in his *Letters on the State of Christianity in India*, &c., gives a not very encouraging account. Christianity appears to have made more progress in East Tonquin, where there are 780 churches and eighty-seven monasteries. China and Tonquin together contain 380,000 Christians. According to the missionary reports up to Sept. 24, 1824, there were in China alone 46,287 Christians, twenty-six Chinese and three European priests, and twenty-nine schools for boys, and forty-five for girls. In 1824, a seminary was also instituted, in which twelve scholars are taught Latin. The Russian ecclesiastical mission, established in China in 1727, is not intended for the conversion of the Chinese, but for the instruction of young Russian clergymen in the Chinese language. In 1822, a new Catholic mission was instituted in Tibet. A princess, whom an Italian had converted to Christianity, appointed him her first minister, and requested of the *Propaganda* eighty missionaries for her conversion of her subjects. Five Capuchins were accordingly sent. The splendour of the Catholic worship attracted and won over the gentle and ignorant children of nature in Brasil, Mexico, the countries lying on the Andes, and Paraguay, and several missions have, therefore, been introduced here. The new republics propose to restore them as schools. The Catholic church has also shown great zeal in endeavours to win back the favour of the people, and to restore the lost influence of the church in revolutionized France and Italy. The *heocratic faction*, as it was called, which included state and church in its plans of reform, co-operated in these attempts. Preparatory to the jubilee year 1825, there were missions in Rome, which were devoted to religious exercises, and which proclaimed absolutism. According to the *Almanac du Clergé de France pour l'An 1824*, a congregation of missions was established in France as early as 1816, which, unlike the old French seminary for foreign missions (in China, Cochinchina, Tonquin, Siam, and Pondicherry), was destined solely to restore the Roman Catholic religion in France to its former importance. Besides this, there was a *congrégation du St Esprit*, destined for the service of the hospitals and missions. For this domestic mission in France, a *maison principale*, with a seminary for novices, was instituted, which, in some dioceses, furnished priests to the destitute parishes. To accomplish, at the same time, a political and religious restoration, a crowd of Jesuits had entered France with the Bourbons; they were called *pères de la foi*; they educated a great number of pupils, not only in theology, but in other branches of knowledge, and, by this means, kindled a religious enthusiasm, which, in some instances, amounted to fanaticism. In the seminary of St Sulpice, at Issy, near Paris, such enthusiasts were educated as missionaries. They lived by the most rigid rules, and studied with great fervour. As the *fathers of the faith* could procure little aid from the bishops in general, they formed a sort of separate church, and depended upon the *aumonerie*, which was restored much upon the same footing on which it existed under Louis XVI. The friends of this religious connexion took advantage of that tendency to mysticism which prevailed in Europe, and which was principally observed among the women—a consequence of the revolution, which shook many weak minds. The missionaries sent by the congregation

were often merely fanatical preachers of repentance, and made the greatest impression on the female sex. Their religious exercises, in the churches at Paris and other places, repeatedly produced great disturbance of the public peace. In 1824, the number of missionaries in their 372 chapels amounted to 379. These *pères de la foi* were enemies of the charter (because it established religious toleration), of a representative government, and even of the Gallican church. The provincial of the Jesuits, at Paris, who had a college in the village of Mont Rouge, near Paris, exercised a sort of secret spiritual government, which extended over several provinces of the kingdom, principally the southern and western, and was connected with the Spanish apostolical junta.—Upon the state of the Catholic missions, see the *Choix des Lettres édifiantes écrites des Missions étrangères* (2d. edit. of the above-cited *Lettres édific.*, &c., Paris, 1824). They consist chiefly of geographical, historical, political, and literary information, relative to the missionary countries, China, India, the Levant, and America.

Among the Protestants who have distinguished themselves in the work of missions, are the British, the Danes, and the Germans. In 1699, the Society for promoting Christian Knowledge was founded in England; and, in 1701, the Society for the Propagation of Christianity in Foreign Parts. In 1704, the richly endowed Royal Danish Missionary Society was founded by Frederic IV., which still continues its exertions at Tranquebar, on the Coromandel coast, and in whose service Knapp, Ziegenbalg, Franke, and others, distinguished themselves. Franke, in Halle, took the first steps towards the education of missionaries; Ziegenbalg established the first society in 1707; and the first report appeared at Halle, in 1718. In 1794, the Society for the Conversion of Negro Slaves in the West Indies was established, among whose undertakings the sending of Christian preachers to Southern Africa and Australia is particularly worthy of note. The United Brethren began their missions in 1732, and soon sent missionaries into all parts of the world. Missionaries have not only been sent to the heathen, but also to ignorant and mistaken Christians; and the whole system has, undoubtedly, contributed much to the diffusion of the gospel, though it cannot be denied that, in the choice of persons and means of instruction, and in the objects proposed and the institutions founded, many mistakes have been committed, through partial views or misdirected zeal. As the British find Christianity the most effectual means of civilization, particularly in their colonies, the government has aided the missionary societies in their objects. Among the religious associations in Great Britain, which collect yearly about £400,000 by voluntary contributions, are the following: 1. The London Missionary Society, founded 1795, which has 253 branches in all parts of the world. 2. The Church Missionary Society, for Africa and the East, which supports eighty missionaries in forty-five places. 3. The Society for the Propagation of the Gospel in Foreign Parts, which has confined itself principally to North America, and employed, in 1823, above eighty missionaries. 4. The London Auxiliary Society in Aid of the Baptist Highland Mission. 5. The Home Missionary Society, founded in 1819, has twenty-five missionaries preaching in 206 villages; fifty Sunday schools, containing 2868 children; and labours to form village libraries. This society was very necessary, as there were found to be 314 villages with 110,344 souls, in England, destitute of religious instruction. 6. The London Association in aid of the Moravian Missions, which employs 161 missionaries. 7. The Wesleyan Methodist Mission-

ary Society, which has more than fifty regular missionaries, and above 25,100 proselytes, principally among the slaves in the colonies. Its schools contain above 8000 children. It also maintains missionaries at Paris, and in the south of France. 8. The Baptist Missionary Society (1792) has more than 10,000 children, in the East Indies, under its direction. 9. The Missionary and Tract Society of the New Jerusalem Church, founded in 1821. 10. Continental Society incorporated in 1818; they have eleven missions. 11. A London Society for promoting Christianity among the Jews, which sends missionaries to Poland and Holland; and a Ladies' Missionary Society instituted for similar purposes, which has twelve missionaries, among whom are five converted Jews. The former has in its service a German, Joseph Wolf, of Halle, descended from Jewish parents, who was converted to the Catholic church, instructed in Tübingen, and at Rome, in the *Seminarium Romanum*, where, having expressed doubts of the infallibility of the pope, he was thrown into prison: he then left the Roman Catholic church, and, without acknowledging himself a member of any established church, entered, under the character of a Biblical Christian, into the service of this society, which sent him to Asia: at Bassora, he had discussions with the Sabians, or Christians of St John, which are printed in the Jewish Expositor. 12. The Edinburgh Missionary Society, founded 1796, has missions in Tartary, and in the Susoo country, in the neighbourhood of Sierra Leone. From 1701 to 1817, 11 missionary societies (5 in England, 1 in Scotland; 1 in Denmark; 1 in Germany—that of the United Brethren; 3 in the United States) founded 10 missions, which, in 1819, occupied 439 missionaries, most of whom belonged to the United Brethren, and 303 of whom were supported by the British societies, 85 by the German, and 37 by the societies in the United States. They also supported a great number of physicians, farmers, labourers, and their families. More than 150 missionaries laboured in Asia, above 70 in Africa, and above 200 in America. In 1824, the whole number of missionaries exceeded 500, of whom 370 were supported by the British. In Paris, the Calvinistic and Lutheran churches united to form a missionary society. Their object, however, has been not so much the conversion of the heathen as the instruction of poor children, and they have already opened schools for several thousand children. In Germany, where the United Brethren educate most of the missionaries for their own and other missions, there are also societies for the education of missionaries in Berlin, Basle, and other places, which obtain their funds for instruction by voluntary contributions. The Berlin Missionary Union, established by the king of Prussia in November, 1823, numbered then above 300 contributors. The British societies also support an institution for the education of missionaries at Sierra Leone. Among the means by which missionary societies aim to accomplish their objects, one is the translation and distribution of the Bible. See *Bible Societies*.

Although the judgment of the missionaries, especially in the East Indies, has not always been equal to their zeal, yet the vital power of Christianity has displayed itself in an extraordinary manner in many countries. The inhabitants of the Society islands, particularly those of Otaheite, have embraced Christianity, and much progress has also been made in the Sandwich islands by the American and British missionaries, and books have been published in their language. Similar results have attended the labours of the Wesleyan Methodists in the East Indies, as, for instance, at Trincomalee and Colombo, on the

island of Ceylon. A school has been established to them, for the gratuitous instruction of poor native children. Among the most active promoters of Christian civilization, in the British East Indies, is the establishment of missions and schools, by the Middleton, bishop of Calcutta, who died in 1822. Different sects have supported missions in the same places, as, for instance, in Madras, Amoy, and Bombay, without any interruption from sectarian disputes, and have assisted one another with the utmost cordiality. For the better promotion of their common object, the Danish East India company has even given up to the British Society for the Promotion of Christian Knowledge, eleven missions of native Christians about Tranquebar, an establishment which the Danish missionary Schwartz had long been active. The British Bengal Missionary Society is also been very active in the East Indies. According to its fifth report (1823), it had erected four churches and schools. Attached to one of the stations there is a printing-office, at which 117,000 copies of a Holy Scriptures in English and the native tongue have been printed at the expense of the society. The condition of the chief Danish missionary station at Serampore, in Bengal, on the Hooghly, once attended particularly to the instruction of Musliman boys, is represented to be favourable. From their printing office, translations of the whole or parts of the Holy Scriptures have been issued in twenty-seven languages of Central India. Among the British missionaries at Serampore, Marsden, a celebrated author of the *Clarke's Sermon*, has particularly distinguished himself by his researches in the Hindoo literature. The great number of languages especially in Malabar, is a great impediment to the success of the missionaries, who, it is doubted, should be able to operate by precept as well as by example; and many local obstacles—the power of the Bramins, the division into castes, &c.—are the impediments in their way; but their virtues, and the simplicity of their lives, tend to improve the character of the natives. Of South Africa, where the first missionary station (since 1802) is established, on where the United Brethren now support missions in three places (see *Lafleur*), an agent of the Free Missionary Society—Campbell—has given account (London, 1815). Missionaries have constantly laboured with their main object an attention to the ethnography and geography of the country, which drew the highest commendation—such as *London and New America*, and the Danish missionary Mønst, who was in Africa from 1806 to 1809, and published *Materials for a Description of the Country of Senegal* (Copenhagen, 1822). The missionaries here rendered great service to the study of languages, as for example, in the work of Blumenthal respecting the missionary school at Basle). Comparisons (the variations upon the connexion between the Indian Languages, which are almost all related to the Sanscrit (Basle, 1819). In the conversion of the South sea islanders, the American and British missions have been very successful. The spiritan hunter Christian Australia, Mardeen, is one of the most intelligent missionaries. He does not attempt to convert savages without preparation, but prepares for their instruction, and endeavours to guard against the new vices which attend the beginnings of civilization. See *New South Wales*, and *New London*.

Among the latest missions of the United States (see *United Brethren*, and *Grinnell*), that established among the Calmuck tribes deserves to be mentioned. They sent two missionaries, East and Schill, from Sarepta, in 1823, to the Calmuck among whom, by the aid of the Russian Bible Society (which caused the Bible to be translated

Calmuck), they distributed the Holy Scriptures. Their report is given in the Biblical Journal, published at Petersburg (1824). The great opposition of the Calmuck priests, however, induced the khans to threaten an emigration, and the mission was given up from political views. On the other hand, the missionary Carruthers exerted himself, with great zeal, in the conversion of the Tartars in the Crimea, and a new station has been established on the Caucasus. The whole number of missions of the United Brethren cost, in 1823, between seven and eight thousand pounds, besides the support of fifty-five retired missionaries and fifty-three children. The society receives the largest contributions from Holland, Denmark, and Sweden.

Concerning the conversion of the Jews to Christianity, in London, Berlin, Petersburg, Dresden, Breslau, Minden, Königsberg, Posen, &c., the first public report of the Berlin Society, established in 1822, appeared in 1824. It has issued a stereotype edition of the New Testament, in the Hebrew language, and sent a missionary to the Polish Jews, who had succeeded in gaining attention in more than one synagogue.

There are, at present, in Germany, above thirty missionary and auxiliary missionary societies, which are connected with the missionary society of Basle. The Basle society issues a lithographed correspondence; other societies, at Hamburg, Leipsic, Berlin, &c., publish yearly reports; and others, as at Stuttgart and Königsberg in Prussia, publish missionary journals. In St Gall there is a ladies' missionary society. The great missionary school established at Basle (1816) not only educates the pupils (of whom, in 1824, there were thirty-three, in four classes, instructed in all departments of theology; in the explanation of scriptural passages from the Hebrew and Greek; in the Latin, English, and Arabic tongues; in the comparison of the Koran with the precepts of the Bible; in geography, arithmetic, geometry, and astronomy; in rhetoric, singing, and drawing) for the British and Dutch missions, but has, also, since 1822, maintained missionaries at its own expense, at the stations on the Caspian and Black seas. One of these missionaries, Aug. Dietrich, has undertaken, with Mr Macpherson, the superintendence of the Persian translation of the New Testament, and has also superintended the publication of several biblical extracts and precepts into the Persian language, and translated the work of Grotius on the truth of the Christian religion into Arabic. The missionary school established at Berlin, under the direction of the preacher Janicke (1800), has already sent more than twenty pupils to the East Indies, Sierra Leone, and the Cape. The Russian government has employed, in the German colonies planted about thirty years ago, from Odessa to Gandscha in Georgia, and Astracan, missionaries from Basle, as colonial preachers, who have the spiritual charge of the Germans, and endeavour likewise to operate on the adherents of the old Eastern sects, particularly the Armenians, and to gain access to the Mohammedans among the Persians. The translation of the New Testament into modern Persian, by the missionary Martin, has been distributed, and eagerly, but secretly read. To effect these objects, the Russian emperors have conferred privileges, not only on the Scottish missionary colonies at Kara, but also on the evangelical missionary colony established (1822) in the Caucasian village of Schuschi, principally inhabited by Armenians. The Moravian United Brethren now employ 171 preachers of the gospel, in thirty-three missions in the West Indies, North America, and South Africa. According to the seventy-second number of the Transactions of the

Evangelical Missionary Societies in the East Indies, there are now upon the main land of India forty-nine missions, twelve on Ceylon, and three on other islands. In Ceylon there are seventy-five missionary schools, with more than 4000 scholars.

The principal missionary societies in the United States are the following; American Board of Foreign Missions, founded in 1810; income, in 1829—30, 106,928 dollars: American Baptist Board of Foreign Missions, founded in 1814; income, 1830, 12,000 dollars: Board of Missions of the General Assembly, founded 1818; income, 1830, 12,632 dollars: Methodist Missionary Society (1810), income, 1830, 13,128 dollars: American Home Missionary Society (1826), income, 1830, 33,229 dollars. The whole income of the various Missionary, Tract, Education, and Bible societies, for 1830, was about 500,000 dollars. The American Board of Foreign Missions has six stations in India, one at Canton, four in the Mediterranean, six in the Sandwich islands, and thirty-five among the Indians of the United States, employing fifty-nine missionaries, and 175 assistant missionaries. The board has printing establishments at Bombay, Malta, and in the Sandwich islands, from which the Bible has been issued in eleven languages. The number of scholars in their schools is 47,550. The expenditure during the twenty years from its foundation was 915,750 dollars. The annual reports of the different societies contain all the necessary information relative to their means and success. Besides the works already referred to in the article, the reader may consult Lord's History of Missions, and Brown's History of the Propagation of Christianity.

MISSISSIPPI, the largest river of the United States of America, and one of the largest in the world, rises in about lat. 49°, and lon. 96° 47', and flows south-south-east till it falls into the gulf of Mexico, in lat. 29° 6', and lon. 89° 30'. The length is usually given at 3000 miles; some make it less. We speak without reference to the great branch of it called *Missouri*. The country in which the most northern branches of the Mississippi have their rise, is an elevated table land, abounding with marshes and lakes, that are filled with wild rice. From the same plateau flow the numerous branches of Red river and other streams, which fall into lake Winnipeck, and thence flow into Hudson's bay. It is not easy to decide which of the numerous small lakes of this table land should be honoured as the principal source of the Mississippi, for travellers are not agreed in determining which of the numerous streams flowing from these lakes is the main river. We follow Mr Schoolcraft's map in giving the latitude and longitude of La Bush lake to the extreme source of the Mississippi. After a winding course of nearly 700 miles, its waters are precipitated over St Anthony's falls, a cataract of sixteen or seventeen feet perpendicular. About twelve miles above these falls, it receives St Peter's river from the west, which is regarded by some as the principal river. The width of the Mississippi, for twelve miles above St Anthony's falls, is about half a mile. Below the falls, it is contracted, for some distance, to 200 yards. The large and navigable tributaries which it afterwards receives, are so numerous that we can only mention a few of the principal. About latitude 44°, the St Croix comes in from the east, said to be navigable by boats 200 miles. In 42°, the Wisconsin, also from the east, opens an easy communication with the waters which flow into lake Michigan. Near 40°, on the west side, is the Des Moines, 150 yards wide, and navigable by boats for a great distance. In 39° enters the Illinois from the east, 400 yards wide, navigable by boats for more than 300 miles. A little below 39°, the mighty Missouri comes in from the

west, which is both longer and broader than the Mississippi above their junction, and imparts its own character to the stream below. In  $38^{\circ}$ , the Kaskaskias enters from the east, which traverses a most delightful country, and is navigable more than 100 miles. Between  $37^{\circ}$  and  $36^{\circ}$ , the magnificent Ohio also comes in from the east. This is much the largest eastern branch. On the west side, between  $35^{\circ}$  and  $34^{\circ}$ , is the St Francis, which is 200 yards wide, and is supposed to be navigable 300 miles. White river enters on the same side, in about  $34^{\circ}$ , and is supposed to be 1200 miles long. Between  $34^{\circ}$  and  $33^{\circ}$ , the Arkansas comes also from the west. It is 500 yards wide, and supposed to be 2500 miles long. Between  $33^{\circ}$  and  $32^{\circ}$  is the Yazoo, on the eastern side, between 200 and 300 yards wide. A little above  $31^{\circ}$ , the Red river comes in from the west. It is nearly as long, and brings as much water as the Arkansas. Here the Mississippi carries its greatest volume of water. Even above the Red river, in high floods, water escapes from the Mississippi on the west side, in many places, which never returns; and below Red river, there are many and large outlets, but no considerable streams flowing into it. Only four or five miles below Red river, the Atchafalaya carries off, at some seasons, as much water as the Red river brings in. A little below the town of Baton Rouge, on the eastern side, flows out bayou Manchac, or Iberville river, and passes through lakes Maurepas, Ponchartrain, and Borgne, to the gulf of Mexico. Bayou Plaquemine and bayou La Fourche flow out from the western side before we come to New Orleans; but there is no outlet below the city till we arrive at the divisions which form the four mouths of the Mississippi. From the falls of St Anthony to a few miles below the river Des Moines, the Mississippi is about half a mile broad. Below the rapids which occur at this place, its average breadth before it receives the Missouri, is a full mile; and its transparent waters, its gentle current, the number and beauty of its islands, the variety and magnificence of the natural scenery upon its borders, render it admirable beyond description. Its current here is about two miles an hour, and its average depth is about four feet. Where the Mississippi receives the Missouri, it is a mile and a half wide. The mouth of the Missouri is about half a mile wide. When these are united, they constitute a stream that is about three quarters of a mile in breadth, very deep, with muddy waters, and a furious, boiling current. Its average width, during the remainder of its course, does not exceed a mile. The influx of the other mighty rivers only increases its depth and the boiling and whirling motion of its waters. Its medial current is about four miles an hour, but it is often much greater. We know not that it has been sounded in such a manner as to justify any estimate of its average depth. At Natches, about 400 miles from its mouth, we have frequently heard it stated that its depth is found to be from 100 to 150 feet. Between New Orleans and its mouth, we have seen a large anchor dropped three times by a vessel descending with the current, at places far distant from each other, and it did not reach the bottom in either case, with less than sixty fathoms of cable. In estimating the width of the river, we refer to the space between the banks of its regular channel. At every flood, it overspreads a vast country, principally on its western side, which is from ten to fifty miles in breadth through the last 500 miles of its course; and most of the water which overflows below Red river goes to the gulf of Mexico, without returning to the river. The country thus overflowed is generally without any habitable spots, but is covered with cypress, cotton-wood, or coarse grass; and its waters abound

with alligators. After the Mississippi crosses the Missouri, its course is so serpentine, as to pass very few "reaches," or places where it is straight, that an extent of three or four miles can be run in one time. In many places, the low narrow necks at its borders is thirty or forty miles in breadth. The boundaries of this river-valley are called high-lands, and these are often very steep, and sometimes 20 or 300 feet in height. In several places, the river ranges, for a considerable distance over these high-lands, alternately on one side and the other; and, at a few places, it leaves the whole alluvial tract on one side. From the sources of the river to the mouth of the Missouri, the annual flood ordinarily commences in March, and does not subside till the last of May, and its medial height is fifteen feet. Between the Missouri and the mouth of the Ohio, the annual flood is twenty-five feet. For a great distance below the point, it is fifty feet; but it subsides above Vicksburg, and thence gradually to the mouth of the river. At Baton Rouge it is about thirty feet, and about twelve at New Orleans. Between the Missouri and Ohio, the most shallow parts of the channel have at low of water when it is lowest. Thence to the St Francis there are several shoal places, where, at low water, pilots are perplexed to find a sufficient depth. Below that point, there is no difficulty for vessels of any draught, except to find and preserve the right channel. There are no tides in the Mississippi. A variation of a few inches in the height of the water is generally observed during the night, and sometimes during the day; but even at the very mouth of the river, the water is at all times fresh, and no ebb and flow are seen corresponding with those of the sea. The muddy waters of the river are perceived by those who approach it, when the mariner is still out of sight of land. It will be seen from the description here given, that the Mississippi is not to be estimated by its apparent magnitude, but by the prodigious number and size of the rivers whose waters it receives. The immense valley of which it receives the waters, extends from the Alleghany to the rocky mountains, and from latitude  $49^{\circ}$  to the gulf of Mexico. Its navigation is at all times attended with some danger, on account of the raging power of its current, and the numerous trees which it dislodges on its banks, and bears away in its tide. Steam boats are admirably fitted to avoid these dangers; and the navigation above New Orleans is every year becoming more confined to them. Flat boats still bring down much produce, but no other vessels than steam boats are often seen ascending.—For a more full description of this mighty river, and of the Mississippi valley, see Flint's Geography of that country. A considerable part of this description has been selected from the excellent work.

MISSISSIPPI; one of the United States of America, between  $30^{\circ}$  and  $35^{\circ}$  N. lat., and  $88^{\circ}$  and  $91^{\circ}$  W. lon. Its average length is about 300 miles, and its average breadth 160; square miles, 48,702. It is bounded on the north by Tennessee, east by Alabama, south by the gulf of Mexico and Louisiana, and west by Louisiana and the Mississippi river. Mississippi and Alabama constituted one state in 1817. Population of both in 1800, 8,630. in 1820, 40,352. Population of Mississippi alone in 1820, 45,929; in 1820, 75,448; white males, 23,500; white females, 18,390; slaves, 32,814, persons engaged in agriculture, 22,033; in manufactures, 20; in commerce, 291; militia, 5,292. In 1821, there were 38,497 white males; 32,121 white females, 24,723 male slaves; 32,687 female slaves; 232 free coloured males; 237 free coloured females; total, 108,984. There are several distinct ranges of hills, of moderate elevation, besides a singular succession of mountains

alled bluffs, which, in some cases, approach to the river, and at other places, are seen several miles from it. On the border of the river are those called *Walnut Hills*, *Grand Gulf*, *Natchez*, *White Cliffs*, and *Lofus heights*. Two ranges of hills divide the state nearly in its whole extent, and separate it into sectional visions. In advancing from the bottoms of the Mississippi, there is everywhere, at a greater or less distance from the river, an appearance of bluffs, high, when mounted, spread out into a kind of table surface, waving agreeably; but, in many instances, the richest table lands have precipitous benches, which expose the land to be washed, and divided by deep ravines. In the northern part of the state, inhabited by the Cherokees and Choctaws, the land rises into pleasant and regular undulations. The soil is deep, black, and rich; and, in its natural state, both here and in the more southern parts of the state, much of it is covered with cane-brake. The country inhabited by the Chickasaws, in the north-west part of the state, is charmingly variegated with swells and alleys of great fertility, and abounds with fine springs. In the lower parts of Mississippi, bordering on the river, neither rocks, stones of any size, or even gravel, are often seen on the surface of the ground. Some places are exceptions to this remark, but, in other parts, a person may perform a day's journey without finding any stones which have not been brought from distant places. In general, the surface of this state is most agreeably diversified with ridges, hills, and valleys, and the soil is remarkably fertile. The Mississippi river washes the whole western border of the state. Following its very meandering course, this distance is about 700 miles. The curves of the river often bring it back with very little progress, after a course of seven or eight leagues. The greater part of this long line of river coast consists of inundated swamps, seldom seen except by people travelling on the river. These swamps are generally covered with dense forests. The Yazoo is the largest river that has its whole course in this state. The Pearl is next in importance, and traverses the centre of the state from north to south. Some legislative efforts have been made to improve its navigation. The Pascagoula rises in lat. 33°, and has a course of 250 miles before it enters the gulf of Mexico. It is capable of considerable navigation. At its mouth, it widens into an open bay, on which stands the town of Pascagoula, whither many people from New Orleans resort during the sickly months. The Big Black has a course of 200 miles, and is navigable for boats fifty miles. It enters the Mississippi just above Grand Gulf. The Homochitto is also a considerable river, and flows into the Mississippi above Fort Adams. The other rivers and creeks are comparatively small. The quantity of land embraced within the state is 31,074,234 acres. Of this, the Indians still claim 11,514,517 acres, and the United States claim 16,885,760 acres; leaving only 2,673,957 acres properly belonging to the citizens of the state. Mississippi has only about thirty miles of sea-coast, and has no harbour except Pascagoula. Along the coast are a few islands of little importance. Back from the coast, the country, for a considerable distance, is a sandy, level, pine forest; but this part of the state is healthy, and the timber is very valuable. The climate of this state is generally best suited to the growth of cotton. Its western border is so much exposed to inundation, that it cannot be expected to be very healthy until levees are raised to keep the great river within its proper banks. In the most fertile parts of the state, the forests present an immense growth of oak, hickory, lime, sassafras, cottonwood, magnolia, poplar, and other valuable trees; and the swamps abound with cypress. In moist land,

the trees are covered with long moss, hanging often five or six feet from the branches, and giving to the forests a very singular and rather gloomy appearance. The palmetto is seen in the southern section, and the family of laurels in various parts. The laurel magnolia (*magnolia grandiflora*) is frequently seen in great perfection; and the forests abound with beautiful flowers, which remind the northern traveller that he has entered upon a new climate. The sugar-cane grows only on the southern borders of the state. The orange and the live-oak are principally confined to the lower waters of the Pascagoula and Pearl rivers. In the middle regions, figs, tobacco, maize, sweet potatoes, rice, indigo, squashes, melons, plums, and peaches will grow well; but excepting maize, peaches, melons, potatoes, and squashes, they are but little cultivated. Grapes of various kinds grow wild, and the vines are seen, in great numbers, hanging from the branches of the highest trees, like the ropes of a ship. Many of them are two or three, and some are six or eight inches in diameter. Almost every species of the grape would probably come to maturity in this state. But the principal attention of the Mississippians is directed to the growth of cotton. This is the grand staple of the state. Although its price has diminished nearly two thirds within a few years, yet it is more profitable than any other production. Most of the good planters raise Indian corn enough for their own use, and also raise hogs enough to supply them with bacon. These are the principal and most wholesome articles of food for this climate, but the wealthy planters are supplied with an abundance of the necessities and luxuries of life. Apples and pears grow imperfectly in a few places. Probably they might flourish on some of the northern highlands. Natchez is much the largest town, and the principal seat of commercial transactions. Monticello is a pleasant, flourishing village on Pearl river, and was lately the seat of government. Jackson, near the head of Pearl river, has been selected as the permanent seat of government. It has a central, healthy, and pleasant situation, but has not yet many inhabitants. Vicksburg, below the Walnut Hills, on the Mississippi, has risen up within a few years, and has already become a place of great trade. Greenville, Woodville, and Winchester are flourishing villages. Gibson Post is a village of considerable importance; it is situated on Bayou Pierre, about thirty-five miles above Natchez. Shieldsborough, on the west side of the bay of St Louis, is often resorted to by the inhabitants of New Orleans during the sickly months. Warrenton is another thriving village on the Mississippi, from which large quantities of cotton are exported. There are ample public funds for the endowment of schools, but the blessings of education are not generally diffused. The legislature has done little towards requiring the establishment and support of suitable schools. This is also true of most of the Southern and Western States; and a large part of the children are consequently but imperfectly educated. An institution, called a college, has been incorporated at Shieldsborough. Jefferson college is at Washington, six miles from Natchez. Schools of good reputation have been supported at Natchez, Woodville, and Monticello. The principal religious denominations are Methodists, Baptists, Presbyterians, Catholics, and Episcopalians. The principal tribes of Indians are the Choctaws and Chickasaws. The former are estimated at 4000; the latter at more than 20,000. This state was included within the country which was discovered and possessed by the French, who formed a settlement at Natchez about the year 1716. In 1763, it was ceded to the British with the rest of the French possessions east of the river.

There were few white inhabitants before the end of the last century. In 1798, the country was erected into a territorial government, and into a state government in 1817. For the constitution, see *Constitutions of the United States*.

**MISSISSIPPI VALLEY.** This name is applied to the vast country which is watered by the Mississippi river and its numerous tributary streams, and which is included between the Alleghany and the Rocky mountains. Mr Flint considers that it properly includes the tracts watered by the comparatively small rivers, as the Mobile, Pearl, and other rivers of west Florida, on the east side, and the Sabine, Brassas, and Colorado of Texas on the west side, which enter the gulf of Mexico without uniting with the Mississippi. Including the valleys of these separate streams, the great Valley of the Mississippi is bounded south by the gulf of Mexico, and extends on the south-east to cape Florida. Running along that cape in a northern direction, the boundary on the east passes those table elevations which separate the waters of the Mobile and Tombigbee from those of the rivers of East Florida. Thence running through the country of what are called the Indian nations, and touching the north-western extremity of Georgia, the eastern boundary becomes plainly defined by the Alleghany mountains. There are no mountains or ridges on the north, to mark a general boundary between this Valley and the basins of the lakes, or between the waters of the Mississippi and those which flow northward into lake Winnipeg, Hudson's bay, and the Arctic ocean; but the Valley is to be considered as terminating on the north, where it begins to receive its waters. The western boundary is, for the most part, distinctly marked by the Rocky mountains. One of the southern ridges of these mountains divides the waters of Arkansas and Red rivers from those of the Rio del Norte, and traverses the Mexican states of Texas and Coahuila to the low marshes and prairies on the gulf of Mexico. Thus the Valley of the Mississippi extends twenty degrees in latitude, without including cape Florida, and about thirty degrees in longitude. From Oleanne point on the Alleghany, to the highest point of boat navigation on the Missouri, is 5000 miles. Between the extreme points of navigation on the Tennessee, and on the Arkansas and the Red river, the distance is at least 3000 miles. Unlike most other long and large rivers, the Mississippi rises in very cold regions, and flows towards the equator. It thus waters an immense valley, possessing almost every variety of climate, and furnishes the means of easy and most profitable intercourse between the various sections of so vast a region. If we except the Amazon, probably no other valley on the globe

will compare in size with that of the Mississippi, and is probably surpassed in others in the variety of its soil, and in the extent of the support and comfort of its inhabitants. It is like a continent: in beauty and fertility: it is the most perfect garden of nature. For its features of the various sections of the river, rivers, climates, and productions, see the articles. The history has been given under the name territory, but some further details respecting earlier periods may be interesting. It is supposed to have shared among the first of the Spaniards, but a few years after America was discovered by Columbus. The Spaniards entered the Valley discovered in lat. 30°, in the year 1492. Ponce de Leon. Some say that he arrived Easter day, and gave it the name of Florida, the Spanish name of that festival—the festival of flowers. Others say that in Florida, the country of flowers, from the profusion of flowers with which the river banks were plants abounded. Between 1513 and 1521, and Vasquez, both Spaniards, entered it. From mismanagement with the natives, the expedition failed in its purposes. In 1521, Ponce de Leon obtained a grant of Florida. He entered the country as far as the Indian village of Santa. The natives there defeated his party. He was succeeded by Ferdinand de Soto, governor of the province. He sailed from Havana with nine ships, about 1539, men, two or three hundred horses, and other stock. He was attacked by the Indians immediately after he landed; but he overcame them after a fierce opposition, and marched far into the interior to the country of the Chickasaws. He was probably the first white man who saw the Mississippi. He crossed it near the entrance of the river, but soon after sickened and died. The number of his followers had been much reduced, and those who remained were glad to abandon the project of conquering Florida. In 1564, the French sent Jean de Ribault, near the present site of St Augustine, a number of families were established there. It was not a permanent establishment. About twenty years afterwards, in 1608, a fleet arrived at the mouth of the river, commanded by Admiral Champlain. He founded the important city of Quebec. The first permanent settlement of the French in the Valley was in the inclement climate of Canada. The hardships made their first colonial experiments a failure, and on Biloxi, at places which are remarkable for their sterility: the English made their first settlements at Jamestown and Plymouth, and other places then offered much encouragement to the settlement of the country.

END OF VOLUME FOURTH

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